

Biological Evaluation

Electric District #2 to Saguaro No. 2 115-kV Transmission Line Rebuild Project

Prepared for:



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- Attachment 1. Observed Species List
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Executive Summary

This Biological Evaluation describes the biological resources located on the right-of-way (ROW) and in the vicinity of the proposed Electric District #2 to Saguaro No. 2 115-kilovolt (kV) Transmission Line Rebuild Project (Project), evaluates potential Project impacts to those resources, and recommends conservation measures to avoid or minimize impacts. The proposed Project involves rebuilding the 35.6-mile-long 115-kV transmission line located between Electric District #2 and Saguaro substations in Pinal County, Arizona. Throughout this report, “Project area” refers to the transmission line ROW, which ranges from 100 to 150 feet wide depending on land ownership, 400-foot-radius circles at all turning structures, and several access roads that lie outside of the ROW (see Figure 1 in Attachment 2). Throughout this report, “Project vicinity” refers to the surrounding area within roughly five miles of the ROW.

No federally listed species were found in the Project area; however, the federally endangered lesser long-nosed bat may forage there. Conservation measures to avoid impacts to this species and to minimize impacts to its foraging habitat are recommended, including avoiding activities at night and prohibiting the removal of saguaros.

The western distinct population segment (DPS) of the yellow-billed cuckoo is proposed for federal listing. It has minimal potential to nest in the Project area; however, it is likely to migrate through. There is proposed critical habitat in the Project vicinity, but not in the Project area. Conservation measures to avoid impacts to nesting birds, including avoiding Project activities during nesting season or conducting pre-activity nesting bird surveys, would minimize impacts to the yellow-billed cuckoo western DPS. Impacts to its foraging and migratory habitat would be negligible.

Two federal candidates for listing, the Sonoran Desert tortoise (Sonoran population of desert tortoise) and the Tucson shovel-nosed snake, both have a high likelihood of occurrence in the Project area. Impacts to Sonoran desert tortoise and Tucson shovel-nosed snake would be minimized or avoided with implementation of the recommended conservation measures, including conducting pre-construction surveys and having a biological monitor present. With implementation of these measures, the Project is not likely to result in a trend toward federal listing of these species.

Bald and golden eagles are protected under the federal Bald and Golden Eagle Protection Act (BGEPA) and have a moderate or high potential to forage in the Project area and vicinity. Project activities could have minimal, temporary effects on bald and golden eagle foraging activities, but would not affect nesting or productivity of either species.

Other special-status species and native birds protected under the Migratory Bird Treaty Act (MBTA) may occur in the Project area. Implementation of the recommended conservation measures would minimize potential impacts to these species.

- The Project may affect lesser long-nosed bat by removing foraging habitat. With implementation of conservation measures, the Project may affect, but is not likely to adversely affect lesser long-nosed bat.
- The Project would remove a limited amount of suitable migratory and dispersal habitat for the yellow-billed cuckoo western DPS; however, with implementation of conservation measures, the Project may affect, but is not likely to adversely affect the yellow-billed cuckoo western DPS.

- With implementation of conservation measures above, the Project may affect Sonoran Desert tortoise and Tucson shovel-nosed snake, but is not likely to result in a trend toward federal listing of these species.
- With implementation of Conservation Measures, including pre-activity clearance surveys and bird nesting season avoidance, the Project is not likely to adversely affect non-listed special-status species and migratory nesting birds that may occur in work areas.

Introduction

This Biological Evaluation was prepared at the direction of the Western Area Power Administration, Desert Southwest Region (Western) for the proposed Electric District #2 to Saguaro No. 2 115-kV Transmission Line Rebuild Project. Aspen biologists reviewed information on biological resources in the vicinity and visited the Project area to evaluate biological resources and assess habitat suitability for special-status species. This report summarizes the findings of the survey and addresses the potential for occurrence of federally listed threatened or endangered species, species that have been proposed for listing or identified as candidates for listing under the federal Endangered Species Act (ESA), and species protected by the BGEPA and MBTA in the Project area. In addition, this report describes potential Project impacts to those species, and recommends measures to avoid, minimize, or mitigate impacts. This report will support Western's review of the Project under the ESA and the National Environmental Policy Act (NEPA).

Project Description

Western proposes to rebuild the 35.6-mile-long, No. 2 115-kV transmission line located between Electric District #2 and Saguaro substations in Pinal County, Arizona. The existing line is on 27 wood H-frame and 434 single-pole wood structures that are 60 to 70 feet tall. Western proposes to rebuild the line with 80 to 90-foot-tall galvanized steel monopoles and replace the conductors. The rebuilt line would have spans between poles of 900 to 1,000 feet long and would require an estimated 213 new structures. The overhead protection ground wire will be replaced with one containing fiber optic cables for utility communications. The new structures will be directly embedded in the ground in holes typically four feet in diameter and 14 feet deep. Existing access roads will be used to the extent possible and improved as needed.

The Project area is located to the northeast of Interstate 10 near Eloy, Arizona (see Figure 1). The northwest end of the route is at the Electric District #2 Substation, located on the east side of Eleven Mile Corner Road, 0.5 miles south of State Route 287. The southeast end is at the Saguaro Substation, adjacent to the Arizona Public Service Company (APS) Saguaro Steam Plant alongside Interstate 10, one mile south of Exit 226 (Red Rock). The transmission line parallels portions of Eleven Mile Corner, Hanna, Brady Pump Plant, and Pecan Roads. It crosses State Route 87 at Hanna Road. It is located on private lands and on public lands managed by the U.S. Bureau of Indian Affairs, U.S. Bureau of Reclamation, and Arizona State Land Department.

Ground disturbance would result from removing existing structures, grading and drilling holes for new structures, improving existing access roads for safe vehicle and equipment access, installing and removing conductor and overhead ground wire, and removing existing guy wires. These activities would be conducted primarily within the transmission line ROW. However, short-term disturbance outside the ROW would be required for wire pulling and tensioning sites and may extend up to 400 feet from turning structures. Additionally, a 10-acre staging area would be needed for construction. The location will be determined at a later date. The staging area will be inspected for biological resources prior to use and is not included in this report.

Construction equipment would include various rubber tire vehicles or tracked equipment ranging in size from a pickup truck to a crane, including but not limited to: all-terrain vehicle, auger or drill rig, backhoe, bucket or boom truck, bulldozer, cement mixer or truck, compressor, crane, crew truck, dump truck, front-end loader, grader, pole truck, spool rig, tensioners, and tractor-trailer. A helicopter may be used

to lift pole sections into place or for conductor stringing. Construction would require up to approximately 50 workers.

Restoration and cleanup of each construction phase would be completed at disturbed areas following construction as per the Stormwater Pollution Prevention Plan.

Operation and maintenance activities may include periodic inspection, vegetation management, access road maintenance, and emergency repairs. Vegetation will be managed to ensure public safety and prevent vegetation from coming in contact with the conductor and will be done in accordance with Western's Integrated Vegetation Management Guidance Manual (2011). Between structures, the distance of at least 21 feet will be maintained between the conductor and vegetation (Western 2011). Based on the predicted height of the new conductor vegetation will be maintained at or below 15 feet tall.

Methods

Prior to field surveys, Aspen biologist Justin M. Wood reviewed available literature to identify special-status species potentially occurring in or near the Project area (see Species Identification section below).

From July 28 through July 30, 2014, Aspen biologists Justin Wood and Jared Varonin surveyed the Project area. The site visits included mapping vegetation and habitat as well as assessing habitat suitability for special-status species. All plant and animal species observed in the field were identified and recorded in field notes. Plants that could not be identified in the field were collected and later identified using keys, descriptions, and illustrations in Kearney and Peebles (1951), and applicable volumes of the Flora of North America (FNA 1993+). All species observed in the Project area are listed in Attachment 1.

Aspen biologists drove all portions of the Project area. During the field surveys, Justin Wood checked all transmission line structures for bird nests and searched areas of suitable habitat for evidence of special-status species.

Following the field visit, Justin Wood digitized vegetation and land use types within the Project area (Figure 2). Vegetation mapping was based on the Southwest Regional Gap Analysis Project (SWReGAP; Prior-Magee et al. 2007), and edited as needed to reflect field conditions. Digitizing was done using 1-meter-pixel aerial imagery. The minimum mapping unit is approximately 0.125 acres (5,445 square feet). Vegetation was mapped according to the nomenclature and descriptions of Brown (1994). Mapped vegetation boundaries are accurate to within approximately 10 feet.

Land Use, Vegetation, and Habitat

The Project area is located within an existing transmission line ROW and many of the proposed construction activities would occur in areas previously impacted by construction of the transmission line or on-going maintenance activities. On-going maintenance activities include but are not limited to vegetation management, specifically trimming of saguaro cactus. Elevation of the Project area ranges from approximately 1,470 to 1,950 feet above sea level. The ROW is shown on the following USGS 7.5 minute topographic quads: Eloy North, Newman Peak, Picacho Pass, Picacho Reservoir, and Red Rock. All land uses and vegetation types in the ROW are described below, using the nomenclature of Brown (1994).

- **Cultivated Cropland.** Throughout the western portion of the Project area, there are agricultural fields that have been mapped as cultivated croplands. During the surveys most of these fields were planted with alfalfa (*Medicago sativa*) or cotton (*Gossypium* sp.), or were recently tilled.
- **Developed.** Developed lands are those portions of the Project area with human-dominated land uses, including commercial and residential lands, paved roads, dirt roads, roadsides, irrigation canals, and flood control levees. Vegetation (if present) is dominated by native and non-native ruderal (weedy) species or ornamental plants.
- **Sonora-Mojave Creosotebush-White Bursage Desert Scrub.** This vegetation is dominated by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). Other species noted, although much less frequently, include white ratany (*Krameria grayi*), sweetbush (*Bebbia juncea*), and burrobrush (*Hymenoclea salsola*). Within the Project area, this vegetation is found primarily on the bajada surfaces and tends to integrate with Sonora-Mojave Mixed Salt Desert Scrub on the valley floor and Sonoran Paloverde-Mixed Cacti Desert Scrub higher into the foothills of the Picacho Mountains. It matches the Creosotebush–White Bursage Series in the Lower Colorado River Valley Subdivision of Sonoran Desertscrub (Brown 1994).
- **Sonora-Mojave Mixed Salt Desert Scrub.** This vegetation is dominated by cattle saltbush (*Atriplex polycarpa*). Other species, such as water jacket (*Lycium andersonii*), creosote bush, and mesquites (*Prosopis* spp.), are present but less frequent. It is found primarily on the western half of the Project area, on the valley floor south of Picacho Reservoir.
- **Sonoran Paloverde-Mixed Cacti Desert Scrub.** This vegetation is dominated by saguaro (*Carnegiea gigantea*), yellow paloverde (*Parkinsonia microphylla*), creosote bush, and several species of cholla (*Cylindropuntia* spp.). Other species such as white bursage, ocotillo (*Fouquieria splendens*), and prickly pear cactus (*Opuntia* spp.) are present but less frequent. It is found along much of the central portion of the Project area, at the base of the Picacho Mountains. Some of the saguaros within the ROW have been trimmed by previous operations and maintenance activities with ROW and are alive and appear to be in good condition. These areas are rockier and more mountainous. The vegetation matches descriptions of Paloverde–Cacti–Mixed Scrub Series in the Arizona Upland Subdivision of Sonoran Desertscrub (Brown 1994).
- **Undifferentiated Barren Land.** Barren lands are present at several locations. They are primarily found on the eastern half of the Project area on old alluvial silt deposits.
- **North American Warm Desert Riparian Mesquite Bosque.** This vegetation is dominated by honey mesquite (*Prosopis glandulosa*) and other mesquite species (*Prosopis* spp.). Other species such as desertbroom (*Baccharis sarothroides*), spiny hackberry (*Celtis ehrenbergiana*), and numerous herbaceous perennials and grasses are also present. It is found primarily in the eastern half of the Project area where several un-named washes, flowing from east to west, are blocked by earthen levees, irrigation canals, or other manmade impediments, causing the water to pond. These ponded areas create a more suitable habitat for mesquites and similar vegetation. It matches the description of Mesquite Bosque (Brown 1994).
- **Open Water.** The portion of the Project area that crosses irrigation canals, including the Central Arizona Project (CAP) canal, is mapped as Open Water. The CAP canal is concrete-lined and lacks vegetation; however, the dirt-lined irrigation canals support sparse herbaceous vegetation.

Species Identification

Aspen biologist Justin Wood reviewed the Arizona On-line Environmental Review Tool (AGFD 2014b; Attachment 3), the Arizona Ecological Service List of Endangered and Threatened Species of Pinal County (USFWS 2014a), and the Arizona Rare Plant Field Guide (Arizona Rare Plant Committee 2001) to identify special-status species reported from the region. For this report, special-status species include the following: all federally listed endangered or threatened species, any candidate species or species proposed for listing, and species protected under the Bald and Golden Eagle Protection Act (BGEPA). All federally listed species known from Pinal County were considered in this search. All special-status species identified in this literature review and others known from the region are listed in Table 1, along with a summary of each species' natural history, conservation status, and probability of occurrence in the Project area. Special-status species with at least a minimal potential for occurrence are included in Table 2, which evaluates potential Project impacts to those species and provides the rationale for exclusion of those species that are not discussed further in this report.

Table 1. Special-status Species of Pinal County, Arizona

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
FEDERALLY LISTED, PROPOSED FOR FEDERAL LISTING, AND CANDIDATE SPECIES				
<i>Acuna cactus</i> <i>Echinomastus erectocentrus</i> var. <i>acunensis</i>	Valleys, knolls, gravel ridges in Sonoran Desertscrub; 1200-3770 ft. elev. Maricopa, western Pima, and Pinal counties, AZ.	Flowers March	Fed: END	None; outside of geographic range.
Arizona hedgehog cactus <i>Echinocereus triglochidiatus</i> var. <i>arizonicus</i>	On dacite or granite bedrock, open slopes, narrow cracks between boulders, and in shrub understory in ecotone between chaparral and evergreen woodland; 3200–5200 ft. elev. Gila and Pinal counties, AZ.	Flowers Apr–May	Fed: END	None; outside of geographic range.
Desert pupfish <i>Cyprinodon macularius</i>	Desert springs, small streams, marshes below 5000 ft. elev. Quitobaquito Spring and pond in Pima County; reintroduced to Pima, Pinal, Maricopa, Graham, Cochise, La Paz, Yavapai counties, AZ. A few locations in CA and Mex.	Year-round	Fed: END	None; no suitable stream, springs, or marsh habitat.

Table 1. Special-status Species of Pinal County, Arizona

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Gila chub <i>Gila intermedia</i>	Pools in smaller streams, cienegas, and artificial impoundments; 2000-5500 ft. elev. Gila River basin in AZ, NM, northern Mex.	Year-round	Fed: END	None; limited seasonally impounded water, not known from within 30 miles of Project area.
Gila topminnow <i>Poeciliopsis occidentalis occidentalis</i>	Small streams, springs, and cienegas below 4500 ft. elev. Gila, Pinal, Graham, Yavapai, Santa Cruz, Pima, Maricopa, La Paz counties in AZ and Mex.	Year-round	Fed: END	None; no suitable habitat, well outside of geographic range.
Huachuca water-umbel <i>Lilaeopsis schaffneriana ssp. recurva</i>	Herbaceous, semi-aquatic perennial. Cienegas in Sonoran desertscrub, grassland, oak woodland, conifer forest; 4000-6500 ft. elev. SE AZ, N Mex.	Flowers Mar-Oct	Fed: END	None; no suitable habitat, well outside of geographic range.
Lesser long-nosed bat <i>Leptonycteris curasoae yerbabuenae</i>	Desert scrub; up to high elev. pine and pine-oak forests in Mex.; 1600-11500 ft. elev. Roosts in caves, mines, buildings. Forages at night on nectar, pollen, fruit of agave, cacti. Central AZ, SW NM, Mex.	Apr-Sep	Fed: END	Moderate; suitable foraging habitat throughout much of the Project area, no suitable roosting habitat.
Loach minnow <i>Tiaroga cobitis</i>	Perennial creeks and rivers; below 8000 ft. elev. Isolated populations in NM and AZ, including Aravaipa Creek, Deer Creek, and Turkey Creek in Pinal County.	Year-round	Fed: END	None; limited suitable habitat, well outside of geographic range.
Mexican spotted owl <i>Strix occidentalis lucida</i>	Montane forest/woodland, steep, shady wooded canyons; 4100-9000 ft. elev. Nests on trees, snags, canyon walls. Colorado, UT, AZ, NM, TX, Mex. In AZ, patchily distributed in all but arid SW corner.	Year-round	Fed: THR	None; no suitable habitat, well outside of geographic range.

Table 1. Special-status Species of Pinal County, Arizona

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Nichol turk's head cactus <i>Echinocactus horizonthalonius var. nicholii</i>	Columnar cactus. Sonoran desertscrub on alluvial fans at foot of limestone mts., terraces on limestone mts.; 2400-4100 ft. elev. SW Pinal and N-Cent. Pima counties AZ.	Flowers Apr-May	Fed: END	None; well outside of geographic range.
Ocelot <i>Leopardus pardalis</i>	Medium-sized spotted cat, nocturnal. Requires dense cover. Found in desert scrub in AZ. Preys on rabbits, small rodents, birds. AZ, TX, Mex., S and Cent. America. In AZ, confirmed sightings in Cochise Co.	Year-round	Fed: END	None; considered extirpated from Arizona until roughly 2010, only three recent records statewide, all well over 50 miles from the Project area.
Roundtail chub <i>Gila robusta</i>	Cool to warm water, wide range of elev.; rivers & streams throughout CO River basin; WY, UT, CO, NM, and AZ. In AZ, common to rare in tribs. of Little CO, Bill Williams, Gila, Salt, and Verde rivers.	Year-round	Fed: Cand.	None; limited suitable habitat; well outside of geographic range.
Sonoran Desert tortoise (Sonoran population) <i>Gopherus morafkai</i>	Desert shrublands where soil suitable for burrows; Mojave and Sonoran deserts east and south of the Colorado River.	Spring-Summer	Fed: Cand.	High; much of the Project area provides suitable habitat.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	Breeds in dense riparian forests & shrublands; scattered locations in AZ, CA, and North Baja; sea level to 8000 ft. elev.; winters in Cent. America.	Summer	Fed: END	None; no suitable riparian habitat, not known from Project vicinity.
Tucson Shovel-nosed Snake <i>Chionactis occipitalis klauberi</i>	Desert shrublands; washes and floodplains, soft, sandy soils; endemic to S-Cent. AZ, Pima Co, Western Pinal Co, and E Maricopa Co.	Spring - summer	Fed: Cand.	High; portions of the Project area provide suitable habitat.
Yellow-billed cuckoo (western DPS) <i>Coccyzus americanus</i> ,	Large patches of riparian forest and woodland, usually near surface water; historically common in floodplain habitats.	Spring-Summer	Fed: Prop.	Minimal; mesquite bosques within Project area provide suitable foraging and migratory habitat.

Table 1. Special-status Species of Pinal County, Arizona

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Yuma clapper rail <i>Rallus longirostris yumaensis</i>	Marshlands along the lower Colorado River and tributaries in AZ, CA, NV, and UT.	Year-round	Fed: END	None; no suitable marsh habitat.
OTHER SPECIAL-STATUS SPECIES				
Bald eagle <i>Haliaeetus leucocephalus</i>	Breeds in large trees, near major rivers / lakes; winters more widely; scattered distribution in North America, including resident Sonoran Desert population.	Year-round	Fed: BGEPA	Moderate; winter foraging only; nearest nest over 40 miles to northeast; winters in vicinity of Project area.
Golden eagle <i>Aquila chrysaetos</i>	Nests in remote trees, cliffs, power line structures; forages in shrublands, grasslands; breeds throughout W NA, winters to E coast.	Year-round	Fed: BGEPA	High; foraging habitat only, nesting habitat present in nearby mountains

General References: AGFD 2014b, American Ornithologists Union 1998; Brennan and Holycross 2006; Feldhamer et al. 2003; Gannon 2003; Harvey et al. 2011; Johnson 2008; Rosenberg et al. 1991; Stebbins 2003; Wilson and Ruff 1999.

Conservation Status

US Fish and Wildlife Service (Fed.) Designations:

END: Federally listed, endangered.

THR: Federally listed, threatened.

Cand. (Candidate): Sufficient data are available to support Federal listing, but not yet listed.

Prop. (Proposed): Candidate species that were found to warrant listing as either threatened or endangered and were officially proposed as such in a Federal Register notice after the completion of a status review and consideration of other protective conservation measures.

BGEPA: Bald and Golden Eagle Protection Act.

Occurrence probability: Occurrence probabilities based on literature, habitat analyses, and surveys of the Project area.

None = No suitable habitat on the site, or well outside the species known elevation or geographic ranges.

Minimal = Site is within the known range of the species and habitat on the site is a type occasionally used.

Moderate = Habitat is a type often utilized by the species and the site is within the known range of the species.

High = Observed on the site by qualified biologists or very likely present during at least a portion of the year.

Table 2. Special-status Species Potentially Occurring in Project Area

Species Name	Conservation Status	Potential for Occurrence
FEDERALLY LISTED AND CANDIDATE SPECIES		
Lesser long-nosed bat <i>Leptonycteris curasoae yerbabuena</i>	Fed: END	Moderate. See text in Special-status Species Evaluations section.
Sonoran Desert tortoise (Sonoran DPS) <i>Gopherus morafkai</i>	Fed: Cand.	High. See text in Special-status Species Evaluations section.
Tucson Shovel-nosed Snake <i>Chionactis occipitalis klauberi</i>	Fed: Cand.	High. See text in Special-status Species Evaluations section.

Table 2. Special-status Species Potentially Occurring in Project Area

Species Name	Conservation Status	Potential for Occurrence
Yellow-billed cuckoo (western DPS) <i>Coccyzus americanus occidentalis</i>	Fed: Prop.	Minimal. See text in Special-status Species Evaluations section.
OTHER SPECIAL-STATUS SPECIES		
Bald eagle <i>Haliaeetus leucocephalus</i>	Fed: BGEPA	Moderate (foraging only). See text in Special-status Species Evaluation section.
Golden eagle <i>Aquila chrysaetos</i>	Fed: BGEPA	High (foraging only). See text in Special-status Species Evaluation section.

General References: See Table 1.

Special-Status Species Evaluations

Listed Threatened or Endangered Species

Lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*)

Life History: The lesser long-nosed bat is listed as endangered under the federal ESA (USFWS 1988). It is also recognized as a wildlife species of concern by AGFD (2014b). It is a migratory bat that winters in Mexico and Central America and breeds in the Southwestern United States from mid-April through October (AGFD 2014b). In Arizona, its maternal roosts are located in caves, mines, and occasionally in old buildings in mountain ranges of the southern portion of the state, including the Picacho Mountains (AGFD 2014b). It forages on the nectar and pollen of cactus and agave, saguaros in particular, and occasionally on the fruit. The lesser long-nosed bat may travel up to 25 miles from roost sites to forage (Lowery et al. 2009).

Survey History: Aspen biologists did not observe lesser long-nosed bats during field surveys, but did not conduct focused surveys for this species and surveys were not done at night when the bats would have been active. Surveys were conducted during a time of year when this species may have been in the area. Lesser long-nosed bats roost and forage in the Picacho Mountains, just over one mile east of the central portion of the Project area.

Habitat Evaluation and Suitability: There is suitable foraging habitat for lesser long-nosed bat wherever saguaro cactus are present in the Project area. These areas are mapped as Sonoran Paloverde-Mixed Cacti Desert Scrub and are located primarily in the central portion of the Project area, near the base of the Picacho Mountains. Because of the close proximity of roosting sites, the distances the lesser long-nosed bat can travel in a single night, and the abundance of available forage, they are likely to forage in the Project area during their activity season (mid-April through October).

Analysis and Determination of Effects: If activities take place at night, during the lesser long-nosed bat activity season, then Project noise and disturbance could affect bats' foraging behavior and possibly their breeding success. In addition, vegetation management activities during this season could remove or degrade food plants and may also impact foraging behavior and possibly breeding success. However, the number of food plants that would be removed by vegetation management activities in desert scrub habitat would be minimal relative to the number of available forage plants outside the Project area. In

addition, if food plants are cut to a safe level and not removed, then impacts to foraging habitat would be temporary and negligible. Finally, the Project is being conducted within an existing ROW corridor presently undergoing routine vegetation management; therefore, new impacts to vegetation are most likely to occur in new construction areas (e.g., pulling and tensioning sites, new pole sites). Impacts to vegetation within the ROW resulting from Project activities will be negligible relative to the current ongoing operations and maintenance activities.

Where vegetation management is conducted outside the activity season, impacts to food plants and foraging habitat would be minimal because of the abundance of suitable foraging habitat in the surrounding areas.

The conservation measures listed below would avoid impacts to lesser long-nosed bats by prohibiting all Project activities at night during their activity season (April 15 through October 31) and minimizing the removal or cutting of saguaros during the bats' activity season within the Project area. With implementation of these measures, Project activities may affect, but are not likely to adversely affect lesser long-nosed bat.

Species Proposed for Listing as Threatened or Endangered

Yellow-billed cuckoo (*Coccyzus americanus occidentalis*; Western United States Distinct Population Segment)

Life History: The yellow-billed cuckoo is proposed for listing under the federal ESA. The proposed listing would apply to its occurrences in the western states, defined as a distinct population segment (DPS), including occurrences in Arizona (USFWS 2013). The yellow-billed cuckoo is a migratory bird that winters in South America and breeds in the United States from mid-June through August (USFWS 2013). It is a secretive bird that nests in cottonwood-willow woodland with an understory of dense vegetation, especially near water (AGFD 2014b). In the desert Southwest, nesting habitat is invariably riparian woodlands, particularly those with an intact (i.e., ungrazed) understory. In Arizona it has been documented nesting in mesquite bosque, typically in close proximity to riparian vegetation. Yellow-billed cuckoo nest in large stands of vegetation, typically greater than 100 acres, with most nesting in patches greater than 200 acres and at least 325 feet wide (USFWS 2014b). It also occasionally nests in prune, English walnut, and almond orchards (Laymon 1998) as well as in non-native tamarisk scrub with an overstory of willows (Wiggins 2005). Yellow-billed cuckoo forage primarily by gleaning or sallying flying insects (Laymon 1998). It typically forages in the canopy and dense understory of cottonwood woodlands (Laymon 1998).

The USFWS recently proposed critical habitat for the yellow-billed cuckoo western DPS (USFWS 2014b). The Project area is not within critical habitat, however critical habitat unit 29: AZ-21 is at Picacho Reservoir, roughly one mile north of the Project area (USFWS 2014b).

Survey History: Aspen biologists did not observe yellow-billed cuckoo during field surveys, but did not conduct focused surveys for this species. Surveys were conducted during a time of year when this species may have been in the area. Yellow-billed cuckoo regularly nest at Picacho Reservoir, roughly one mile north of the Project area and at several locations within the Santa Cruz River Valley, roughly four miles to the southwest of the Saguaro Substation (USFWS 2014 and Ebird.org 2014).

Habitat Evaluation and Suitability: There is suitable nesting habitat of adequate patch size in the Project vicinity that may provide suitable nesting habitat. However, the largest patches of North American Warm Desert Riparian Mesquite Bosque within the Project area are less than 100 acres, making them

unsuitable as nesting territories (Figure 2). The vegetation in these areas is made up of dense stands of mesquites, primarily honey mesquite (*Prosopis glandulosa*), with a dense understory of herbaceous perennials and grasses. During the surveys, ponded water was also present at numerous locations and an abundance of flying insects was noted. Yellow-billed cuckoo are likely to move through the Project area, at least intermittently, during spring or fall migratory seasons.

Analysis and Determination of Effects: Portions of the Project area provide suitable migratory and dispersal habitat for yellow-billed cuckoo. Project activities, including noise and disturbance (e.g., vehicles, compressors, welders, and generators), may cause yellow-billed cuckoo to leave the area during migration or when they are dispersing from nest habitat, but these impacts would not affect nesting success. In addition, vegetation clearing within the ROW could degrade suitable foraging or dispersal habitat, but these impacts would be negligible.

Conservation Measure 6 would avoid impacts to yellow-billed cuckoo by prohibiting helicopter use within 0.5 miles of Picacho Reservoir, which would avoid any impacts to nesting yellow-billed cuckoo in nesting habitat. With implementation of this measure, Project activities will not affect nesting yellow-billed cuckoo.

Candidate Species for Listing as Threatened or Endangered

Sonoran Desert tortoise (*Gopherus morafkai*)

Life History: The following discussion of the Sonoran Desert tortoise and its biology is based on the recent evidence suggesting that it should be recognized as full species, distinct from the Mojave Desert tortoise (Murphy et al. 2011). The USFWS (2010a) candidate designation is based on the previous belief that desert tortoises east and west of the Colorado River were distinct populations of a single species, *G. agassizii*. The Sonoran Desert tortoise is a candidate for federal listing.

The Sonoran Desert tortoise lives primarily in upland and sloping bajada landforms between about 500 and 4,100 feet elevation, throughout much of southern and western Arizona, and Sonora, Mexico. It is less common in desert lowland habitats, but intermountain valleys may be important habitat for dispersal and movement among mountain ranges in the region. It spends much of the time within burrows, either during inactive seasons or during inactive diurnal periods, for thermoregulation, nesting, and protection from predators. Thus, burrows and soils suitable for burrowing are important habitat features. Burrows are constructed beneath rocks, boulders, or shrubs, on semi-open slopes, or on the banks of washes. The Sonoran Desert tortoise also use rocky crevices or shelves (e.g., caliche), sometimes without further altering them. They are active during spring and late summer (March 1 – November 1), and they may be active (outside their burrows) for short periods at any time of year, depending on rainfall and temperature (AGFD 2008). The primary activity season in late summer coincides with monsoonal rainfall, when water and new plant growth are available.

Survey Results: No Sonoran Desert tortoise or their sign was observed during the reconnaissance-level field survey. All USGS quads in which the project is located, except Ely North, are known to be occupied by Sonoran Desert tortoise (USFWS 2010a). In addition, the Arizona On-line Environmental Review Tool query returned occurrence records for Sonoran Desert Tortoise within 2 miles of the Project area (Attachment 3).

Habitat Evaluation and Suitability: The upland portions of the Project area provide some suitable habitat for Sonoran Desert tortoise. The areas mapped as Sonoran Paloverde-Mixed Cacti Deserts scrub provide the highest quality habitat, but Sonora-Mojave Creosotebush-White Bursage Desert Scrub,

Sonora-Mojave Mixed Salt Desert Scrub, and North American Warm Desert Riparian Mesquite Bosque also provide suitable habitat.

Analysis and Determination of Effects: The proposed work in the Project area may directly impact Sonoran Desert tortoise by crushing or injuring individuals or damaging burrows during Project construction and future maintenance activities. These activities may also eliminate or degrade suitable habitat within the ROW. With implementation of the recommended conservation measures, the Project is not likely to result in a trend toward federal listing of Sonoran Desert tortoise.

Tucson Shovel-nosed Snake (*Chionactis occipitalis klauberi*)

Life History: The USFWS (2010b) designated the Tucson shovel-nosed snake as a candidate for federal listing. This review of its biology and threats is based on that publication and on Majka et al. (2008). The Tucson shovel-nosed snake is a small snake with a shovel-shaped snout and colored bands resembling the coral snake. It is a subspecies of the more widespread western shovel-nosed snake. Its principal habitats are creosote-mesquite vegetation of flat, valley-floor floodplains, with soft, sandy loam soils and sparse gravel. Broad sandy drainage channels adjacent to valley floor desert shrublands may also be suitable habitat for Tucson shovel-nosed snake. It is primarily nocturnal and crepuscular (i.e., active early morning and late evening) and feeds primarily on insects and other invertebrates. The home range size is estimated at about ten acres. Its historic range was Pima County, in the Avra and Santa Cruz valleys, and western Pinal and a portion of eastern Maricopa counties. The principal threat to this species is land use conversion for urban and agricultural uses. Extant populations of Tucson shovel-nosed snake are found near Picacho Peak State Park.

Survey Results: No Tucson shovel-nosed snakes were observed during the reconnaissance-level field survey. The entire Project area is within the species' geographic range (Brennan and Holycross 2009).

Habitat Evaluation and Suitability: Suitable habitat is present in open desert lands throughout much of the Project area. The portions of the Project area that are mapped as developed or cultivated cropland are unlikely to support the snake due to incompatible land uses. The Project may impact this species by killing or injuring snakes during construction, or by eliminating or temporarily degrading habitat to create access for vehicles and equipment.

Analysis and Determination of Effects: The proposed work in the Project area may directly impact Tucson shovel-nosed snakes by crushing or injuring individuals during Project construction and future maintenance activities. These activities may also eliminate or degrade suitable habitat within the ROW. With implementation of the recommended conservation measures, the Project is not likely to result in a trend toward federal listing of Tucson shovel-nosed snake.

Species Protected Under the Federal Bald and Golden Eagle Protection Act

Under the federal Bald and Golden Eagle Protection Act (BGEPA), the USFWS regulates activities that may take bald or golden eagles. Take is defined as "pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, and disturbing" bald or golden eagles, and as activities causing: "(1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (USFWS 2007).

Bald eagle (*Haliaeetus leucocephalus*)

Bald eagles are year-round residents throughout most of their range in central Arizona. They have nested in recent years near the San Carlos Reservoir over 50 miles northeast of the Project area (AGFD 2014a). Bald eagles are seen regularly in the Project vicinity during winter. The Project would not affect nesting bald eagles or foraging habitat within range of potential nest sites. However, bald eagles forage more widely during winter. Potential upland foraging habitat is present throughout the Project area. Project construction would not cause long-term adverse effects to winter foraging habitat, but may temporarily cause bald eagles to avoid work areas due to noise and other construction activities. Any effects to foraging behavior would be negligible and temporary.

Golden eagle (*Aquila chrysaetos*)

Golden eagles are year-round residents throughout most of their range in the western United States. In the Southwest, they are more common during winter months. They breed from late January through August (Pagel et al. 2010). In the desert, they generally nest in steep, rugged terrain, often on sites with overhanging ledges, cliffs or large trees as cover. Golden eagles are wide-ranging predators, especially outside of the nesting season, when they have no need to return to tend eggs or young at their nests.

The nearest known golden eagle nest site is in the Tortolita Mountains, roughly twelve miles east of the Saguaro Substation (AGFD 2014b). Golden eagles have been reported from Picacho Peak and are likely to nest there, less than two miles south of the Project area. There is also suitable nesting habitat present in the Picacho Mountains roughly one mile to the north and east of the alignment. A possible inactive eagle nest was observed in the Picacho Mountains, although Aspen was unable to confirm presence (Photo 10). No suitable nesting habitat was observed in the Project area.

Golden eagles are sensitive to human disturbances during the nesting season. If there is an active nest nearby, then human activity and noise during Project construction could adversely affect golden eagle nesting success. Most of the Project activities are not likely to adversely affect nesting golden eagle due to the distance to known or suitable nesting sites; however, use of helicopters in these areas could adversely affect nesting golden eagles. Any Project activities taking place outside the nesting season would not disturb nesting eagles. Conservation measures below would reduce potential impacts to nesting golden eagles, if present, by prohibiting helicopter use within 0.5 miles of the Picacho Mountains during the nesting season.

With the exception of developed areas, much of the Project area is suitable golden eagle foraging habitat. Nesting golden eagles are likely to forage there during the nesting season. Wintering golden eagles, or unmated golden eagles in nesting season, are also likely to forage occasionally in the Project vicinity. The proposed Project activities may cause golden eagles to avoid work areas due to noise and other project related activities. Given the eagle's ability to move away from the Project area, any effects to foraging behavior would be negligible and temporary.

Native Birds: Migratory Bird Treaty Act and Special-status Birds

The federal Migratory Bird Treaty Act (MBTA) prohibits take of any migratory bird, including active nests, except as permitted by regulation (e.g., waterfowl or upland game bird hunting). The MBTA broadly defines "migratory bird" as "any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle" and thus applies to most native bird species. With the exception of a few non-native birds such as the European starling, the take of any

birds or active bird nests or young is regulated by this statute. Most of these species have no other special conservation status as defined in Tables 1 and 2.

Power lines may present an electrocution risk to native birds, including some special-status birds. Large raptors, including golden eagles, bald eagles, red-tailed hawks, and prairie falcons, and large perching birds such as turkey vultures and ravens are susceptible to electrocution on power lines and associated equipment because of their large size and proclivity to perch, roost, and sometimes nest on electric poles, towers, and other structures. Structure design is a major factor in causing or preventing electrocutions of large birds. Electrocution occurs when a bird simultaneously contacts two energized or grounded conductors or an energized conductor and grounded hardware. This happens most frequently when a bird attempts to perch on a structure with insufficient clearance between the conductors or grounds. The majority of raptor electrocutions are caused by distribution lines and relatively small transmission lines, energized at voltage levels between 1-kV and 69-kV. Higher voltage transmission lines are built with wider spacing between the conductors and grounds, and present reduced threat of electrocution. Electrocution can occur when horizontal separation is less than the wrist-to-wrist (flesh-to-flesh) distance of a bird's wingspan or where vertical separation is less than a bird's length from head to foot.

The largest bird that is likely to come in contact with the Project transmission lines is the golden eagle (wingspan up to 7.5 feet; wrist-to-wrist length of 3.5 feet; height to 2.2 feet). The Avian Power Line Interaction Committee (APLIC 2006) guidelines recommend 60-inch (5-foot) separations between energized conductors or hardware and grounded conductors or hardware to protect eagles and other large birds (e.g., red-tailed hawk, turkey vulture) from electrocution. The Project would result in a net decrease of approximately five transmission line structures and the number of conductors on the structures would not change. Risk to bird electrocution would be likely to remain unchanged. Conservation measures include a recommendation to implement APLIC construction guidelines to minimize potential electrocution risk.

Power lines may present a collision risk to native birds, including some special-status birds. Songbirds and waterfowl have a lower potential for collisions than larger birds, such as raptors, since they tend to fly under power lines, while larger species generally fly over lines and risk colliding with higher static lines (APLIC 2012). Riparian habitats and areas of open water are highly productive areas that provide many resources to birds. Power lines located near these habitats with high avian use may pose greater exposure to collisions for some bird species (APLIC 2012).

The Project may result in reduced risk of collision due to the increased spacing between structures, but the risk is likely to remain unchanged from current conditions. Aspen's field surveys were conducted at the end of the bird nesting season. No active nests were observed, although many small inactive nests were found in surrounding vegetation. None of these nests were mapped because most small nests are rebuilt annually and would not be active in subsequent nesting seasons. Several raptor nests were also observed in saguaro cacti just outside of the Project area and therefore were not mapped. Project activities may disturb or damage bird nests on transmission line structures, in adjacent habitats, or on the ground (e.g., lesser nighthawks). Any potential impacts to nesting birds would be avoided by scheduling Project activities outside of the breeding season or implementing nest avoidance measures (see conservation measures).

Conservation Measures

The following recommended conservation measures would avoid or minimize adverse Project impacts to biological resources.

1. *Limit disturbance area:* At all proposed work areas, limit the mechanical disturbance of previously undisturbed habitats (including soils) to the greatest extent practicable. In new impact areas limit the mechanical disturbance as much as possible.
2. *Pre-construction surveys:* Due to the possibility that special-status species and nesting birds may be found in the Project area, Western will assign a qualified biologist to the Project, to conduct pre-construction clearance surveys for Sonoran Desert tortoise, Tucson shovel-nosed snake, and nesting birds. Pre-construction surveys will be conducted no more than 2 days in advance of any ground- or vegetation-disturbing activities in any location. Pre-construction surveys for nesting birds will be required during the nesting season (February 15 through August 31).
3. *Biological monitor:*
 - a. A qualified biologist will be present during any vegetation clearing or soil disturbance in Sonoran Desert tortoise habitat from structure 7/6 through structure 22/4 during the tortoise activity season (March 1 to October 31) (see Figure 2). A "qualified biologist" is defined as a person with appropriate education, training, and experience to monitor project activities, provide worker education programs, and supervise or perform other implementing actions.
 - b. Tortoise burrows and other sensitive features identified during pre-construction surveys shall be flagged and monitored by the biologist for avoidance at any time of the year.
 - c. The Biological Monitor and all workers shall regularly observe the work areas for desert tortoise. The Biological Monitor will be authorized by Western to temporarily halt Project activities if needed to prevent potential harm to Sonoran Desert tortoise or any other special-status species.
 - d. The work supervisor will coordinate with the Biological Monitor on planned or ongoing Project activities and any specific pre-activity surveys or monitoring requirements for each activity in those areas.
 - e. Desert tortoises in imminent harm's way may only be handled and translocated by a qualified and permitted biologist; handling will be conducted per the AGFD guidelines (AGFD 2007).
 - f. Based on the results of the pre-construction survey, Western will determine the need for a Biological Monitor in Tucson shovel-nosed snake habitat.
 - g. If an active bird nest is located on or adjacent to the work site during the pre-construction survey, a Biological Monitor will designate and flag an appropriate buffer area around the nest where Project activities will not be permitted. The buffer area will be based on the bird species and nature of Project activity.
4. *Lesser long-nosed bat:* Project activities during the lesser long-nosed bat activity season, April 15 through October 31, will not take place at night, or within 30 minutes of sunset. Cutting or removal of saguaros will be minimized to the extent practicable.

5. *Golden eagles and yellow-billed cuckoo western DPS*: Project construction activities requiring the use of a helicopter will (1) not be conducted within 0.5-miles of the Picacho Mountains during golden eagle nesting season (February 15 to August 31), and (2) not be conducted within 0.5 miles of Picacho Reservoir during the yellow-billed cuckoo nesting season (March 15 through August 1; see Figure 1).
6. *Worker training*: Western will conduct employee training to ensure that all workers on the Project site (including contractors) are aware of all applicable conservation measures for biological resources. During the training, the instructor will briefly discuss special-status species that may occur in the work areas, their habitats, and requirements to avoid or minimize impacts. In addition, all workers will be informed of civil and criminal penalties for violations of the federal ESA, the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act.
7. *Animals*: No pets will be permitted on the work site. Workers will not be permitted to feed, harm, approach, harass, or handle wildlife at any time, except to remove animals safely from work areas.
8. *Trash, refuse, concrete, and other materials*: All trash and food materials will be properly contained within vehicles or closed refuse bins while on the site, and will be regularly removed from the site (at least on a weekly basis) for proper disposal. All refuse from Project activities will be removed from each work site upon completion of maintenance work. No raw cement, concrete or washings thereof, asphalt, paint, oil, solvents, or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources, shall be disposed of on-site or allowed to spill onto soil. Cleanup of any spilled material shall begin immediately.
9. *Minimize standing water*: Within desert shrubland habitat, water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards, to prevent the formation of puddles, which could attract wildlife to construction sites.
10. *Water storage*: All water containers (i.e. tanks or trailers) will be securely covered to prevent wildlife from entering the containers and becoming trapped.
11. *Speed limit*: To minimize potential impacts to special-status wildlife, no vehicles will be permitted to exceed 25 mph while traveling on access roads.
12. *Conform to APLIC design guidelines*: In order to minimize any potential electrocution hazard for golden eagles or other large birds, energized and ground conductors and hardware will be separated by 60 inches or more, or will be covered.

Determination

- With implementation of conservation measures above, the Project may affect but is not likely to adversely affect the lesser long-nosed bat.
- With implementation of conservation measures above, the Project will not affect the western DPS of yellow-billed cuckoo.
- With implementation of conservation measures above, the Project may affect Sonoran Desert tortoise and Tucson shovel-nosed snake, but is not likely to result in a trend toward federal listing of these species.
- The Project will not affect proposed critical habitat for the western DPS of yellow-billed cuckoo.

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Exhibit 1. Photos



Photo 1: East-facing view from near structure 26-1 showing an example of open Sonora-Mojave Creosotebush-White Bursage Desert Scrub within the Project area. Photo date: July 29, 2014.



Photo 2: East-facing view from near structure 10-3 showing an example of Sonora-Mojave Mixed Salt Desert Scrub within the Project area. The Picacho Mountains are shown in the distance. Photo date: July 28, 2014.



Photo 3: West-facing view from near structure 20-2 showing an example of Sonoran Paloverde-Mixed Cacti Desert Scrub within the Project area. Photo data is July 29, 2014.



Photo 4: East-facing view from near structure 20-1 showing Sonoran Paloverde-Mixed Cacti Desert Scrub in the foreground and the Picacho Mountains with suitable golden eagle nesting habitat in the background. The disturbed area at the base of the mountains is the Central Arizona Project. Photo date: July 29, 2014.



Photo 5: East-facing view from near structure 26-1 of undifferentiated barren lands on old alluvial deposits from McClellen Wash. Photo date: July 29, 2014.



Photo 6: North-facing view from near structure 32-1 showing an extensive stand of Mesquite Bosque. Photo date: July 29, 2014.



Photo 7: East-facing view from near structure 28-4 showing an extensive stand of Mesquite Bosque.
Photo date: July 29, 2014.



Photo 8: East-facing view from near structure 32-1 showing an extensive stand of Mesquite Bosque.
Photo date: July 29, 2014.



Photo 9: Photo of a flowering saguaro within the Project area. These flowers provide forage for lesser long-nosed bats. Photo date: July 29, 2014.



Photo 10: East-facing view from near structure 20-1 showing suitable golden eagle nest sites. An old stick nest (arrow) may be present, but it has not been confirmed. Photo date: July 29, 2014.

Attachment 1 - Observed Species List

Attachment 1: Observed Species List

Latin Name	Common Name	Abundance
AMARANTHACEAE		
AMARANTH FAMILY		
<i>Amaranthus fimbriatus</i>	Fringed amaranth	Scarce
ASCLEPIADACEAE		
MILKWEED FAMILY		
<i>Funastrum hirtellum</i>	Hairy milkweed	Uncommon
ASTERACEAE		
ASTER FAMILY		
<i>Ambrosia ambrosioides</i>	Canyon ragweed	Uncommon
<i>Ambrosia deltoidea</i>	Triangle bur ragweed	Uncommon
<i>Ambrosia eriocentra</i>	Hollyleaf bursage	Uncommon
<i>Baccharis sarothroides</i>	Broom baccharis	Occasional
<i>Bebbia juncea</i>	Sweetbush	Uncommon
<i>Hymenoclea salsola</i>	Cheeseweed	Uncommon
<i>Isocoma acradenia</i>	Alkali goldenbush	Occasional
<i>Pectis papposa</i>	Chinchweed	Uncommon
CAPPARACEAE		
CAPER FAMILY		
<i>Cleome lutea</i>	Yellow spiderflower	Scarce
CACTACEAE		
CACTUS FAMILY		
<i>Carnegiea gigantea</i>	Saguaro	Common
<i>Cylindropuntia arbuscula</i>	Arizona pencil cholla	Uncommon
<i>Cylindropuntia biglovii</i>	Teddybear cholla	Uncommon
<i>Cylindropuntia ramosissima</i>	Pencil cholla	Occasional
<i>Cylindropuntia versicolor</i>	Staghorn cholla	Occasional
<i>Echinocereus engelmannii</i>	Strawberry cactus	Uncommon
<i>Ferocactus cylindraceus</i>	California barrel cactus	Uncommon
<i>Opuntia basilaris</i> var. <i>basilaris</i>	Beavertail cactus	Uncommon
<i>Opuntia chlorotica</i>	Dollarjoint pricklypear	Scarce
<i>Opuntia engelmannii</i>	Cactus apple	Uncommon
CHENOPODIACEAE		
GOOSEFOOT FAMILY		
<i>Atriplex polycarpa</i>	Cattle saltbush	Occasional
* <i>Salsola tragus</i>	Russian thistle	Uncommon
EUPHORBIACEAE		
SPURGE FAMILY		
<i>Chamaesyce micromera</i>	Sonoran sandmat	Occasional
<i>Chamaesyce polycarpa</i>	Sandmat	Scarce
<i>Chamaesyce setiloba</i>	Yuma sandmat	Uncommon
<i>Chamaesyce</i> sp.	Unid. sandmat	Uncommon
FABACEAE		
PEA FAMILY		
<i>Acacia constricta</i>	Whitethorn acacia	Uncommon
<i>Acacia greggii</i>	Catclaw acacia	Uncommon
* <i>Medicago sativa</i>	Alfalfa	Uncommon
<i>Olneya tesota</i>	Desert ironwood	Common
<i>Parkinsonia microphylla</i>	Yellow palo verde	Common

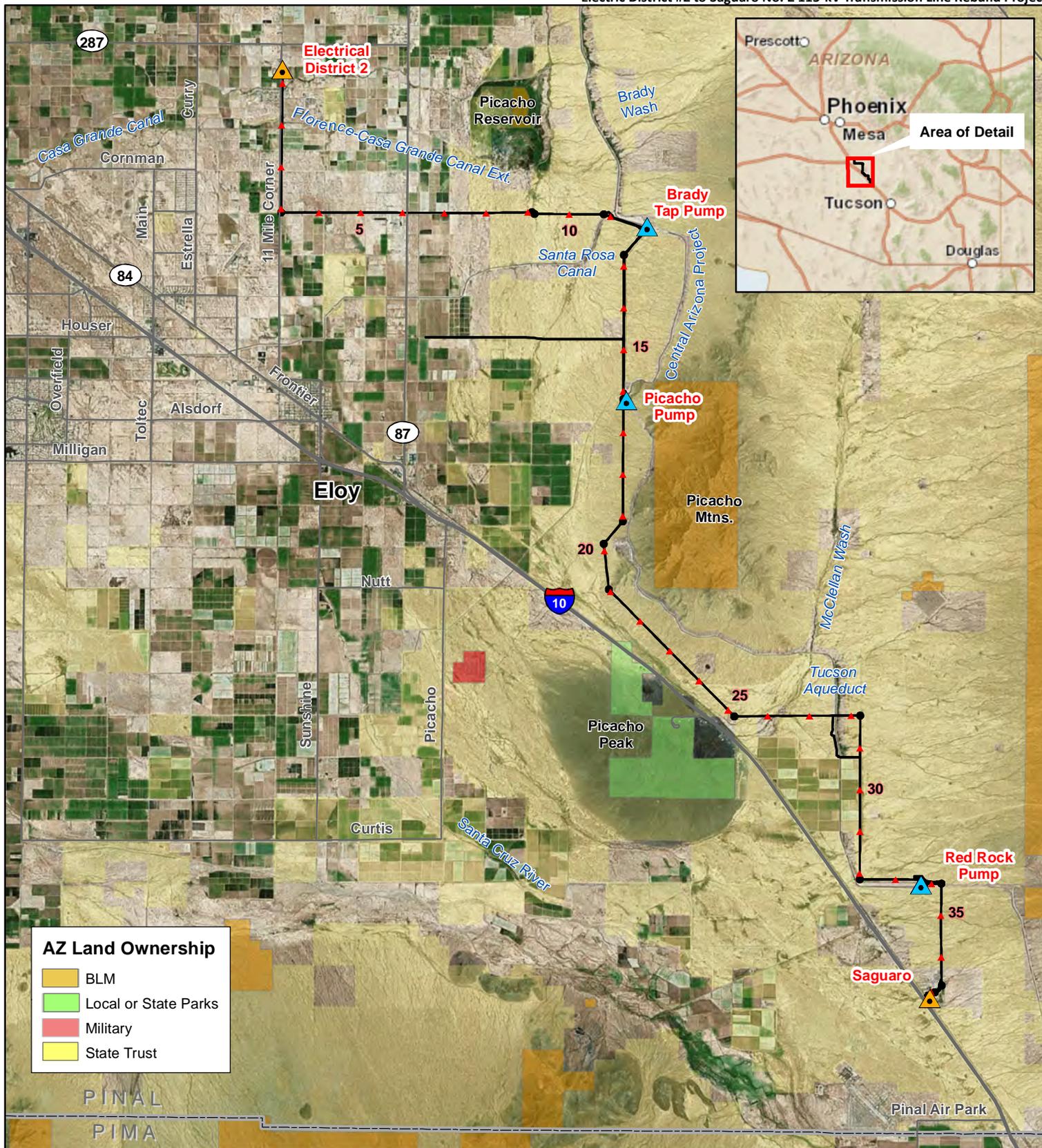
Latin Name	Common Name	Abundance
<i>Prosopis glandulosa</i>	Mesquite	Occasional
<i>Prosopis juliflora</i> var. <i>velutina</i>	Mesquite	Occasional
<i>Senna covesii</i>	Rattlebox senna	Uncommon
FOUQUIERIACEAE	OCOTILLO FAMILY	
<i>Fouquieria splendens</i>	Ocotillo	Uncommon
GERANIACEAE	GERANIUM FAMILY	
* <i>Erodium cicutarium</i>	Red stork's bill	Uncommon
KRAMERIACEAE	KRAMERIA FAMILY	
<i>Krameria erecta</i>	Little-leaf ratany	Occasional
LOASACEAE	STICK-LEAF FAMILY	
<i>Mentzelia</i> sp.	Unid. annual	Scarce
MALVACEAE	MALLOW FAMILY	
<i>Gossypium</i> sp.	Cotton	Uncommon
NYCTAGINACEAE	FOUR O'CLOCK FAMILY	
<i>Allionia incarnata</i>	Trailing windmills	Occasional
<i>Boerhavia coccinea</i>	Scarlet spiderling	Scarce
SOLANACEAE	NIGHTSHADE FAMILY	
<i>Datura wrightii</i>	Jimsonweed, tolgua	Uncommon
<i>Lycium andersonii</i>	Water jacket	Occasional
<i>Lycium fremontii</i>	Fremont's desert-thorn	Uncommon
<i>Nicotiana obtusifolia</i>	Desert tobacco	Scarce
<i>Solanum elaeagnifolium</i>	Silverleaf nightsahde	Uncommon
ULMACEAE	ELM FAMILY	
<i>Celtis ehrenbergiana</i>	Spiny hackberry	Uncommon
VISCACEAE	MISTLETOE FAMILY	
<i>Phoradendron californicum</i>	Desert mistletoe	Scarce
ZYGOPHYLLACEAE	CALTROP FAMILY	
<i>Larrea tridentata</i>	Creosote bush	Abundant
POACEAE	GRASS FAMILY	
<i>Aristida adscensionis</i>	Six-weeks three-awn grass	Uncommon
<i>Aristida purpurea</i>	Purple threeawn	Uncommon
<i>Aristida ternipes</i>	Spidergrass	Uncommon
<i>Bouteloua aristidoides</i>	Needle grama	Occasional
<i>Bouteloua barbata</i>	Six-weeks grama	Scarce
* <i>Cynodon dactylon</i>	Bermudagrass	Occasional
<i>Leptochloa fusca</i> ssp. <i>uninervia</i>	Mexican spangletop	Occasional
* <i>Sorghum halepense</i>	Johnsongrass	Uncommon
VERTEBRATE ANIMALS		
REPTILIA	REPTILES	

Latin Name	Common Name	Abundance
IGUANIDAE	IGUANID LIZARDS	
<i>Callisaurus draconoides</i>	Zebra-tailed lizard	Scarce
<i>Dipsosaurus dorsalis</i>	Desert iguana	Occasional
<i>Phrynosoma solare</i>	Regal horned lizard	Scarce
<i>Uta stansburiana</i>	Side-blotched lizard	Occasional
TEIIDAE	WHIPTAILS	
<i>Aspidoscelis tigris</i>	Tiger whiptail	Occasional
AVES	BIRDS	
CATHARTIDAE	VULTURES	
<i>Cathartes aura</i>	Turkey vulture	Uncommon
ACCIPITRIDAE	HAWKS AND EAGLES	
<i>Buteo jamaicensis</i>	Red-tailed hawk	Occasional
<i>Buteo swainsoni</i>	Swainson's hawk	Scarce
FALCONIDAE	FALCONS	
<i>Falco sparverius</i>	American kestrel	Uncommon
PHASIANIDAE	GROUSE AND QUAIL	
<i>Callipepla gambelii</i>	Gambel's quail	Uncommon
CHARADRIIDAE	PLOVERS	
<i>Charadrius vociferus</i>	Killdeer	Uncommon
COLUMBIDAE	PIGEONS AND DOVES	
<i>Columbina passerina</i>	Common ground-dove	Scarce
* <i>Streptopelia decaocto</i>	Eurasian collared-dove	Uncommon
<i>Zenaida asiatica</i>	White-winged dove	Uncommon
<i>Zenaida macroura</i>	Mourning dove	Occasional
CUCULIDAE	CUCKOOS	
<i>Geococcyx californianus</i>	Greater roadrunner	Uncommon
CORVIDAE	CROWS AND JAYS	
<i>Corvus corax</i>	Common raven	Occasional
REMIZIDAE	VERDINS	
<i>Auriparus flavipes</i>	Verdin	Occasional
TROGLODYTIDAE	WRENS	
<i>Campylorhynchus brunneicapillus</i>	Cactus wren	Occasional
MUSCICAPIDAE	THRUSHES AND ALLIES	
<i>Polioptila melanura</i>	Black-tailed gnatcatcher	Uncommon
MIMIDAE	THRASHERS	
<i>Toxostoma crissale</i>	Crissal thrasher	Uncommon
TYRANNIDAE	FLYCATCHERS	
<i>Myiarchus cinerascens</i>	Ash-throated flycatcher	Uncommon
<i>Tyrannus verticalis</i>	Western kingbird	Occasional

Latin Name	Common Name	Abundance
LANIIDAE		
SHRIKES		
<i>Lanius ludovicianus</i>	Loggerhead shrike	Uncommon
VIREONIDAE		
VIREOS		
<i>Vireo bellii arizonae</i>	Arizona Bell's vireo	Uncommon
<i>Vireo gilvus</i>	Warbling vireo	Uncommon
EMBERIZIDAE		
SPARROWS		
<i>Amphispiza bilineata</i>	Black-throated sparrow	Common
<i>Pheucticus melanocephalus</i>	Black-headed grosbeak	Uncommon
ICTERIDAE		
BLACKBIRDS		
<i>Agelaius phoeniceus</i>	Red-winged blackbird	Occasional
<i>Agelaius tricolor</i>	Tri-colored blackbird	Uncommon
<i>Quiscalus mexicanus</i>	Great-tailed grackle	Occasional
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed blackbird	Scarce
FRINGILLIDAE		
FINCHES		
<i>Carpodacus mexicanus</i>	House finch	Occasional
MAMMALIA		
MAMMALS		
LEPORIDAE		
HARES AND RABBITS		
<i>Sylvilagus</i> sp.	Cottontail	Uncommon
SCIURIDAE		
SQUIRRELS		
<i>Xerospemophilus tereticaudus</i>	Round-tailed ground squirrel	Uncommon
CANIDAE		
FOXES AND COYOTES		
<i>Canis latrans</i>	Coyote	Uncommon
BOVIDAE		
SHEEP AND GOATS		
* <i>Bos primigenius</i>	Domestic cattle	Occasional

* Introduced species that are becoming naturalized in Arizona are indicated by an asterisk. This list includes only species observed on the site. Others may have been overlooked or unidentifiable due to season (amphibians are active during rains, reptiles during summer, some birds (and bats) migrate out of the area for summer or winter, some mammals hibernate, many plants are identifiable only in spring). Plants were identified using keys, descriptions, and illustrations in Abrams Kearney and Peebles (1951), Cronquist (1972), and FNA (1993+). Plant taxonomy and nomenclature generally follow USDA (2014). Wildlife taxonomy and nomenclature generally follow Stebbins (2003) for amphibians and reptiles, AOU (1998) for birds, Johnson (2008) for fish, and Jones et al. (1992) for mammals. Specimens donated as vouchers to the Rancho Santa Ana Botanic Garden are indicated by Justin Wood's collection numbers, at right.

Attachment 2 – Figures



AZ Land Ownership

- BLM
- Local or State Parks
- Military
- State Trust

- Mile Marker
- Pumping Plant - Central Arizona Project
- Western Substation
- Survey Area
- County Boundary

Figure 1

Project Overview

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Figure 2.

Biological Resources



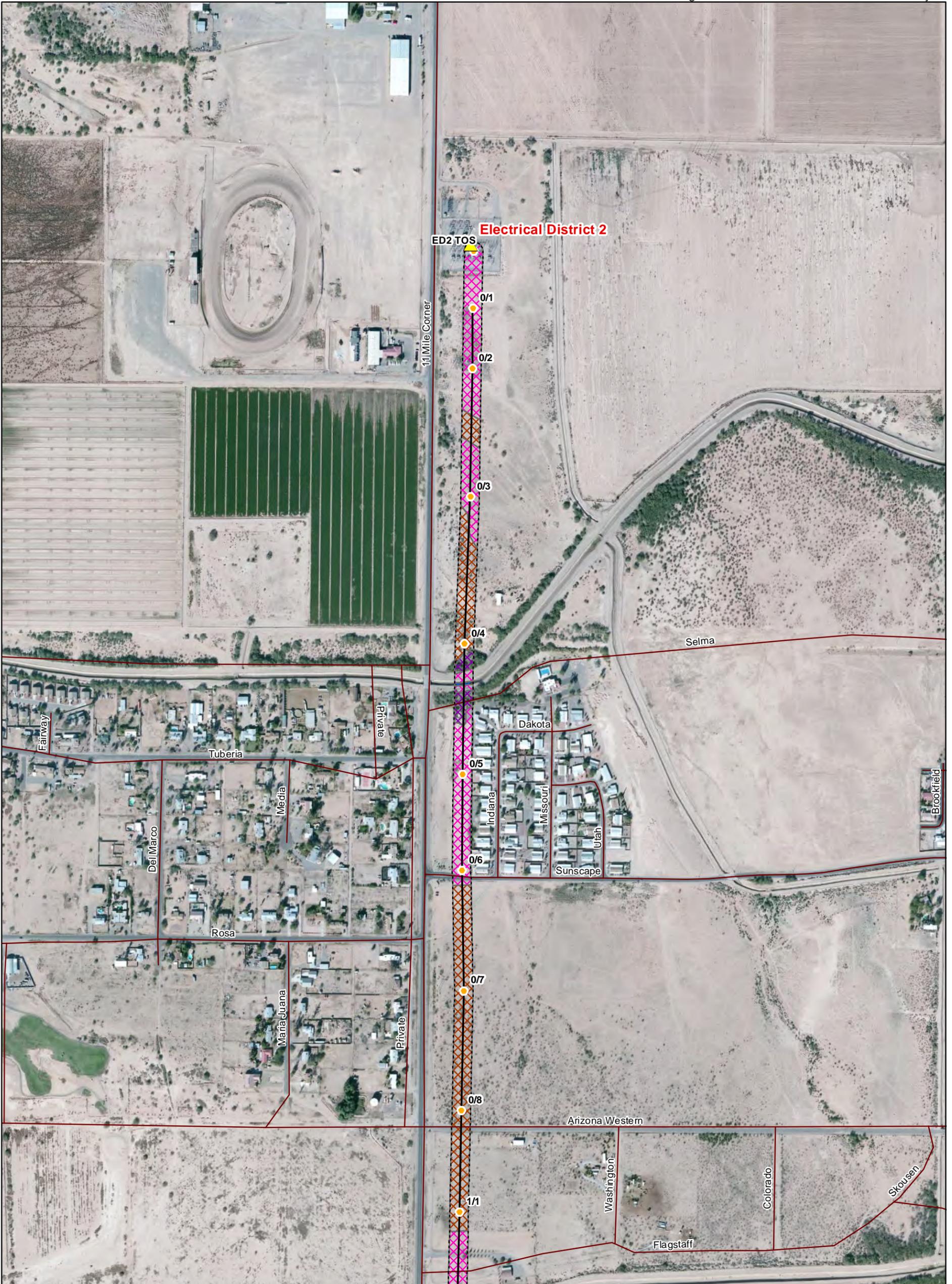
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- Map Page
- ▲ Facility
- Structure
- Transmission Lines
- Survey Area

0 1 2 Miles





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- Facility
- Proposed New Structure**
- Transmission Lines
- Survey Area
- Roads

See Page 2
Cover Type

- Developed
- Open Water
- Sonora-Mojave Mixed Salt Desert Scrub
- Sonoran Paloverde-Mixed Cacti Desert Scrub

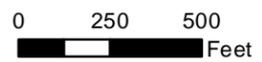
Figure 2 - 1

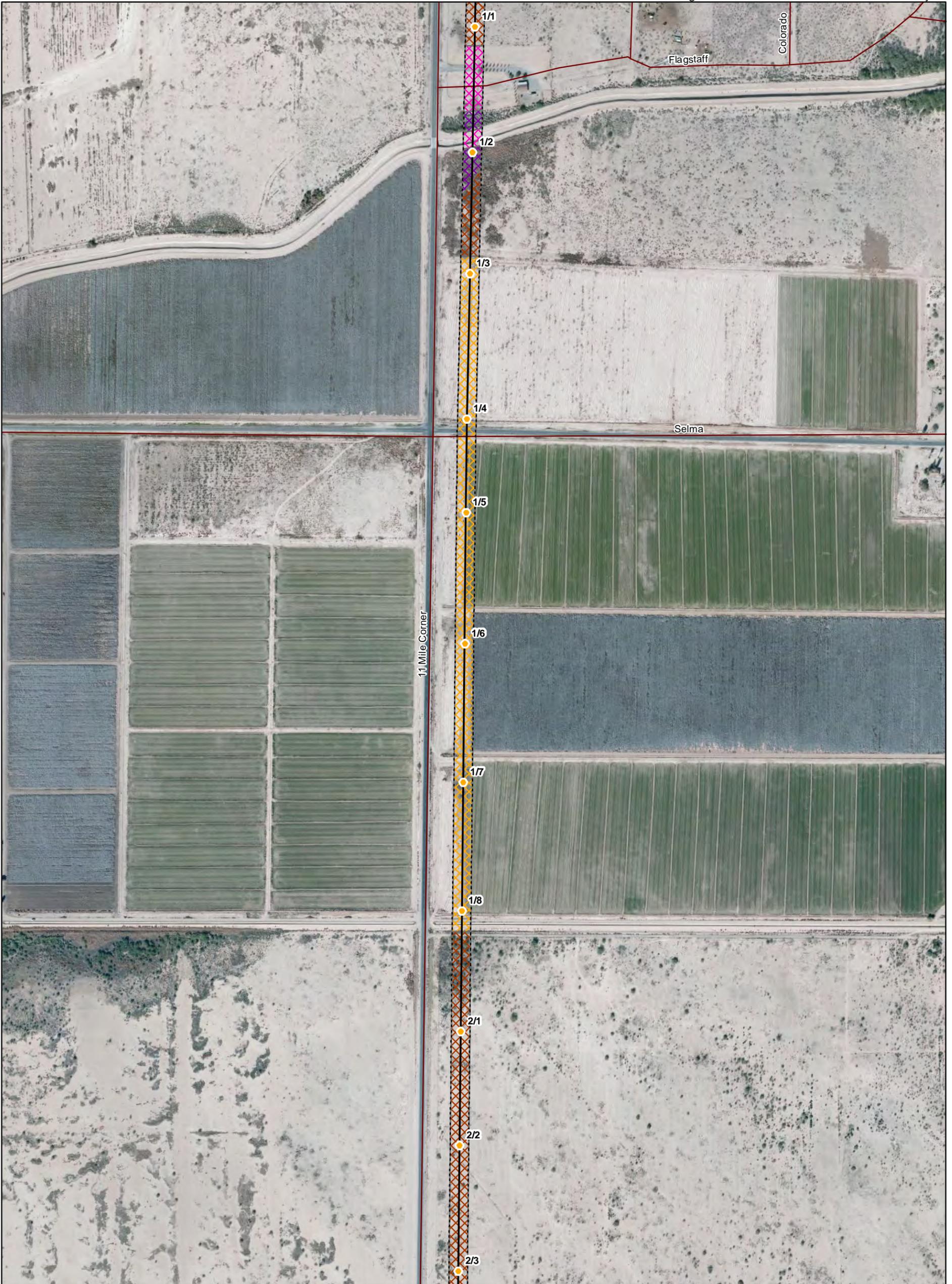
Biological Resources

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** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





See Page 3

Cover Type

- Cultivated Cropland
- Developed
- Sonora-Mojave Mixed Salt Desert Scrub
- Sonoran Paloverde-Mixed Cacti Desert Scrub

- Proposed New Structure**
- Transmission Lines
- Survey Area
- Roads

Figure 2 - 2

Biological Resources



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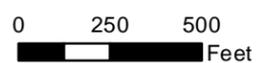
Name/Org: DSW Date: 8/25/2014

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See Page 4

Figure 2 - 3

Cover Type

-  Cultivated Cropland
-  Sonora-Mojave Mixed Salt Desert Scrub

-  Proposed New Structure**
-  Transmission Lines
-  Survey Area
-  Roads

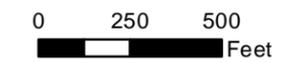


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See Page 5



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- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Cover Type**
- ▨ Cultivated Cropland
- ▨ Sonora-Mojave Mixed Salt Desert Scrub

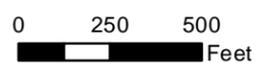
Figure 2 - 4

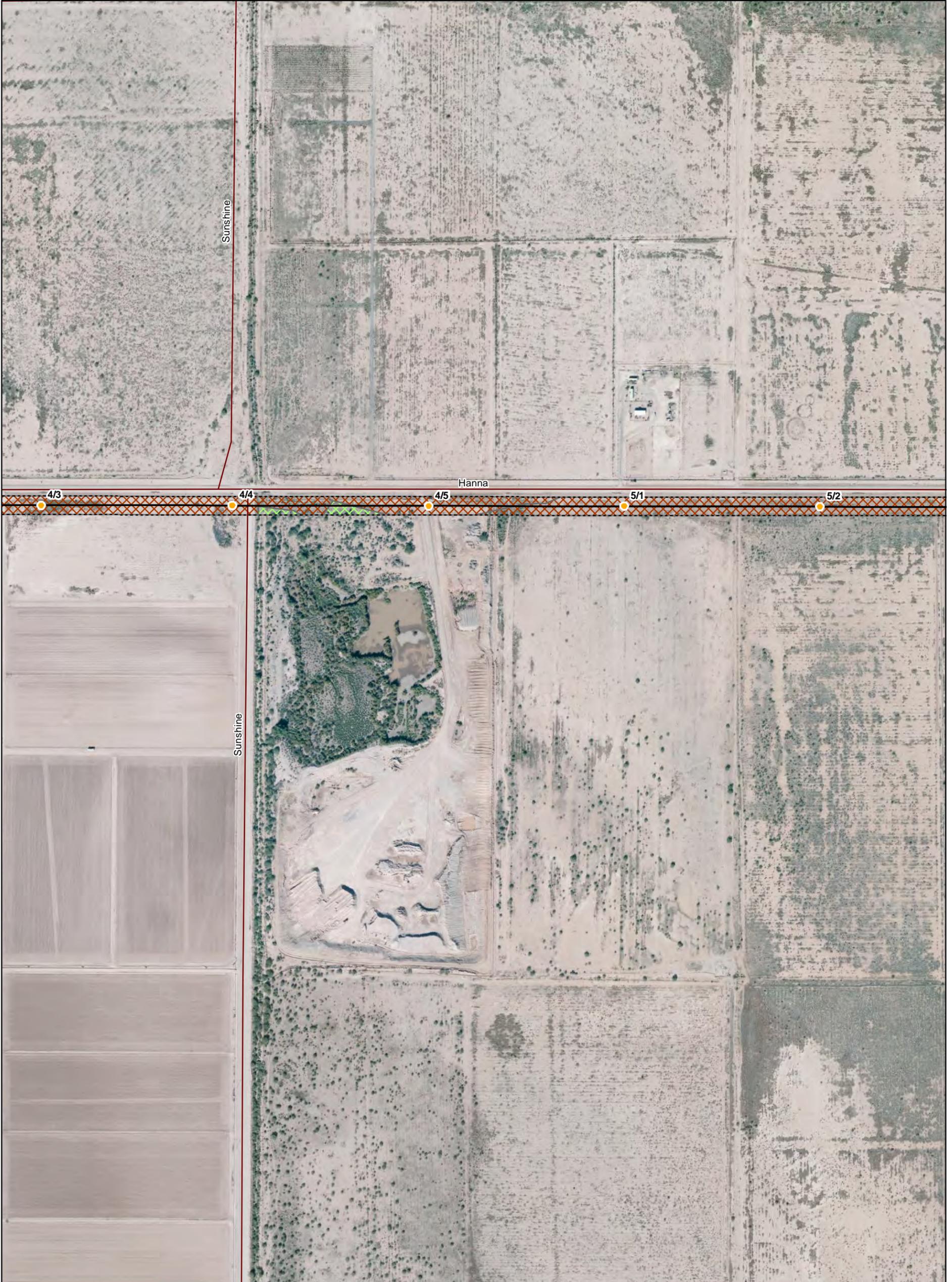
Biological Resources

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See Page 6



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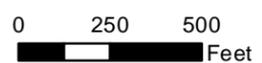
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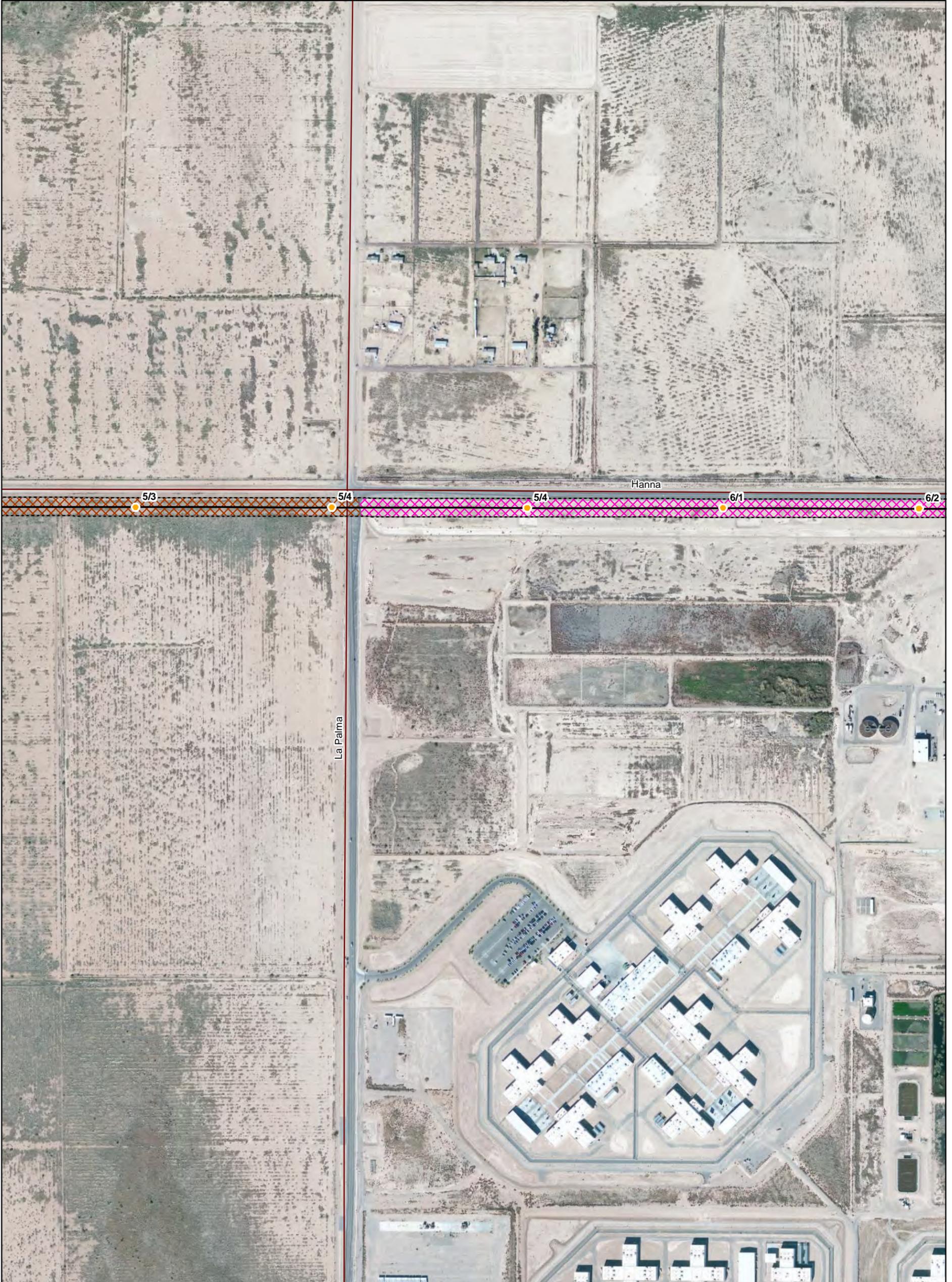
- Proposed New Structure**
 - Transmission Lines
 - - - Survey Area
 - Roads
- Cover Type**
- ▨ Sonora-Mojave Mixed Salt Desert Scrub
 - ▨ Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

Figure 2 - 5

Biological Resources



** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



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See Page 7



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Name/Org: DSW Date: 8/25/2014

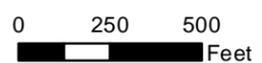
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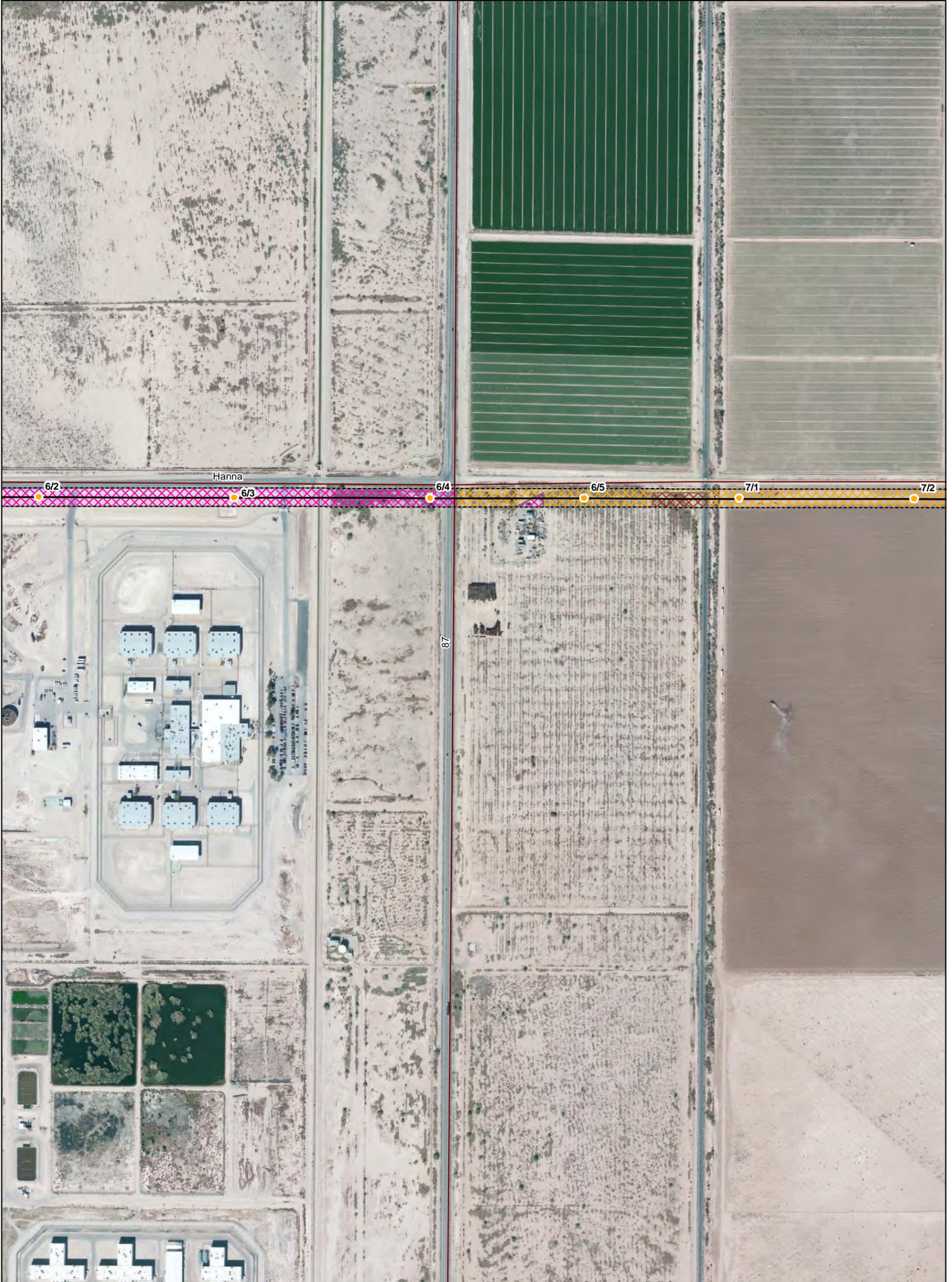
- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Cover Type**
- Developed
- Sonora-Mojave Mixed Salt Desert Scrub

Figure 2 - 6

Biological Resources



** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



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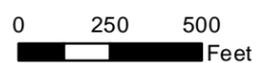
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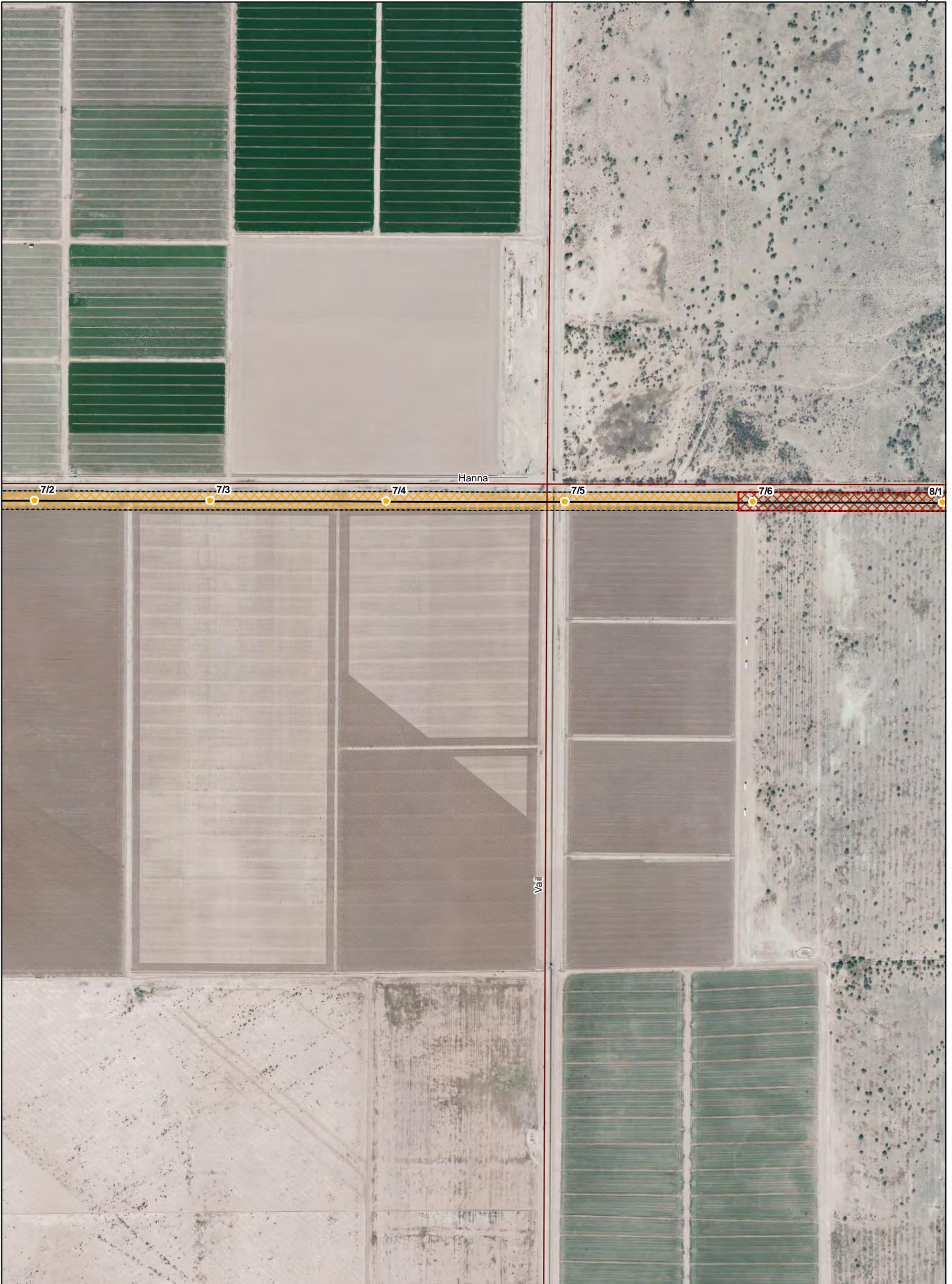
- Proposed New Structure**
 - Transmission Lines
 - - - Survey Area
 - Roads
- | Cover Type | |
|------------|---------------------------------------|
| | Cultivated Cropland |
| | Developed |
| | Sonora-Mojave Mixed Salt Desert Scrub |

Figure 2 - 7

Biological Resources



** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



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- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

- Cover Type**
- ▨ Cultivated Cropland
 - ▨ Sonora-Mojave Mixed Salt Desert Scrub

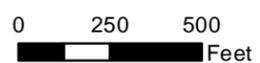
Figure 2 - 8

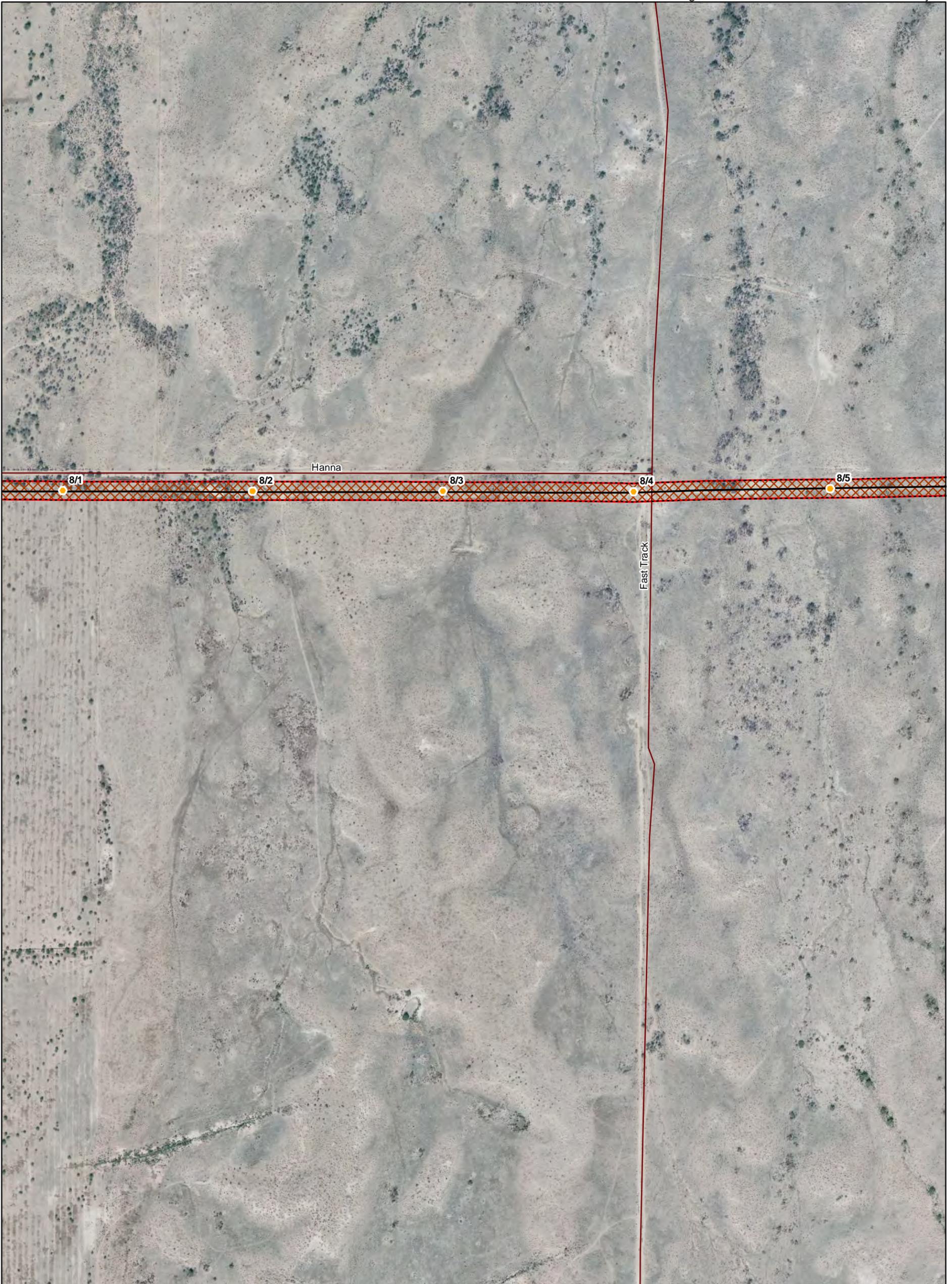
Biological Resources

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- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: *Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.*

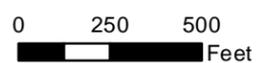
- Cover Type**
- ▨ Sonora-Mojave Mixed Salt Desert Scrub

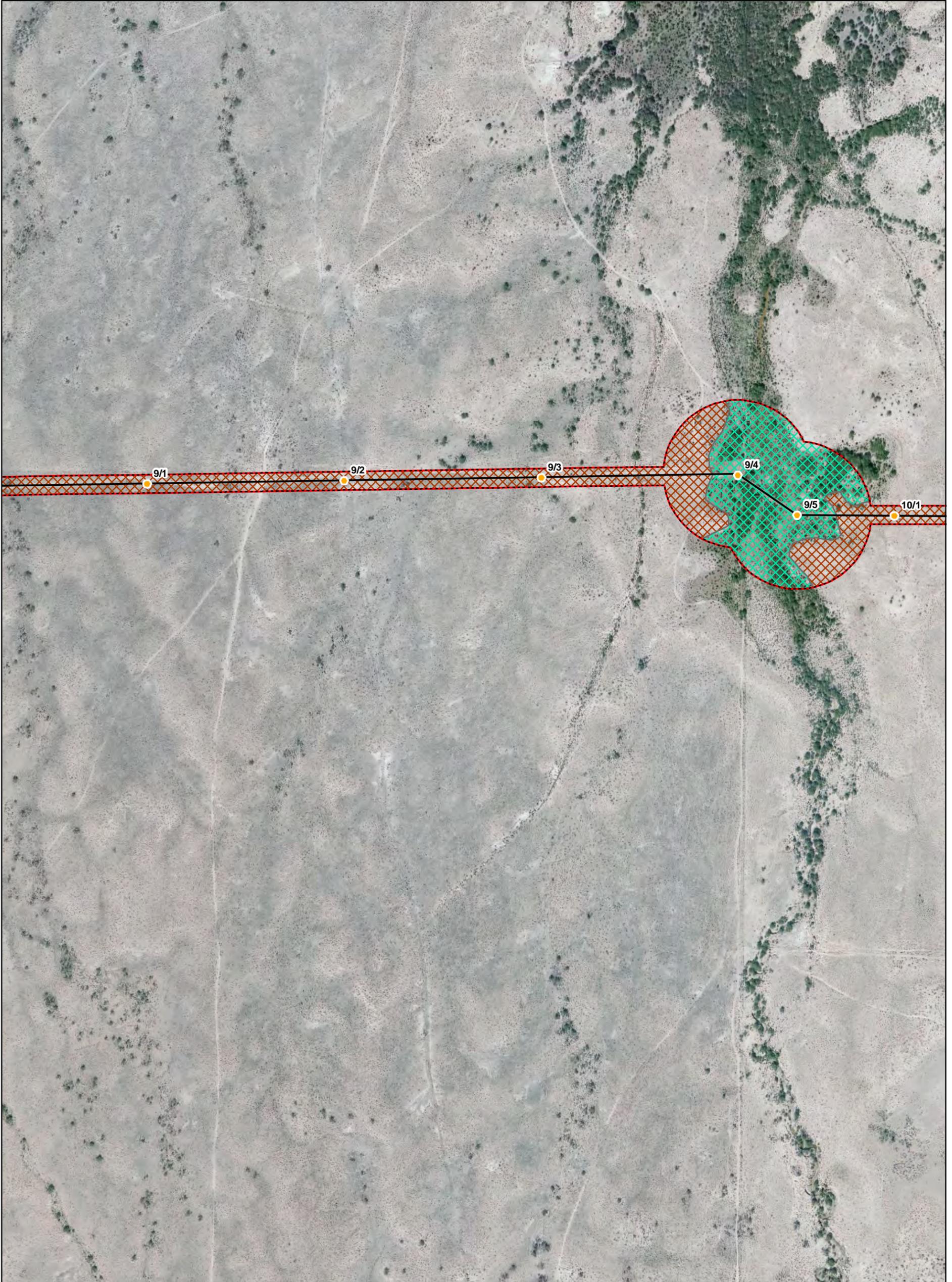
Figure 2 - 9

Biological Resources

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- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: *Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.*

- Cover Type**
- North American Warm Desert Riparian Mesquite Bosque
 - Sonora-Mojave Mixed Salt Desert Scrub

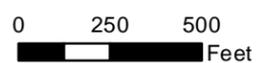
Figure 2 -10

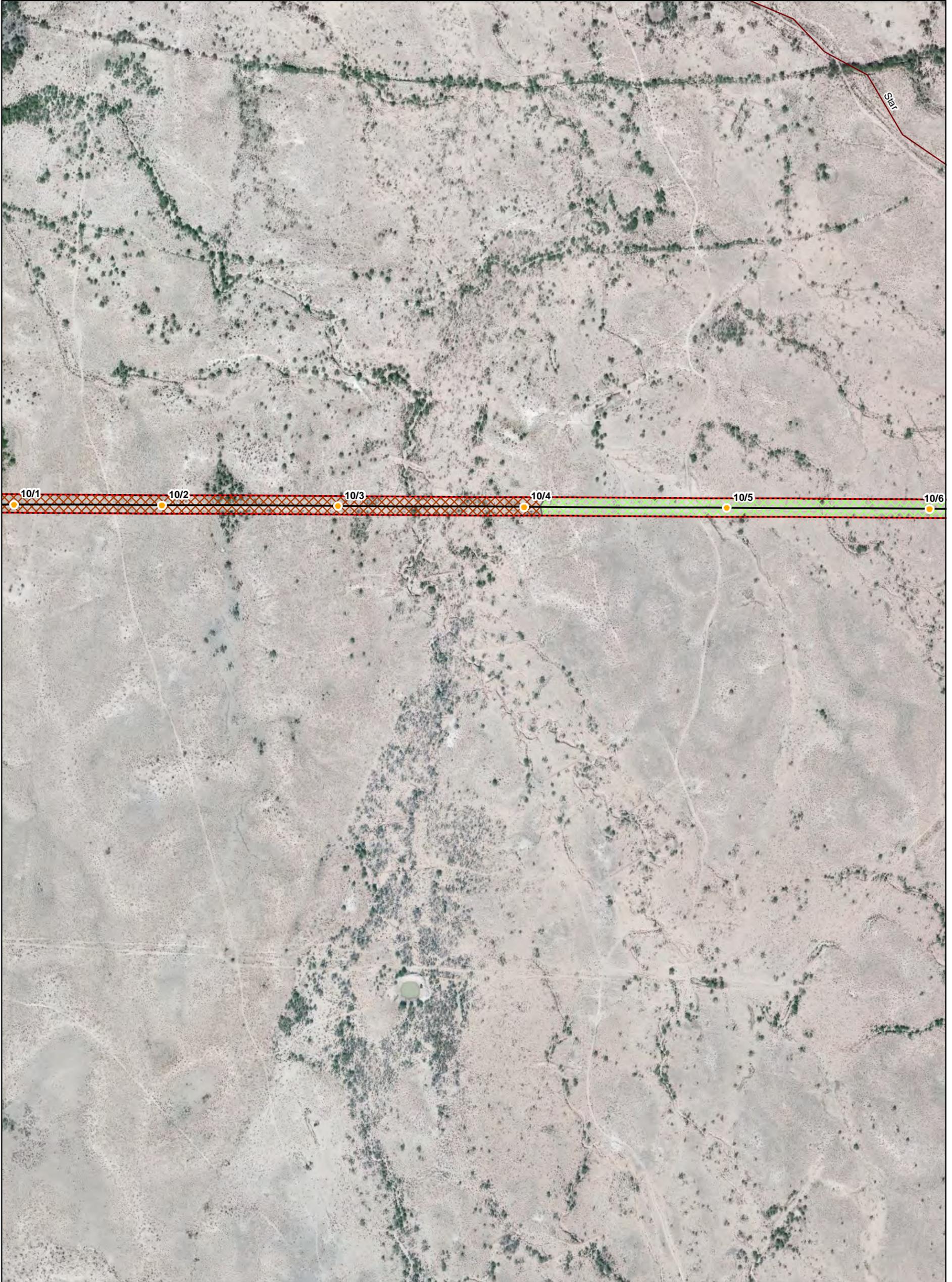
Biological Resources

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- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

- Cover Type**
- ▨ Sonora-Mojave Mixed Salt Desert Scrub
 - ▨ Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

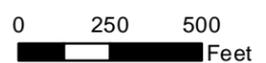
Figure 2 -11

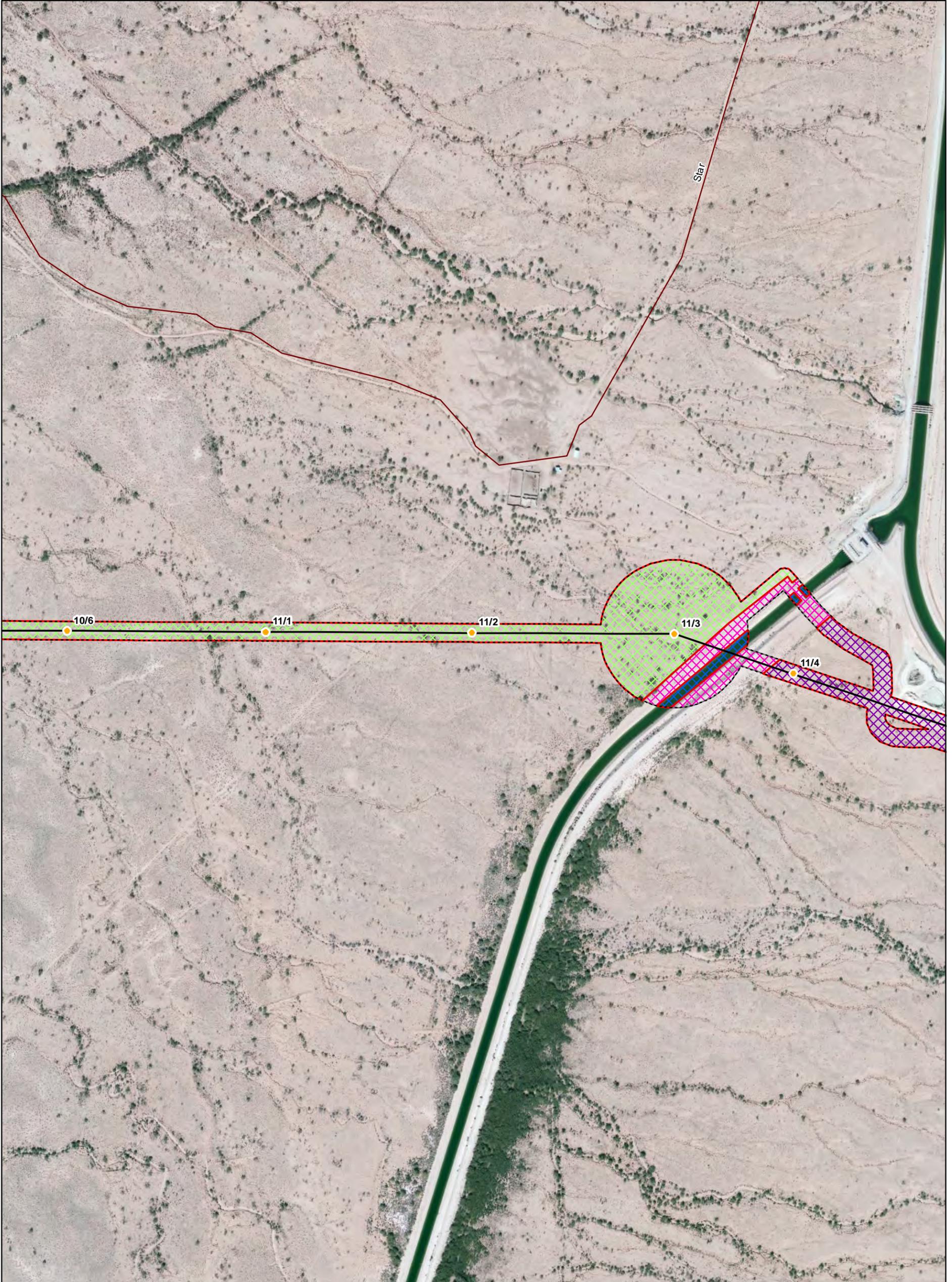
Biological Resources

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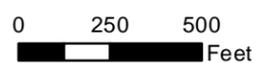
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- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: *Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.*

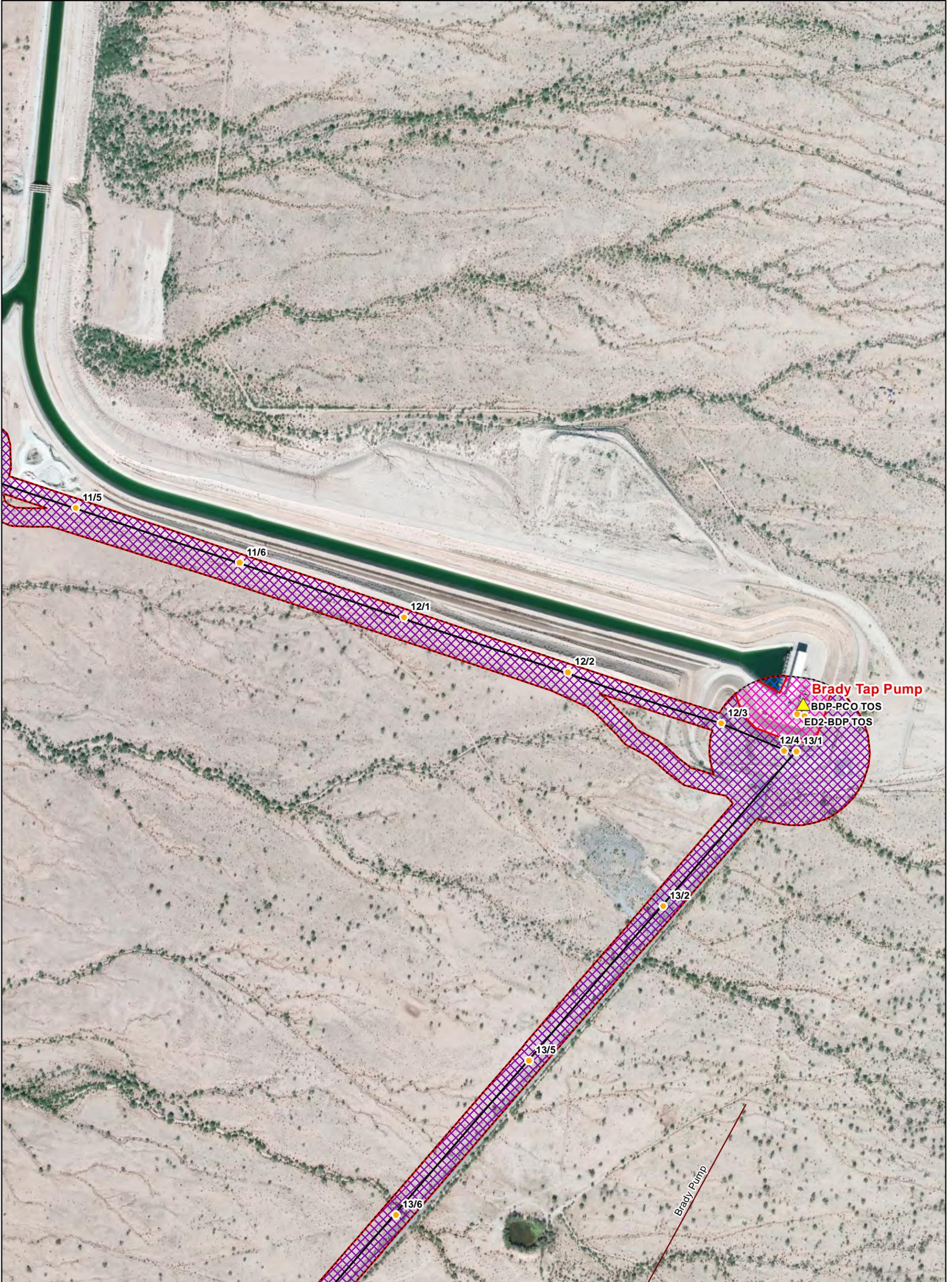
- Cover Type**
- Developed
 - Open Water
 - Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

Figure 2 -12

Biological Resources



** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



See Page 12

See Page 14

Figure 2 -13

Biological Resources



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- Facility
- Proposed New Structure**
- Transmission Lines
- Survey Area
- Roads

- Cover Type**
- Developed
 - Open Water
 - Sonoran Paloverde-Mixed Cacti Desert Scrub

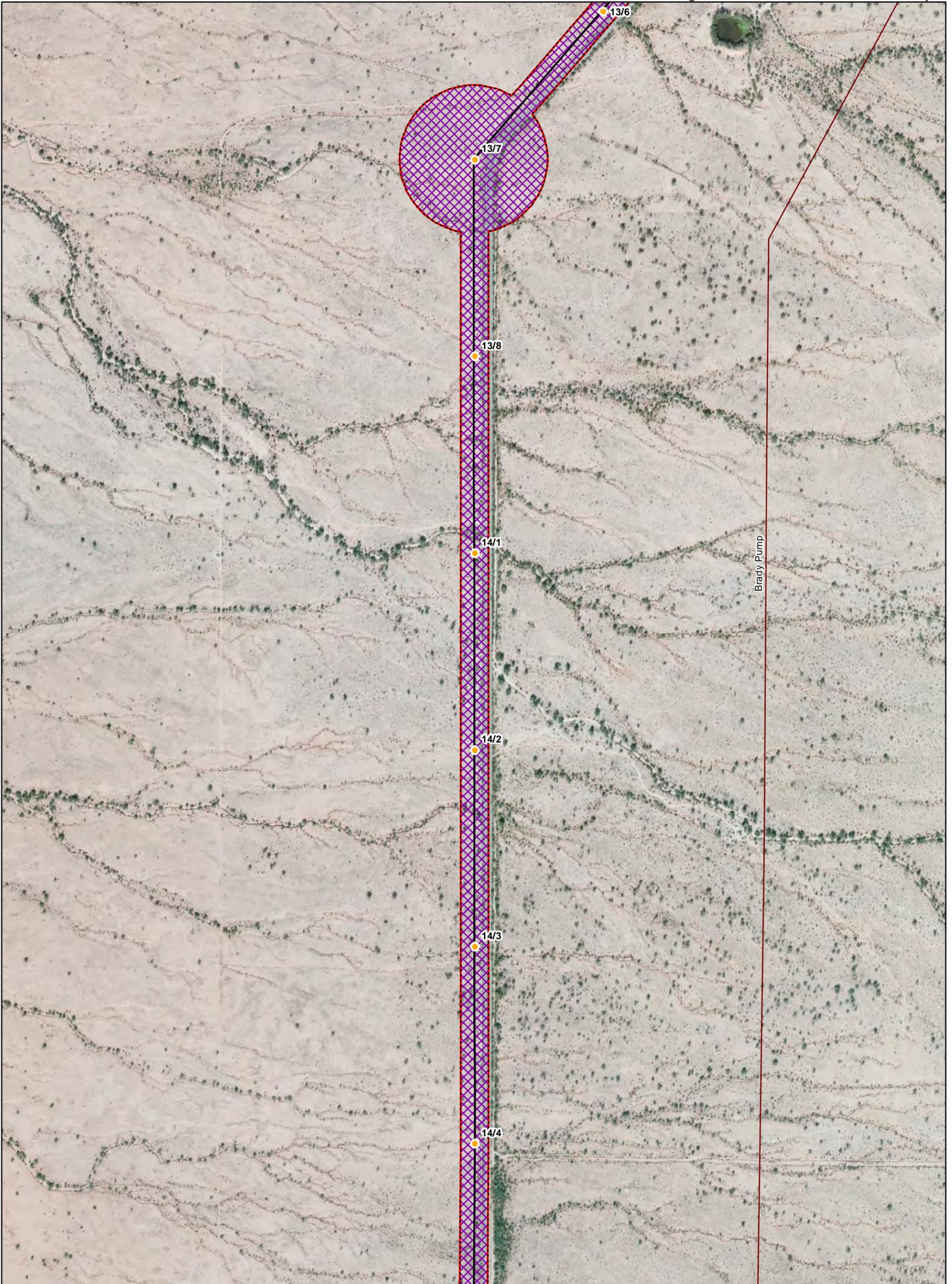
Avoidance Area: *Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.*



This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.

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** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



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Figure 2 -14



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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub

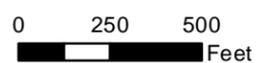
Biological Resources

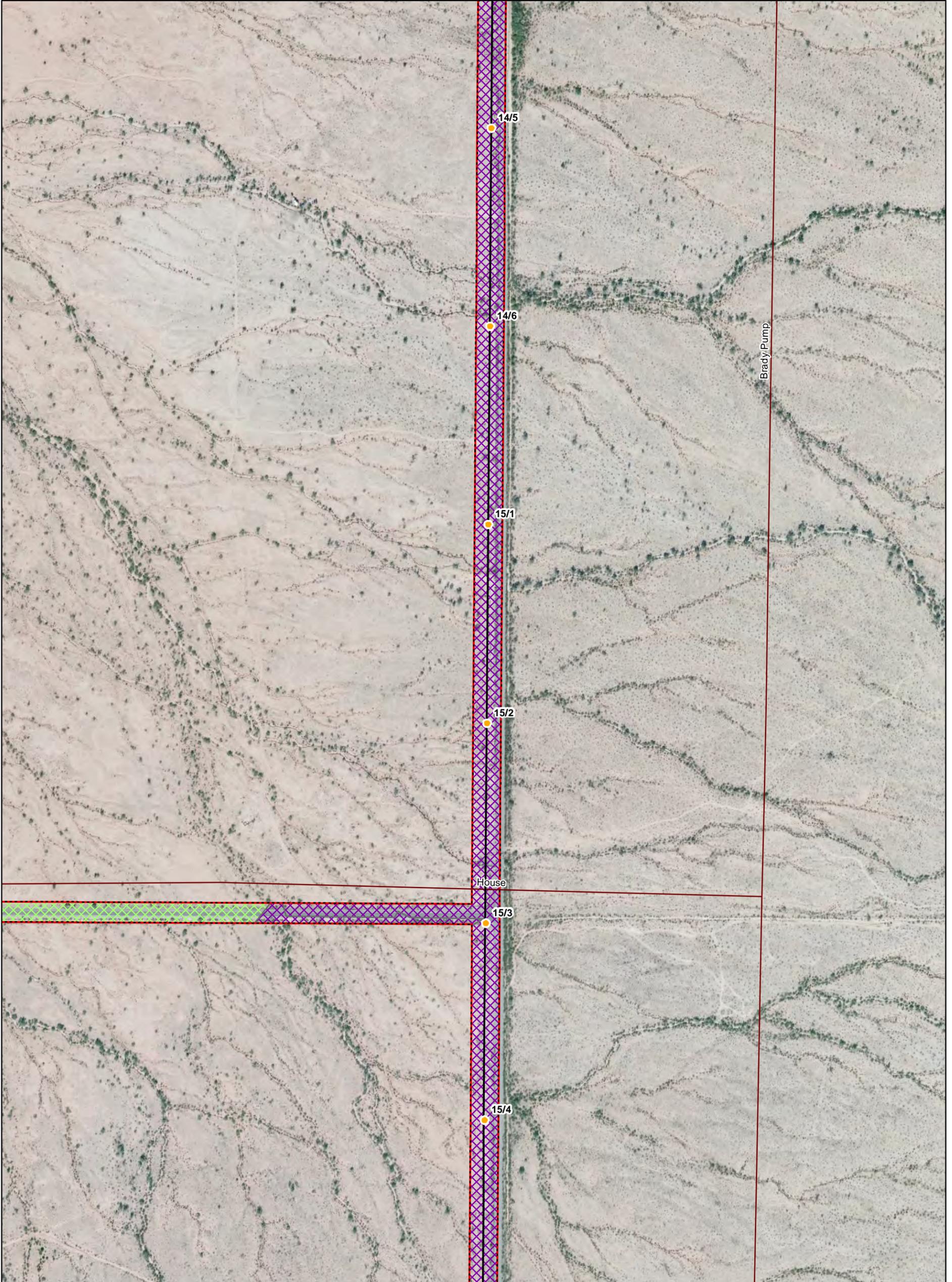
Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.

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** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





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Figure 2 -15



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Western review required before public release.
Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

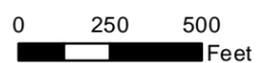
- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

Biological Resources

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** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

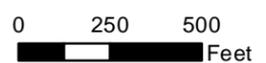
Figure 2 -16

Biological Resources

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** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.*

- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

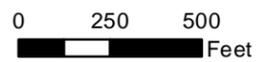
Figure 2 -17

Biological Resources

This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.

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** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.*

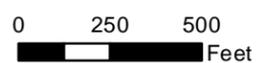
- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

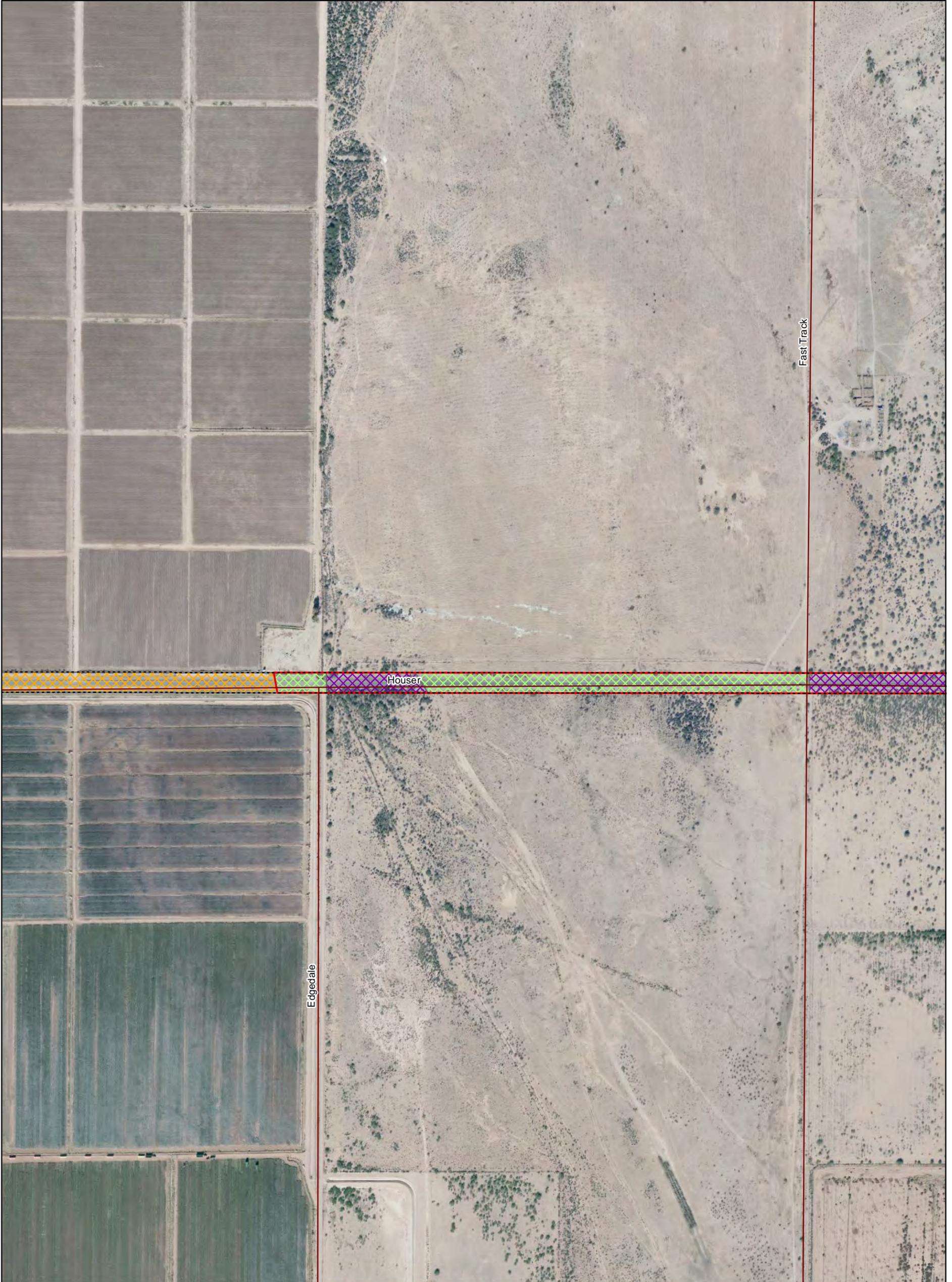
Figure 2 -18

Biological Resources

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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- ▭ Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

- Cover Type**
- ▨ Cultivated Cropland
 - ▨ Sonoran Paloverde-Mixed Cacti Desert Scrub
 - ▨ Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

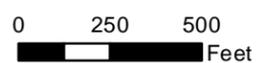
Figure 2 -19

Biological Resources

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** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Cover Type**
- ▨ Cultivated Cropland

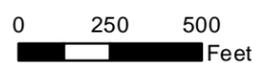
Figure 2 -20

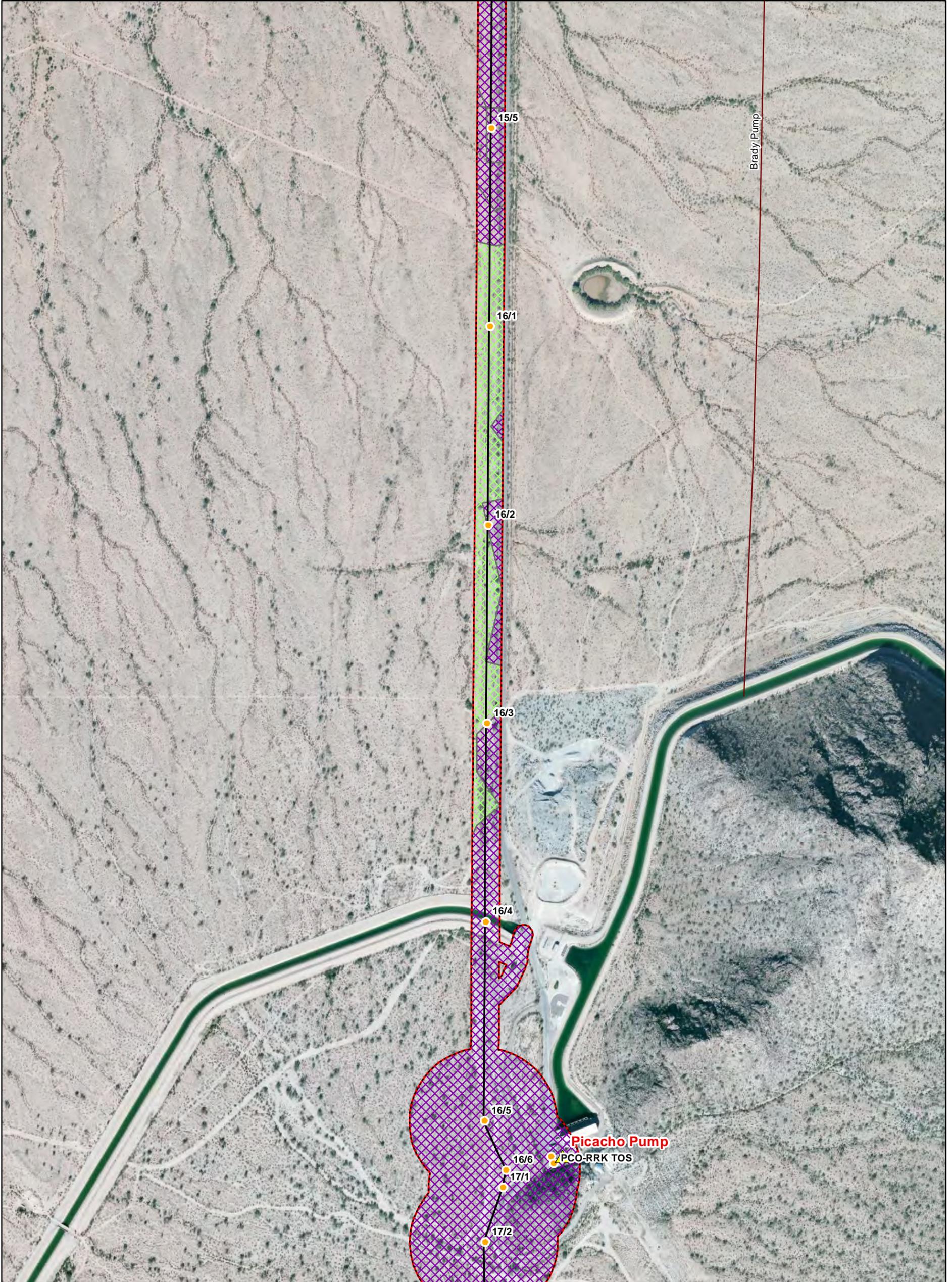
Biological Resources

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** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





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Figure 2 -21



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Western review required before public release.

Name/Org: DSW Date: 8/25/2014

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Source: DSW, Aspen EG, ESRI

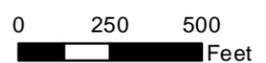
- Facility
- Proposed New Structure**
- Transmission Lines
- Survey Area
- Roads

Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

Cover Type

- Sonoran Paloverde-Mixed Cacti Desert Scrub
- Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

Biological Resources



** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



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Figure 2 -22



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Western review required before public release.

Name/Org: DSW Date: 8/25/2014

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Source: DSW, Aspen EG, ESRI

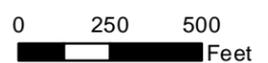
- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

Cover Type

- ▨ Sonoran Paloverde-Mixed Cacti Desert Scrub

Biological Resources



** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



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Figure 2 -23



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Western review required before public release.
Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub

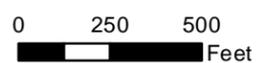
Biological Resources

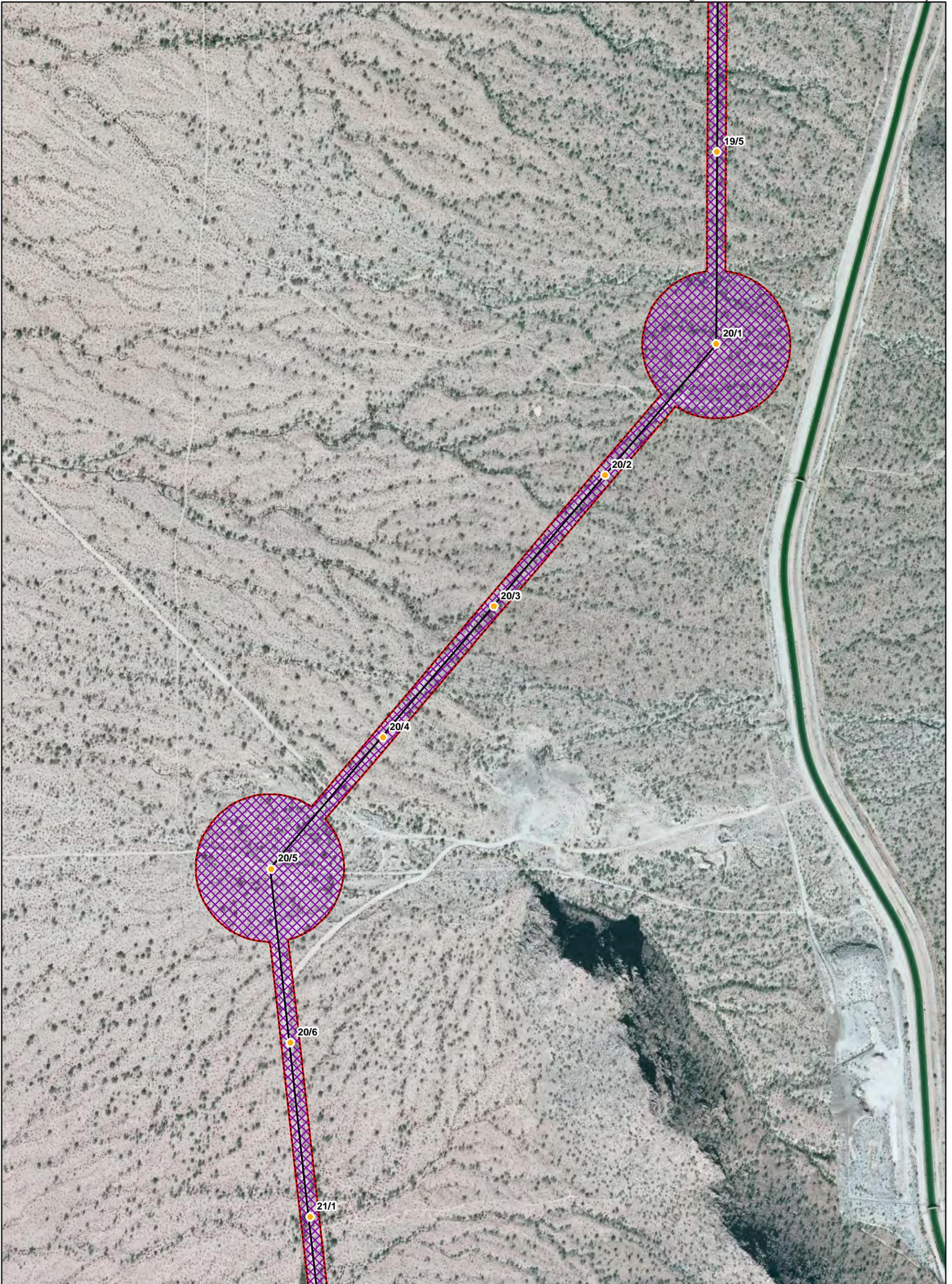
Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.

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Source: DSW, Aspen EG, ESRI

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





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Figure 2 -24



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Western review required before public release.
Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

Cover Type

- Sonoran Paloverde-Mixed Cacti Desert Scrub

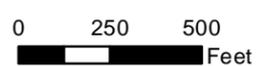
Biological Resources

Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

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Name/Org: DSW Date: 8/25/2014

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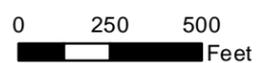
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Source: DSW, Aspen EG, ESRI

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

Figure 2 -25

Biological Resources



** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



See Page 25

See Page 27



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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Avoidance Area: Biological monitor required during any vegetation clearing or soil disturbance. Refer to conservation measures for additional details.

- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.
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 Source: DSW, Aspen EG, ESRI

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.

Figure 2 -26
Biological Resources

0 250 500 Feet



See Page 26

See Page 28



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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

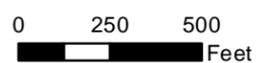
- Cover Type**
- ▨ Sonora-Mojave Mixed Salt Desert Scrub
 - ▨ Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

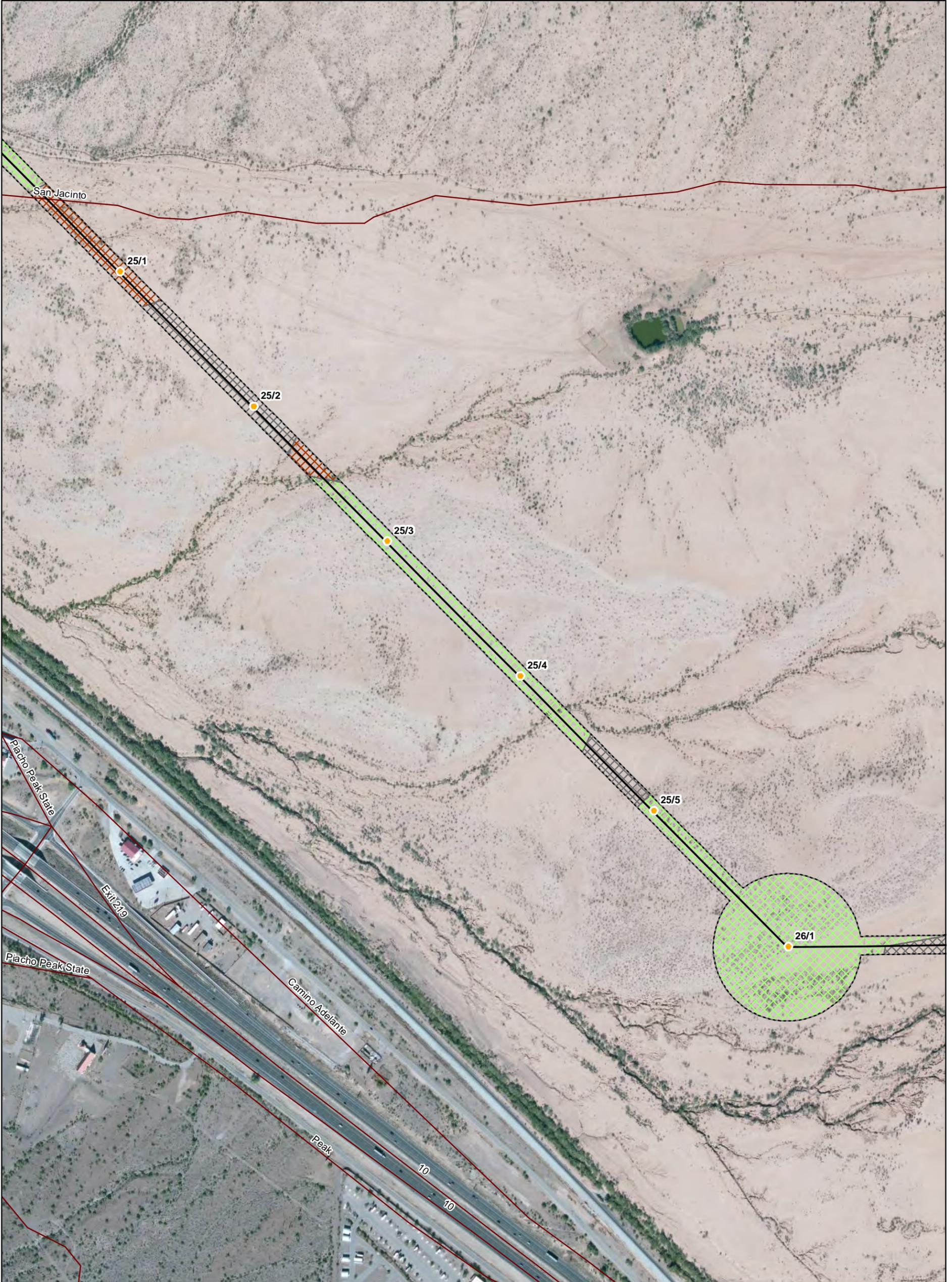
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** Proposed Structure locations are based on data obtained from Western on July 3, 2014.

Figure 2 -27
Biological Resources





See Page 27

See Page 29



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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- Survey Area
- Roads

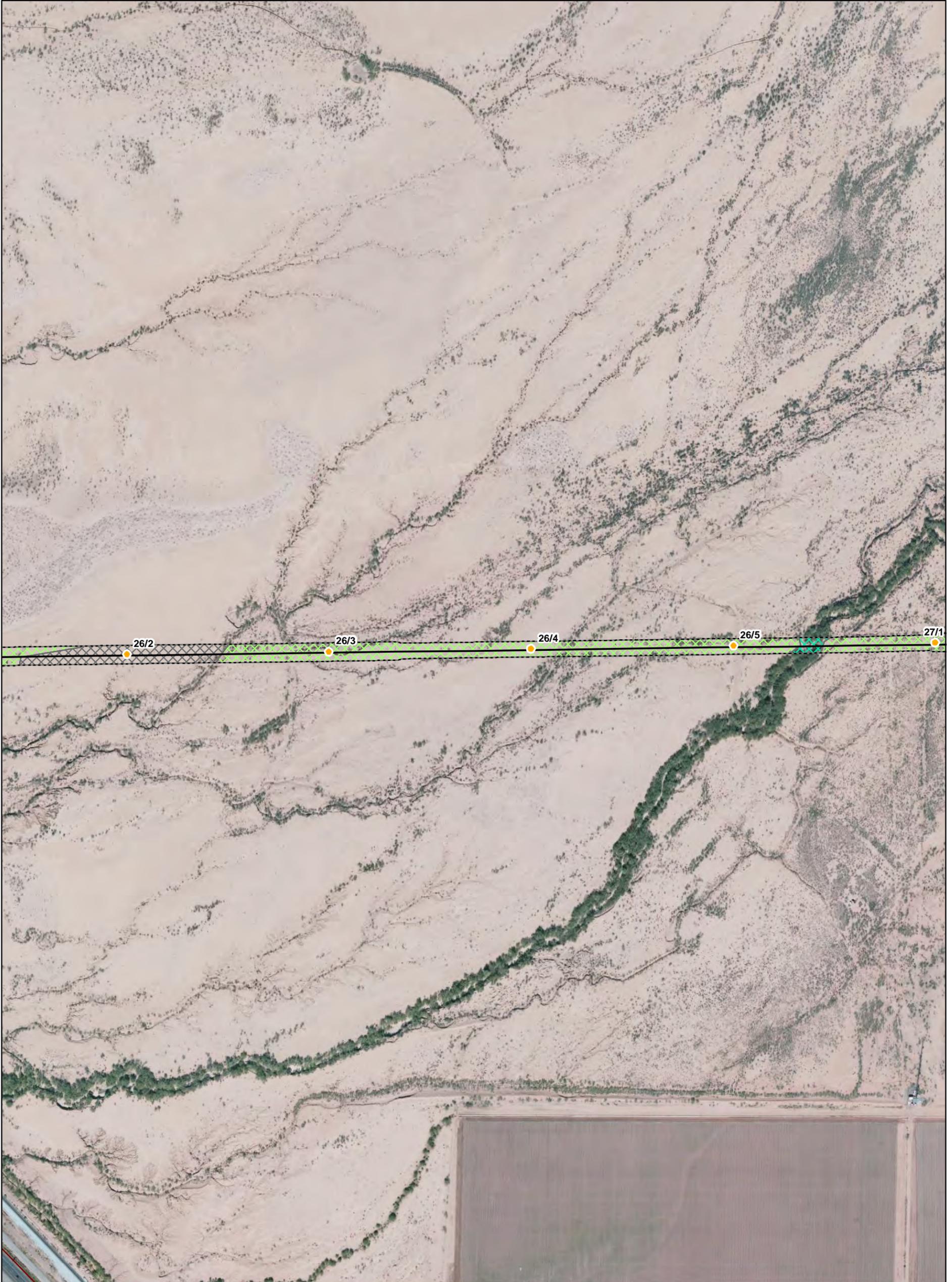
- Cover Type**
- ▨ Sonora-Mojave Mixed Salt Desert Scrub
 - ▨ Sonoran-Mojave Creosotebush-White Bursage Desert Scrub
 - ▨ Undifferentiated Bare Land

This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.
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 Source: DSW, Aspen EG, ESRI

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.

Figure 2 -28
Biological Resources

0 250 500 Feet



See Page 28

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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

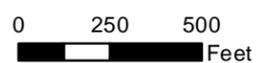
- Cover Type**
- North American Warm Desert Riparian Mesquite Bosque
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub
 - Undifferentiated Bare Land

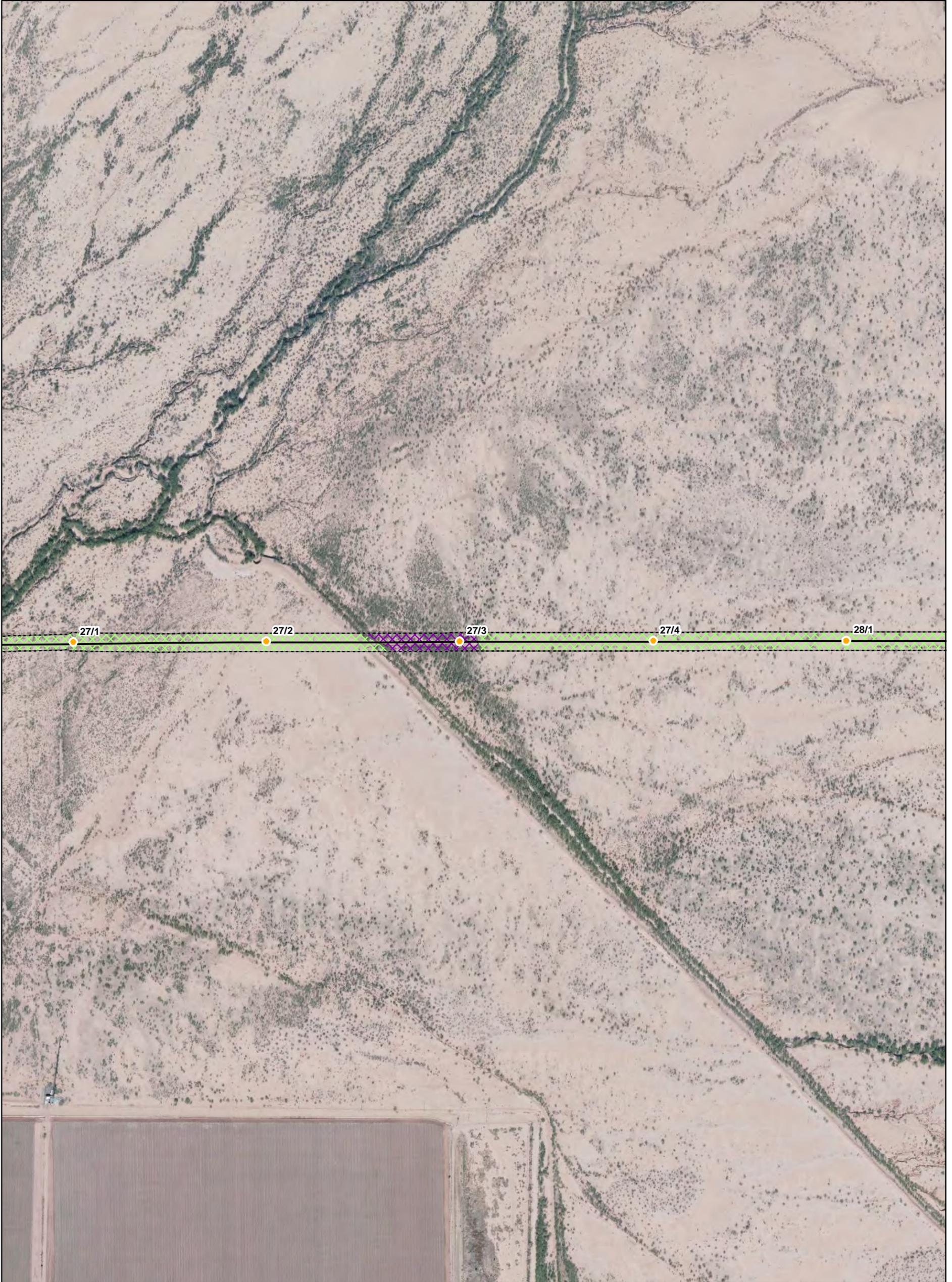
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 Source: DSW, Aspen EG, ESRI

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.

Figure 2 -29
Biological Resources





See Page 29

See Page 31



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Western review required before public release.

Name/Org: DSW Date: 8/25/2014

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 Source: DSW, Aspen EG, ESRI

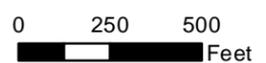
- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

Cover Type

- ▨ Sonoran Paloverde-Mixed Cacti Desert Scrub
- ▨ Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

Figure 2 -30

Biological Resources



** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



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See Page 33



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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

See Page 32

- Cover Type**
- Developed
 - North American Warm Desert Riparian Mesquite Bosque
 - Open Water
 - Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

Figure 2 -31

Biological Resources

This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.

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 Source: DSW, Aspen EG, ESRI

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.

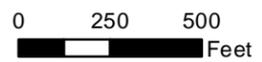




Figure 2 -32

Biological Resources



May be exempt from public release under the Freedom of Information Act (5 U.S.C.552) Exemption 2 - Circumvention of statute.

Western review required before public release.

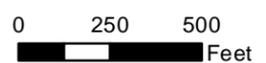
Name/Org: DSW Date: 8/25/2014

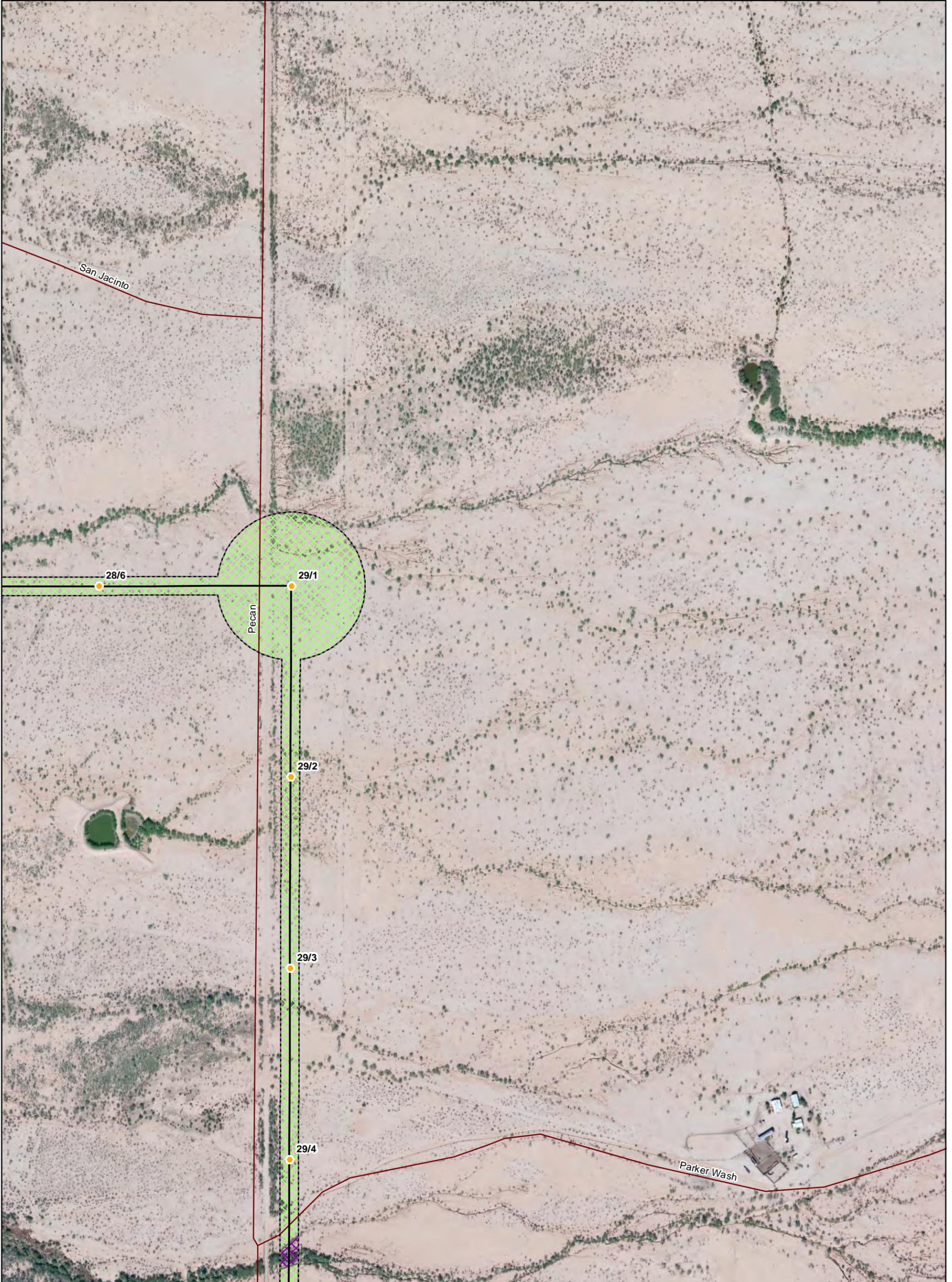
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Source: DSW, Aspen EG, ESRI

- Proposed New Structure**
 - Transmission Lines
 - - - Survey Area
 - Roads
- Cover Type**
- Developed
 - Open Water
 - Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





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 Western review required before public release.
 Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

See Page 34

- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

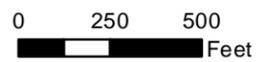
Figure 2 -33

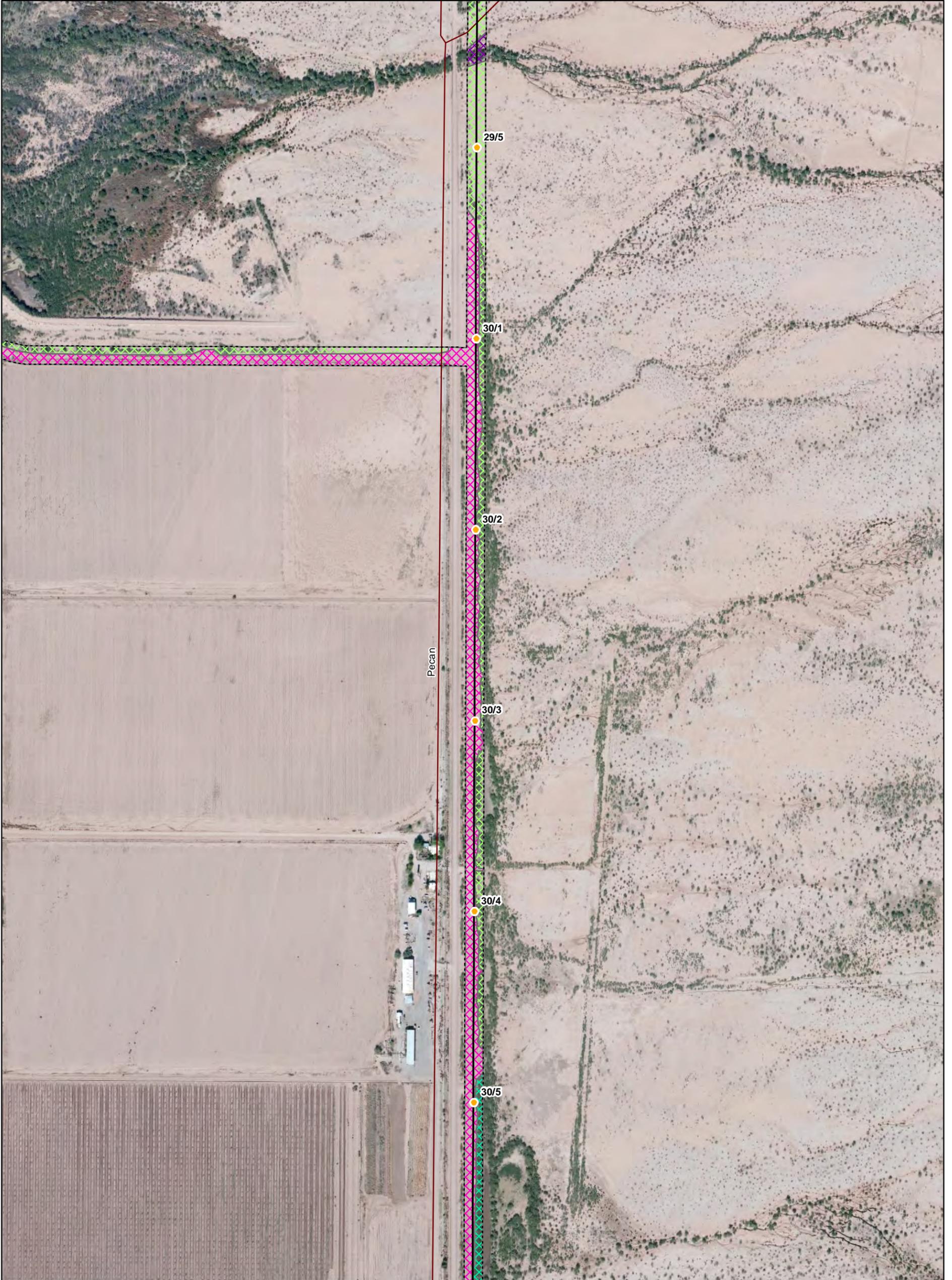
Biological Resources

This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.

This map and data are the property of WAPA/DOE and are intended for planning and analysis only. No reproduction or copying of this product is allowed without the sole consent of WAPA/DOE.
 Source: DSW, Aspen EG, ESRI

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.





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Figure 2 -34



May be exempt from public release under the Freedom of Information Act (5 U.S.C.552) Exemption 2 - Circumvention of statute.

Western review required before public release.

Name/Org: DSW Date: 8/25/2014

This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.

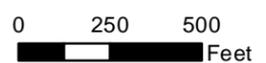
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Source: DSW, Aspen EG, ESRI

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

Cover Type

- Developed
- North American Warm Desert Riparian Mesquite Bosque
- Sonoran Paloverde-Mixed Cacti Desert Scrub
- Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

Biological Resources



** Proposed Structure locations are based on data obtained from Western on July 3, 2014.



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Figure 2 -35



May be exempt from public release under the Freedom of Information Act (5 U.S.C.552) Exemption 2 - Circumvention of statute.
Western review required before public release.
Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

Cover Type

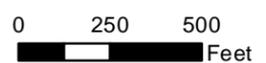
- Developed
- North American Warm Desert Riparian Mesquite Bosque
- Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

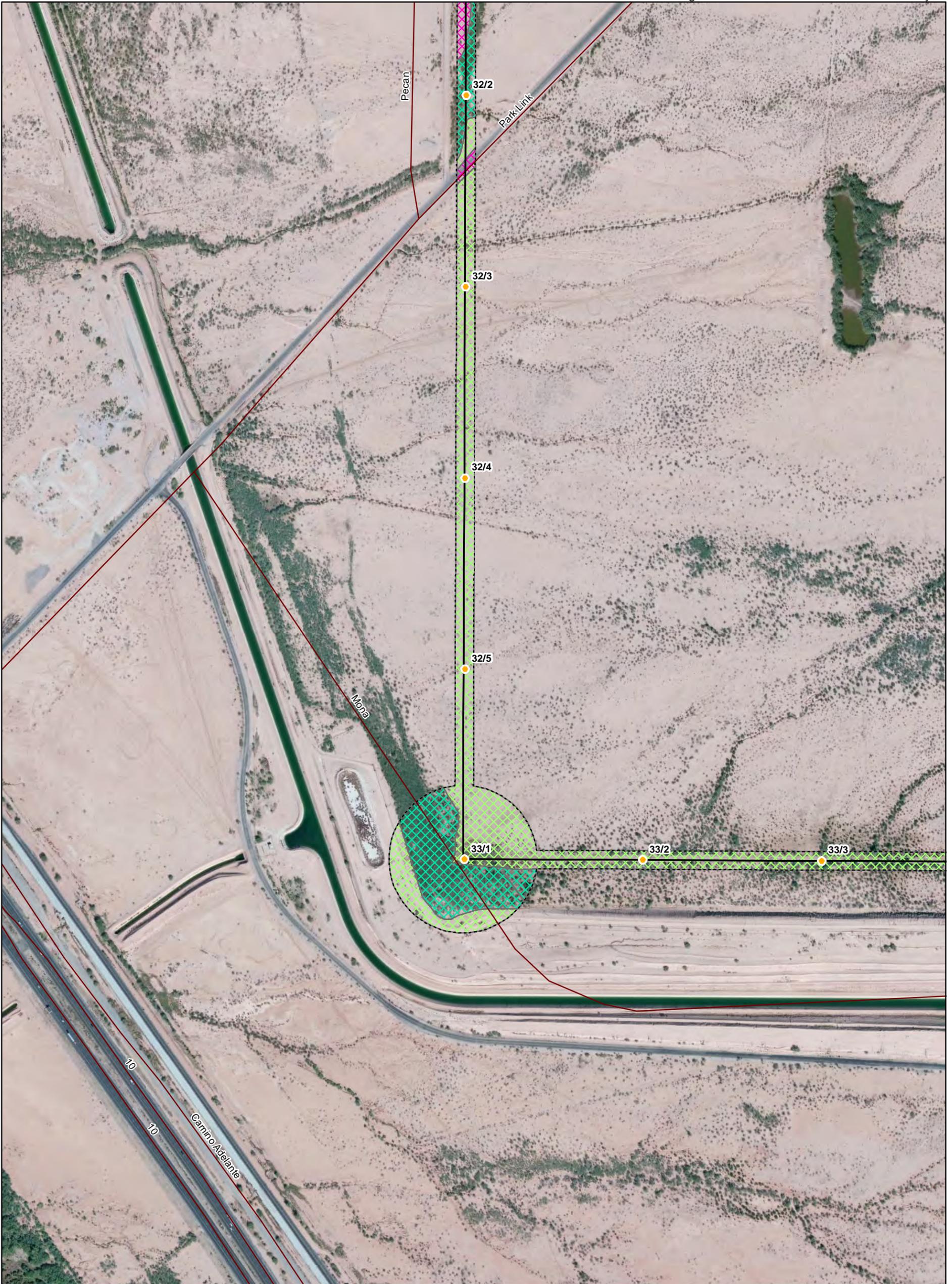
Biological Resources

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Western review required before public release.
Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

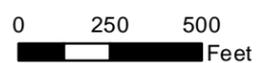
- Cover Type**
- Developed
 - North American Warm Desert Riparian Mesquite Bosque
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

This cartographic product and GIS data were prepared in accordance with professional practice standards. Data is only as accurate as its primary source and is spatially relative-grade. It should not replace or be used in place of survey data. Refer to metadata for source and accuracy.

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Source: DSW, Aspen EG, ESRI

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.

Figure 2 -36
Biological Resources





See Page 36

See Page 38



May be exempt from public release under the Freedom of Information Act (5 U.S.C.552) Exemption 2 - Circumvention of statute.
Western review required before public release.
Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads
- Cover Type**
- ▨ Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

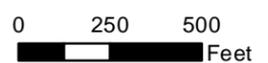
Figure 2 -37

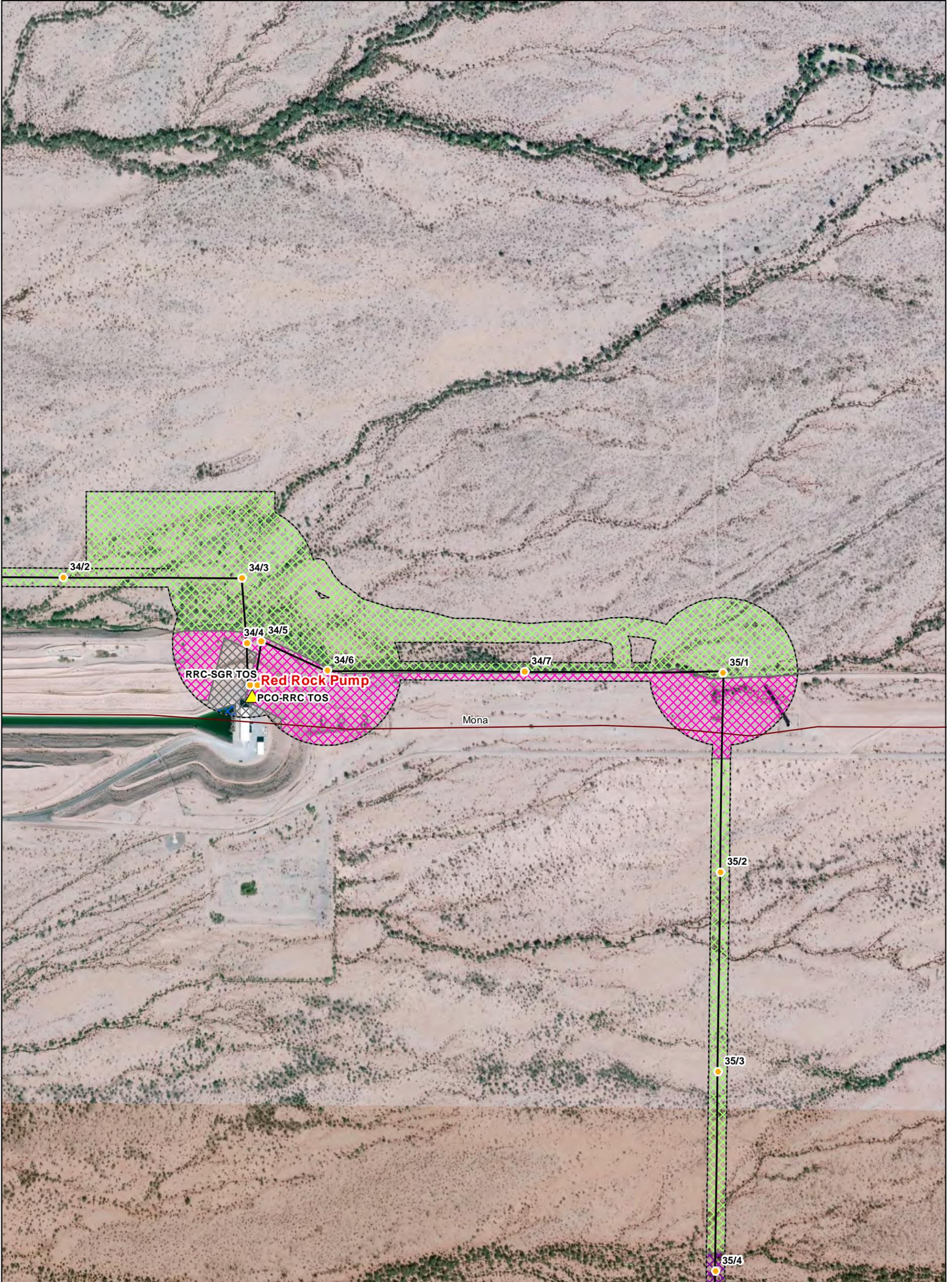
Biological Resources

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See Page 37



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 Source: DSW, Aspen EG, ESRI

- Facility
- Proposed New Structure**
- Transmission Lines
- Survey Area
- Roads

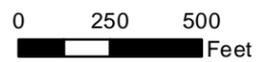
See Page 39

- Cover Type**
- Developed
 - Open Water
 - Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub
 - Undifferentiated Bare Land

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.

Figure 2 -38

Biological Resources





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Figure 2 -39



May be exempt from public release under the Freedom of Information Act (5 U.S.C.552) Exemption 2 - Circumvention of statute.
Western review required before public release.
Name/Org: DSW Date: 8/25/2014

- Proposed New Structure**
- Transmission Lines
- - - Survey Area
- Roads

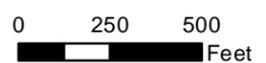
- Cover Type**
- Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

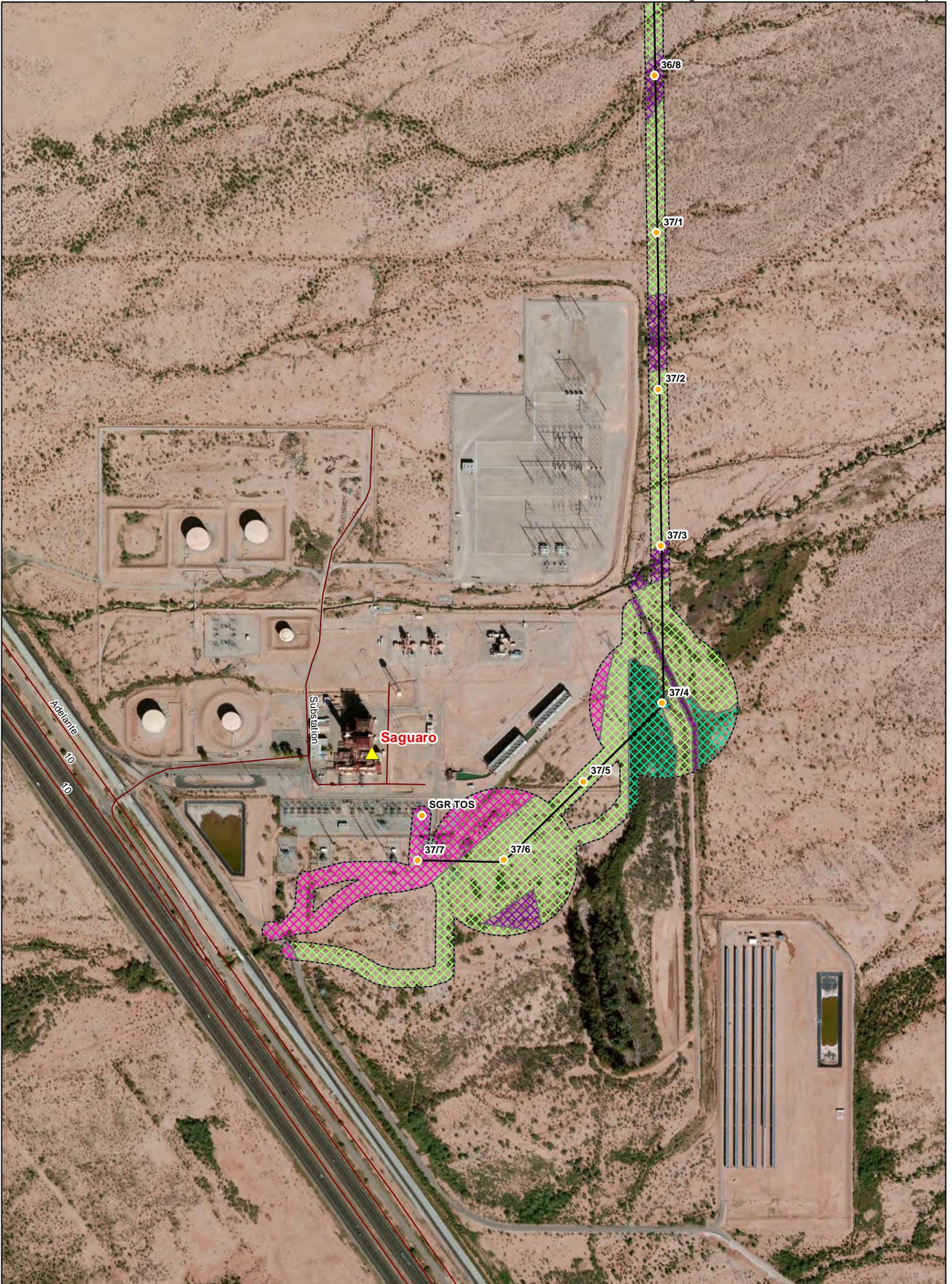
Biological Resources

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Source: DSW, Aspen EG, ESRI

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Name/Org: DSW Date: 8/25/2014

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Source: DSW, Aspen EG, ESRI

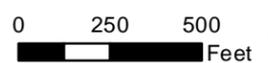
- Facility
- Proposed New Structure**
- Transmission Lines
- Survey Area
- Roads

- Cover Type**
- Developed
 - North American Warm Desert Riparian Mesquite Bosque
 - Sonoran Paloverde-Mixed Cacti Desert Scrub
 - Sonoran-Mojave Creosotebush-White Bursage Desert Scrub

** Proposed Structure locations are based on data obtained from Western on July 3, 2014.

Figure 2 -40

Biological Resources



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Attachment 3 –Arizona On-line Review Tool Results

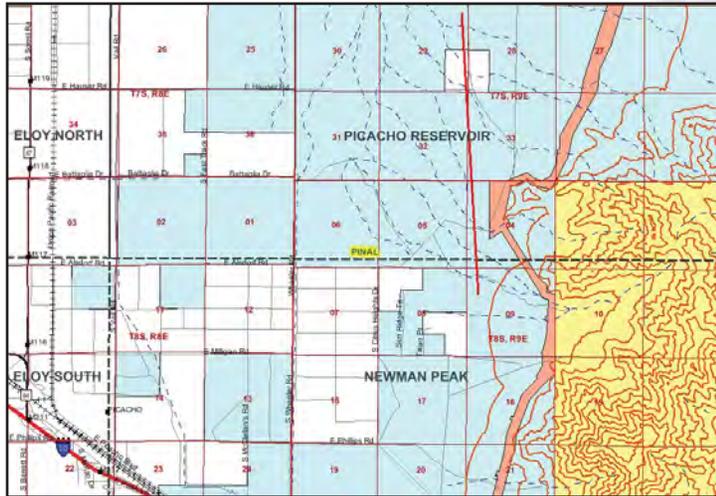
Arizona's On-line Environmental Review Tool

Search ID: 20140728024059

Project Name: ED2-SGR2

Date: 7/28/2014 9:22:33 PM

Project Location



Project Name: ED2-SGR2

Submitted By: Justin Wood

On behalf of: OTHER FEDERAL

Project Search ID: 20140728024059

Date: 7/28/2014 9:22:27 PM

Project Category: Energy Storage/Production/Transfer,Energy Transfer,power line/electric (maintenance to existing)

Project Coordinates (UTM Zone 12-NAD 83): 459740.488, 3625581.995 meter

Project Length: 5159.541 meter

County: PINAL

USGS 7.5 Minute Quadrangle ID: 1536

Quadrangle Name: PICACHO RESERVOIR

Project locality is currently being scoped

The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

Special Status Species Occurrences/Critical Habitat/Tribal Lands within 2 miles of Project Vicinity:

Name	Common Name	FWS	USFS	BLM	State
<i>Abutilon parishii</i>	Pima Indian Mallow	SC	S	S	SR
<i>Chionactis occipitalis klauberi</i>	Tucson Shovel-nosed Snake	C*			
<i>Gopherus morafkai</i>	Sonoran Desert Tortoise	C*	S		WSC

Location Accuracy Disclaimer

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

Arizona's On-line Environmental Review Tool

Search ID: 20140728024059

Project Name: ED2-SGR2

Date: 7/28/2014 9:22:33 PM

Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference. If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: <http://arizonaes.fws.gov/>.

Phoenix Main Office
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021
Phone 602-242-0210
Fax 602-242-2513

Tucson Sub-Office
201 North Bonita, Suite 141
Tucson, AZ 85745
Phone 520-670-6144
Fax 520-670-6154

Flagstaff Sub-Office
323 N. Leroux Street, Suite 101
Flagstaff, AZ 86001
Phone 928-226-0614
Fax 928-226-1099

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and

management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.

Project Category: Energy Storage/Production/Transfer, Energy Transfer, power line/electric (maintenance to existing)

Project Type Recommendations:

All degraded and disturbed lands should be restored to their natural state. Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

During planning and construction, minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g. microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g. livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before and after project activities to reduce the spread of invasive species. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture

website for restricted plants <http://www.azda.gov/PSD/quarantine5.htm>. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control: <http://www.usda.gov/wps/portal/usdahome>. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information http://www.azgfd.gov/h_f/hunting_rules.shtml.

Follow manufacturer's recommended application guidelines for all chemical treatments. The U.S. Fish and Wildlife Service, Region 2, Environmental Contaminants Program has a reference document that serves as their regional pesticide recommendations for protecting wildlife and fisheries resources, titled "Recommended Protection Measures for Pesticide Applications in Region 2 of the USFWS." The Department recommends direct or indirect impacts to sensitive species and their forage base from the application of chemical pesticides or herbicides be considered carefully.

Impacts to raptors by above ground power lines and poles have been well documented. A number of structural improvements can minimize potential impacts to raptors and other migratory birds. Arizona Public Service (APS) offers guidelines to reduce mortality to these species http://www.aps.com/my_community/Environmental/Environmental_10.html. In addition, indirect affects to wildlife due to construction (timing of activity, clearing of rights-of-way, associated bridges and culverts, affects to wetlands, fences) should also be considered and mitigated. Please contact the Project Evaluation Program for further recommendations regarding trenching and power line associated activities.

Project Location and/or Species recommendations:

Heritage Data Management System records indicate that one or more

Arizona's On-line Environmental Review Tool

Search ID: 20140728024059

Project Name: ED2-SGR2

Date: 7/28/2014 9:22:33 PM

listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:

Ecological Services Office
US Fish and Wildlife Service
2321 W. Royal Palm Rd.
Phoenix, AZ 85021-4951
Phone: 602-242-0210
Fax: 602-242-2513

Heritage Data Management System records indicate that one or more native plants listed on the Arizona Native Plant Law and Antiquities Act have been documented within the vicinity of your project area (refer to page 1 of the receipt). Please contact:

Arizona Department of Agriculture
1688 W Adams
Phoenix, AZ 85007
Phone: 602-542-4373

Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and

wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.

6. Further coordination requires the submittal of this initialed and signed Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).

7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

**Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366**

Terms of Use

By using this site, you acknowledge that you have read and understand the terms of use. Department staff may revise these terms periodically. If you continue to use our website after we post changes to these terms, it will mean that you accept such changes. If at any time you do not wish to accept the Terms, you may choose not to use the website.

1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you will not use this website for any other purpose.
2. Unauthorized attempts to upload information or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National

Arizona's On-line Environmental Review Tool

Search ID: 20140728024059

Project Name: ED2-SGR2

Date: 7/28/2014 9:22:33 PM

Information Infrastructure Protection Act .

3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the website and to terminate or restrict your access to the website.

4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area, location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.

5. A signed and initialed copy of the Environmental Review Receipt indicates that the entire receipt has been read by the signer of the Environmental Review Receipt.

Security:

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Signature of this receipt indicates the signer has read and understands the information provided.

Signature: _____

Date: _____

Proposed Date of Implementation: _____

Please provide point of contact information regarding this Environmental Review.

Application or organization responsible for project implementation

Agency/organization: _____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

Arizona's On-line Environmental Review Tool

Search ID: 20140728024059

Project Name: ED2-SGR2

Date: 7/28/2014 9:22:33 PM

E-mail: _____

Person Conducting Search (if not applicant)

Agency/organization: _____

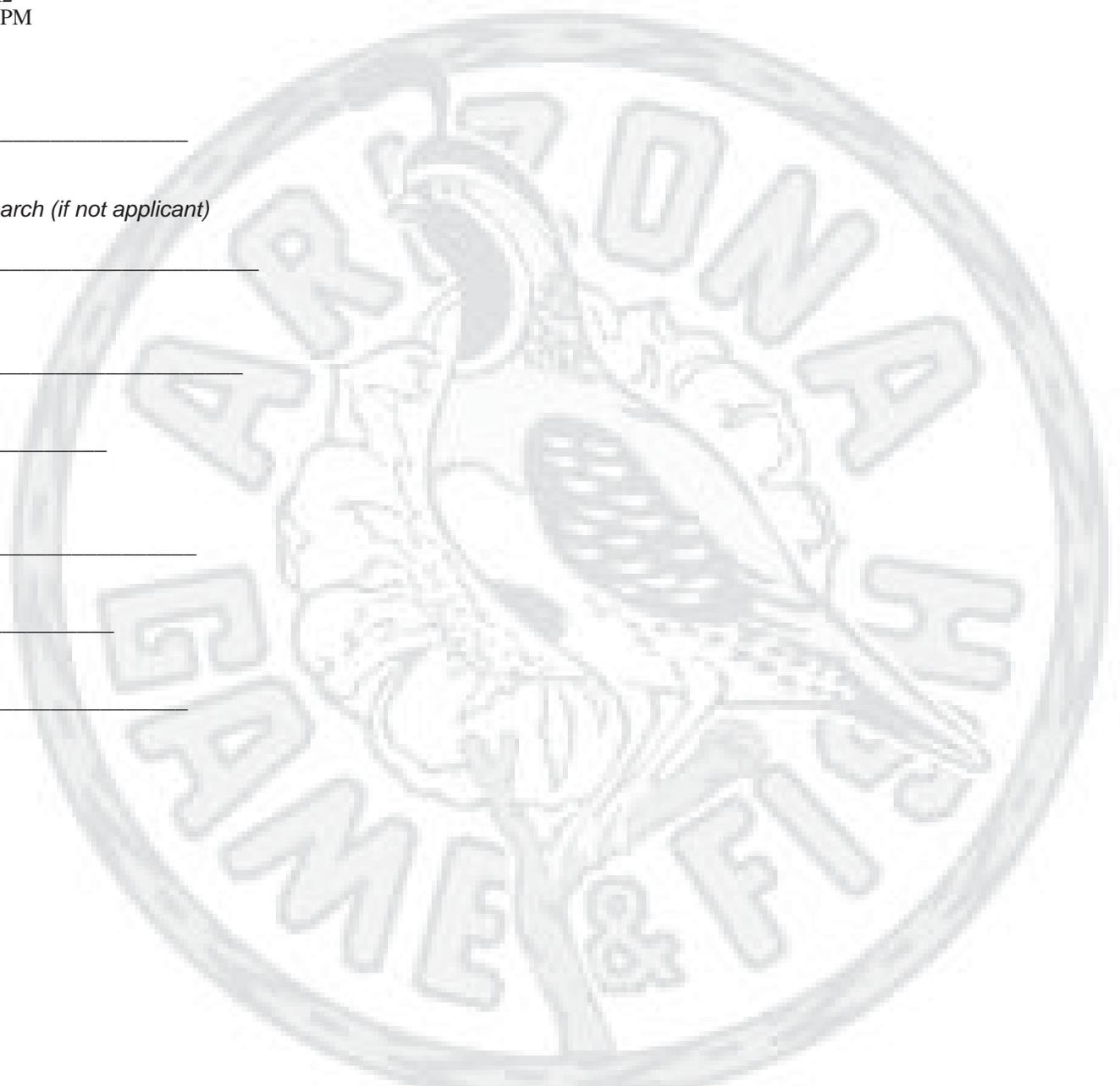
Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____



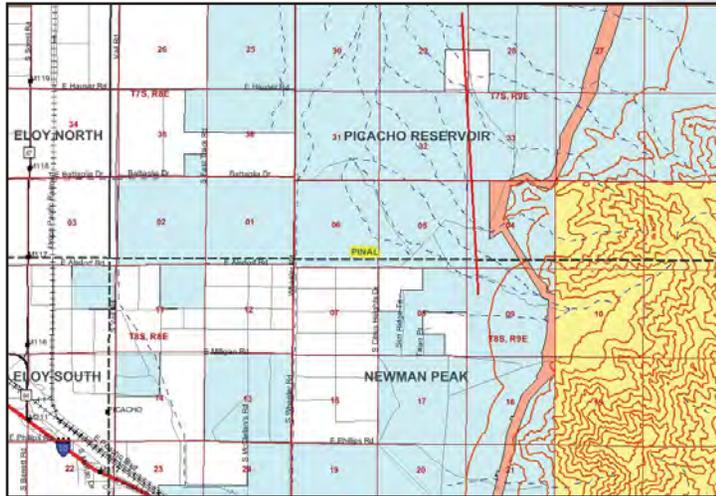
Arizona's On-line Environmental Review Tool

Search ID: 20140728024059

Project Name: ED2-SGR2

Date: 7/28/2014 9:22:33 PM

Project Location



Project Name: ED2-SGR2

Submitted By: Justin Wood

On behalf of: OTHER FEDERAL

Project Search ID: 20140728024059

Date: 7/28/2014 9:22:27 PM

Project Category: Energy Storage/Production/Transfer,Energy Transfer,power line/electric (maintenance to existing)

Project Coordinates (UTM Zone 12-NAD 83): 459740.488, 3625581.995 meter

Project Length: 5159.541 meter

County: PINAL

USGS 7.5 Minute Quadrangle ID: 1536

Quadrangle Name: PICACHO RESERVOIR

Project locality is currently being scoped

The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

Special Status Species Occurrences/Critical Habitat/Tribal Lands within 2 miles of Project Vicinity:

Name	Common Name	FWS	USFS	BLM	State
<i>Abutilon parishii</i>	Pima Indian Mallow	SC	S	S	SR
<i>Chionactis occipitalis klauberi</i>	Tucson Shovel-nosed Snake	C*			
<i>Gopherus morafkai</i>	Sonoran Desert Tortoise	C*	S		WSC

Location Accuracy Disclaimer

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

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Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference. If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: <http://arizonaes.fws.gov/>.

Phoenix Main Office
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021
Phone 602-242-0210
Fax 602-242-2513

Tucson Sub-Office
201 North Bonita, Suite 141
Tucson, AZ 85745
Phone 520-670-6144
Fax 520-670-6154

Flagstaff Sub-Office
323 N. Leroux Street, Suite 101
Flagstaff, AZ 86001
Phone 928-226-0614
Fax 928-226-1099

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and

management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.

Project Category: Energy Storage/Production/Transfer, Energy Transfer, power line/electric (maintenance to existing)

Project Type Recommendations:

All degraded and disturbed lands should be restored to their natural state. Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

During planning and construction, minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g. microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g. livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before and after project activities to reduce the spread of invasive species. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture

website for restricted plants <http://www.azda.gov/PSD/quarantine5.htm>. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control: <http://www.usda.gov/wps/portal/usdahome>. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information http://www.azgfd.gov/h_f/hunting_rules.shtml.

Follow manufacturer's recommended application guidelines for all chemical treatments. The U.S. Fish and Wildlife Service, Region 2, Environmental Contaminants Program has a reference document that serves as their regional pesticide recommendations for protecting wildlife and fisheries resources, titled "Recommended Protection Measures for Pesticide Applications in Region 2 of the USFWS." The Department recommends direct or indirect impacts to sensitive species and their forage base from the application of chemical pesticides or herbicides be considered carefully.

Impacts to raptors by above ground power lines and poles have been well documented. A number of structural improvements can minimize potential impacts to raptors and other migratory birds. Arizona Public Service (APS) offers guidelines to reduce mortality to these species http://www.aps.com/my_community/Environmental/Environmental_10.html. In addition, indirect affects to wildlife due to construction (timing of activity, clearing of rights-of-way, associated bridges and culverts, affects to wetlands, fences) should also be considered and mitigated. Please contact the Project Evaluation Program for further recommendations regarding trenching and power line associated activities.

Project Location and/or Species recommendations:

Heritage Data Management System records indicate that one or more

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listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:

Ecological Services Office
US Fish and Wildlife Service
2321 W. Royal Palm Rd.
Phoenix, AZ 85021-4951
Phone: 602-242-0210
Fax: 602-242-2513

Heritage Data Management System records indicate that one or more native plants listed on the Arizona Native Plant Law and Antiquities Act have been documented within the vicinity of your project area (refer to page 1 of the receipt). Please contact:

Arizona Department of Agriculture
1688 W Adams
Phoenix, AZ 85007
Phone: 602-542-4373

Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and

wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.

6. Further coordination requires the submittal of this initialed and signed Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).

7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

**Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366**

Terms of Use

By using this site, you acknowledge that you have read and understand the terms of use. Department staff may revise these terms periodically. If you continue to use our website after we post changes to these terms, it will mean that you accept such changes. If at any time you do not wish to accept the Terms, you may choose not to use the website.

1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you will not use this website for any other purpose.
2. Unauthorized attempts to upload information or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National

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Information Infrastructure Protection Act .

3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the website and to terminate or restrict your access to the website.

4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area, location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.

5. A signed and initialed copy of the Environmental Review Receipt indicates that the entire receipt has been read by the signer of the Environmental Review Receipt.

Security:

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Signature of this receipt indicates the signer has read and understands the information provided.

Signature: _____

Date: _____

Proposed Date of Implementation: _____

Please provide point of contact information regarding this Environmental Review.

Application or organization responsible for project implementation

Agency/organization: _____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

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E-mail: _____

Person Conducting Search (if not applicant)

Agency/organization: _____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____

