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DRAFT Biological Evaluation for the Port of Tucson Container Export Rail Facility Project in Pima County, Arizona

Prepared for

**Pima County Department of Environmental
Quality**

Prepared by

SWCA Environmental Consultants

April 2014



**DRAFT BIOLOGICAL EVALUATION FOR THE PORT OF TUCSON
CONTAINER EXPORT RAIL FACILITY PROJECT IN PIMA COUNTY,
ARIZONA**

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1. PROJECT LOCATION

The proposed project is located along, and north of, the Union Pacific Railroad (UPRR) Sunset Corridor Mainline, south of Davis-Monthan Air Force Base and between South Wilmot Road and South Rita Road within the city of Tucson and unincorporated Pima County (Figures 1 and 2). The proposed project is located in portions of Sections 17, 18, 20, 21, and 28, Township 15 South, Range 15 East, Gila and Salt River Baseline and Meridian, on the Tucson East (1983) and Tucson Southeast (1982), Pima County, Arizona, U.S. Geological Survey 7.5-minute topographic series maps. The proposed project is located on lands owned by the UPRR and lands that are privately owned (Port of Tucson [POT]), and it is in a U.S. Census Bureau designated rural area. Adjacent lands are owned by Pima County or the City of Tucson or are privately owned. The project area is located north of the Julian Wash Greenway trail and trailhead.

The proposed project would take place in the following areas within the UPRR right-of-way (ROW) and on POT property (see Figure 2):

- Area A: $100 \text{ feet}^1 \times 1,750 \text{ feet} = 175,000 \text{ feet}^2$ (4.0 acres)
- Area B: $100 \text{ feet} \times 675 \text{ feet} = 67,000 \text{ feet}^2$ (1.5 acres)
- Area C: $100\text{-}175 \text{ feet} \times 9,900 = 990,000 \text{ feet}^2$ (22.7 acres)
- Area D: $800,000 \text{ feet}^2$ (18.2 acres)

Throughout this Biological Evaluation (BE), the term “project limits” (approximately 46 acres) is used to represent the construction footprint (area of disturbance), while the term “project area” also includes surrounding lands, including and adjacent to the project limits. The term “project vicinity” is used to denote a more expansive landscape context.

2. PROJECT DESCRIPTION

Pima County and the Port of Tucson (POT) have been awarded a U.S. Department of Transportation, Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant for proposed enhancements to the POT Container Export Rail Facility located on the UPRR Southline Mainline Corridor in the southeastern Tucson metropolitan area. Specifically, the enhancements include the extension of the Wilmot siding, POT lead tracks, and a culvert/bridge, as well as the installation of high-speed switches and features designed to eliminate the need to slow and stop arriving trains at the POT Container Export Rail Facility, which will in turn reduce congestion and delays for passing trains along the UPRR. The TIGER grant is administered by the Federal Railway Administration who is the lead federal agency for this project.

The proposed project would involve the construction of the following: an approximately 1,300-foot-long track extension (in Area A); an approximately 470-foot-long track connection (in Area B); an approximately 2-mile-long track expansion and a new spur into the POT (in Area C); the extension (to the north) of the existing six-barrel concrete box culvert (in Area C); and a materials staging area (in Area D). The construction of the proposed project also would include site clearing, site preparation, and earthwork for railroad roadbed and is estimated to permanently impact 46 acres. Protected Arizona Native Plants (Arizona Revised Statutes [ARS] Sections 3-901 to 3-916 and Article 11) are present within the project limits and will be impacted

¹ One-half of UPRR ROW width.

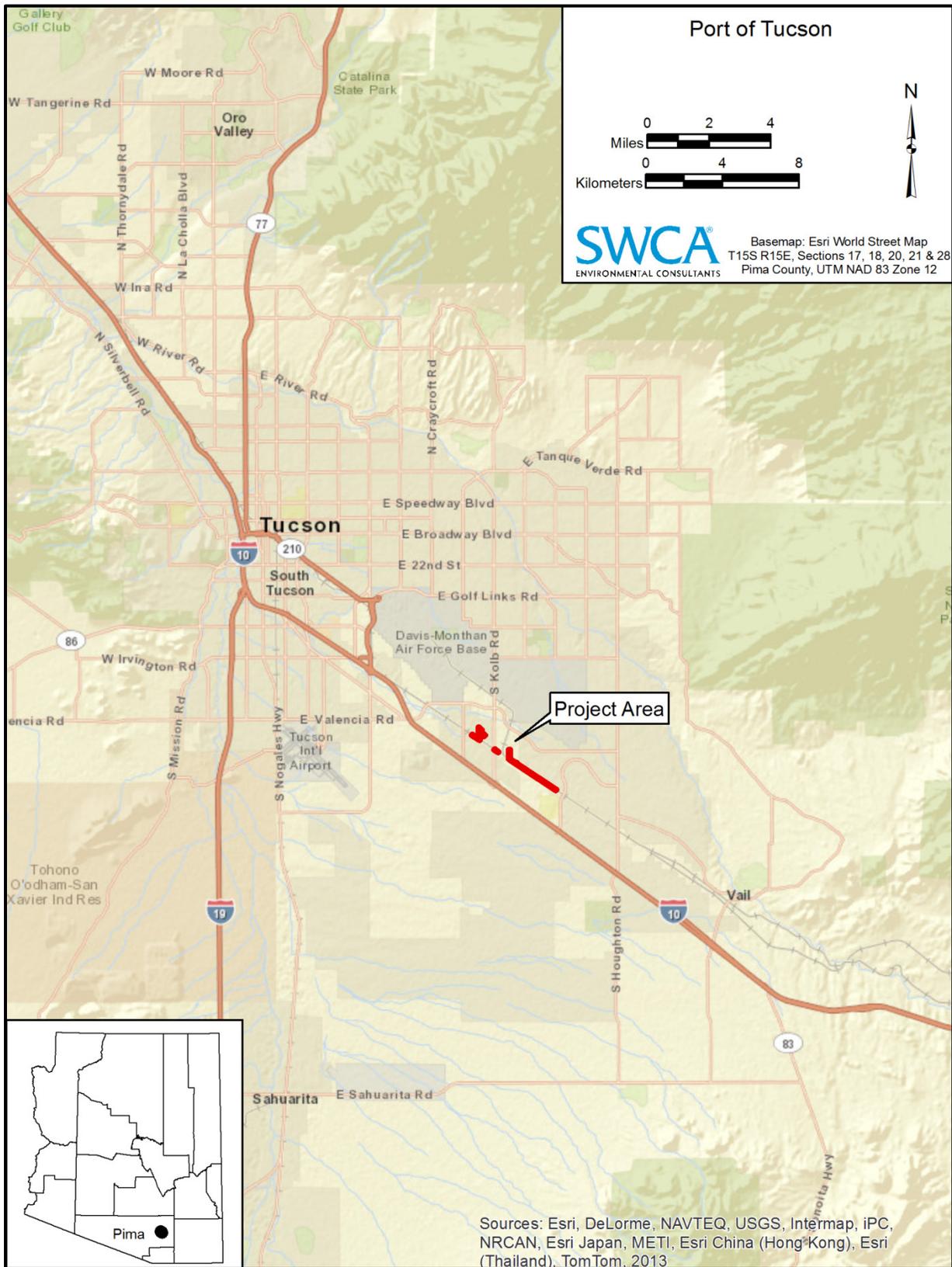


Figure 1. Project location map.

by the project; therefore, the Arizona Department of Agriculture will be notified. Project construction is anticipated to commence in August 2014, and construction will last approximately 5 months. Project bidding and the project itself would be administered by the POT in conjunction with UPRR.

There is one potentially jurisdictional water of the U.S. (WUS) in the project limits. The level of Section 404/401 of the Clean Water Act (CWA) permitting will likely be non-notification to the U.S. Army Corps of Engineers under Nationwide Permit 14 (Linear Transportation Projects). A culvert/bridge will need to be extended at one location on an unnamed ephemeral wash and will consist of the extension of the six-barrel concrete box culvert; permanent impacts to this wash are anticipated and are currently estimated at 0.07 acre. Access to this drainage to construct improvements will result in minimal impacts because the topography surrounding the wash is flat and the wash is shallow.

One or more acres of soil will be disturbed to construct this project; therefore, a CWA Section 402 permit (National Pollutant Discharge Elimination System) will be applied for through the Arizona Department of Environmental Quality's (ADEQ's) General Construction Permit, and a Stormwater Pollution Prevention Plan (SWPPP) will be created and implemented. In order to minimize impacts to the natural hydrologic cycle from the construction of impervious surfaces—such as reductions in infiltration and increases in surface runoff, amplified volumes and velocity of runoff, and increased likelihood of flash floods and erosion—this project has included stormwater planning in its design. The SWPPP will comply with ADEQ's Arizona Pollutant Discharge Elimination System (AZPDES) Stormwater Construction General Permit (AZG2013-001). The project will implement construction of permanent and temporary stormwater pollution prevention measures, source control, preservation of natural drainage patterns, runoff treatment, flow control, protection for WUS, and details of operations and maintenance of these control measures for associated conveyances.

3. LOCATION DESCRIPTION

The project area is located in the Santa Cruz River valley, which is bounded by the Santa Catalina and Tortolita Mountains on the north, the Rincon Mountains on the east, the Santa Rita Mountains on the south, and the Silverbell Mountains on the southwest. The project area elevation ranges between 2,760 and 2,910 feet above mean sea level (amsl). The topography is relatively flat (0% to 8%) and gently slopes downward from southeast to northwest. Drainages in the area are ephemeral, and stormwater flows generally to the west from unnamed washes into the Santa Cruz River (approximately 9 miles northwest of the project area). Two small areas surrounding these drainages are mapped as regulated riparian habitat (xeroriparian C), as identified on Pima County's Riparian Classification Maps, within the project limits (Chapter 16.30, Watercourse and Riparian Habitat Protection and Mitigation Requirements).

The project area contains numerous soil types, including various combinations of Hantz, Sahuarita, Stagecoach-Sahuarita, and Tubac soils. In general, these soil types are fines to extremely gravelly, sandy, or clay loams and are characterized as having a mixed-alluvium parent material on fan terraces, alluvial fans, swales, or floodplains (U.S. Department of Agriculture 2014). The project area is located within the Arizona Upland subdivision of the Sonoran Desertscrub biotic community, as defined by Brown (1994). The majority of the project limits has already been disturbed or developed. However, where vegetation does occur within the project limits, it is dominated by velvet mesquite (*Prosopis velutina*) in the overstory, desert broom (*Baccharis sarothroides*) in the midstory, and buffelgrass (*Pennisetum ciliare*) in the

understory. Other plant species that are common within the project area include ragweed (*Ambrosia* spp.), desert zinnia (*Zinnia acerosa*), desert marigold (*Baileya multiradiata*), desert globemallow (*Sphaeralcea ambigua*), redstem stork's bill (*Erodium cicutarium*), burrowed (*Isocoma tenuisecta*), pepperweed (*Lepidium* sp.), Arabian schismus (*Schismus arabicus*), silverleaf nightshade (*Solanum elaeagnifolium*), hairyseed bahia (*Bahia absinthifolia*), sandmat (*Chamaesyce* spp.), *Cryptantha* spp., buckwheat (*Eriogonum* sp.), curvenut combseed (*Pectocarya recurvata*), and plantain (*Plantago* sp.). Native plants protected under Pima County's Native Plant Preservation Ordinance (Chapter 18.72) and Arizona Native Plant Law (ARS Sections 3-901 to 3-916 and Article 11) are present within the project area. A list of protected Arizona Native Plants present within the project limits is included in Appendix A, a list of wildlife observed in the project area is included in Appendix B, and photographs of the project area are included in Appendix C.

The project area is zoned as rural homestead and residential, specific plan, and general industrial within unincorporated Pima County; it is zoned as residence, suburban homestead, and light and heavy industrial within the city of Tucson. The majority of the project limits has already been disturbed; the lands surrounding the project limits are a mix of undeveloped lands and lands being used for commercial and industrial purposes. The proposed project would change the project limits from disturbed developed or undeveloped land to a railroad-based industrial and commercial transportation and logistics center.

4. SPECIES IDENTIFICATION

A qualified biologist reviewed the threatened, endangered, proposed threatened, and candidate species listed by the U.S. Fish and Wildlife Service (USFWS) for Pima County (Appendix D) (USFWS 2014b).² There is no designated or proposed critical habitat within or near the project limits (Appendix E) (Arizona Heritage Geographic Information System [AZHGIS] 2014). State sensitive species and migratory birds were also analyzed (Appendix F; see Appendix E). Species included in the USFWS list but excluded from further evaluation are addressed in Table 1. This project and the resulting SWPPP would have no effect on the species listed in Table 1; therefore, no federally listed species are analyzed in detail within this BE.

Table 1. Federally Listed Species Potentially Occurring in Pima County, Arizona

Range or habitat information is from AZHGIS (2014); USFWS Arizona Ecological Services Field Office (USFWS 2014b); *Arizona Rare Plant Field Guide* (Arizona Rare Plant Committee n.d. [2002]); and Corman and Wise-Gervais (2005).

Species	Status*	Habitat Requirements	Exclusion Justification
Acuña cactus (<i>Echinomastus erectocentrus</i> var. <i>acunensis</i>)	E	Found on the tops or upper halves of the side slopes of broad, dissected hills of granite or andesite at elevations between 1,198 and 3,773 feet amsl in the Arizona Upland subdivision of the Sonoran Desertscrub biome. In Arizona, known from the Puerto Blanco Mountains; Little Ajo and Saucedo Mountains; and hills between Florence and Kearney, north and south of the Gila River.	Unlikely to occur. There are no dissected hills of granite or andesite in the project area, and the project area is more than 60 miles south of the nearest known occurrence of this species.

² Although the Sonora chub (*Gila ditaenia*) and Canelo Hills ladies'-tresses (*Spiranthes delitescens*) were returned on the Endangered Species Act species list for Pima County (USFWS 2014b), these species are not included on the "All Arizona Species" list for Pima County (USFWS 2014a) and are not known to occur in Pima County; therefore, they are not included in Table 1.

Table 1. Federally Listed Species Potentially Occurring in Pima County, Arizona (Continued)

Range or habitat information is from AZHGIS (2014); USFWS Arizona Ecological Services Field Office (USFWS 2014b); *Arizona Rare Plant Field Guide* (Arizona Rare Plant Committee n.d. [2002]); and Corman and Wise-Gervais (2005).

Species	Status*	Habitat Requirements	Exclusion Justification
California least tern (<i>Sterna antillarum browni</i>)	E	Forms nesting colonies on barren to sparsely vegetated areas. Nests in shallow depressions on open, sandy beaches, sandbars, gravel pits, or exposed flats along shorelines of inland rivers, lakes, reservoirs, and drainage systems. Found in Maricopa, Mohave, and Pima Counties.	Unlikely to occur. There are no barren or sparsely vegetated areas of open, sandy beaches, sandbars, gravel pits, or exposed flats along shorelines of inland rivers, lakes, reservoirs, or drainage systems in the project area.
Chiricahua leopard frog (<i>Lithobates chiricahuensis</i>)	T	Restricted to springs, livestock tanks, and streams in the upper portions of watersheds at elevations between 3,281 and 8,890 feet amsl in central, east-central, and southeast Arizona. Populations in central and east-central Arizona are disjunct from those in southeastern Arizona and may be distinct species.	Unlikely to occur. The project area is below the known elevational range of this species, and there are no suitable water sources in the project area.
Desert pupfish (<i>Cyprinodon macularius</i>)	E	Found in shallow waters of desert springs, small streams, and marshes at elevations below 4,000 feet amsl. One natural population still occurs in Quitobaquito Spring and Quitobaquito Pond in Pima County, and reintroductions have been made in Pima, Pinal, Maricopa, Graham, Cochise, La Paz, and Yavapai Counties, Arizona.	Unlikely to occur. There are no suitable water sources in the project area.
Gila chub (<i>Gila intermedia</i>)	E	Normally found in smaller headwater streams, cienegas, springs, or marshes of the Gila River Basin at elevations between 2,000 and 5,500 feet amsl.	Unlikely to occur. There are no suitable water sources in the project area.
Gila topminnow (<i>Poeciliopsis occidentalis occidentalis</i>)	E	Occurs in small streams, springs, and cienegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system.	Unlikely to occur. There are no suitable water sources in the project area.
Huachuca water umbel (<i>Lilaeopsis schaffneriana</i> ssp. <i>recurva</i>)	E	Semi-aquatic to aquatic perennial found in shallow water or saturated soil of cienegas or marshy wetlands at elevations between 4,000 and 6,500 feet amsl. Known from the Huachuca Mountains, Canelo Hills, headwaters of the Santa Cruz River to Black Draw, and the San Pedro River.	Unlikely to occur. There are no suitable water sources in the project area, and the project area is below the known elevational range of this species.
Jaguar (<i>Panthera onca</i>)	E	Jaguars were once prominent in southern Arizona and were found in Sonoran desertscrub up through subalpine conifer forest at elevations between 1,600 and 9,000 feet. Based on 25 historical (from 1902 to 2001) reliable and spatially accurate jaguar sighting records in Arizona, the majority of jaguars were observed in scrub grasslands (56%) and Madrean evergreen forests (20%), all were within 6.2 miles of a water source, and most occurred in moderately rugged to extremely rugged terrain (Hatten et al. 2005). Additionally, river valleys and other drainage features likely "provide travel corridors for jaguars, along with higher prey densities, cooler air, and denser vegetation than surrounding habitats" (Jaguar Recovery Team and USFWS 2012:13).	Unlikely to occur. The project area is not located in moderate or extremely rugged terrain or in scrub grasslands or Madrean evergreen forests. This species is extremely rare, and although there have been sightings of this species in Arizona since 2009, the project area is more than 20 miles northwest of the nearest known recent occurrences and a similar distance from designated critical habitat.
Kearney's bluestar (<i>Amsonia kearneyana</i>)	E	Found on dry, open slopes (20 to 30 degrees) at elevations between 4,000 and 6,000 feet amsl in the transition zone between Madrean evergreen woodland and interior chaparral. Also occurs at elevations between 3,600 and 3,800 feet amsl on stable, partially shaded, coarse alluvium along dry washes under deciduous riparian trees and shrubs in Sonoran desertscrub or desertscrub-grassland ecotone. Known only from a west-facing drainage in the Baboquivari Mountains.	Unlikely to occur. The project area is below the known elevational range for this species, does not contain vegetation typical of areas occupied by this species, and is more than 40 miles northeast of the only known population of this species in the Baboquivari Mountains.

Table 1. Federally Listed Species Potentially Occurring in Pima County, Arizona (Continued)

Range or habitat information is from AZHGIS (2014); USFWS Arizona Ecological Services Field Office (USFWS 2014b); *Arizona Rare Plant Field Guide* (Arizona Rare Plant Committee n.d. [2002]); and Corman and Wise-Gervais (2005).

Species	Status*	Habitat Requirements	Exclusion Justification
Lesser long-nosed bat <i>Leptonycteris curasoae yerbabuenae</i>	E	Found in southern Arizona from the Picacho Mountains southwesterly to the Agua Dulce Mountains and southeasterly to the Galiuro and Chiricahua Mountains at elevations between 1,600 and 11,500 feet. Roosts in caves and abandoned mines where agave (<i>Agave</i> spp.), saguaro (<i>Carnegiea gigantea</i>), or organ pipe cacti (<i>Stenocereus thurberi</i>) are present. Forages at night on nectar, pollen, and fruit of columnar cacti and pollen and nectar of agaves. The foraging radius of <i>Leptonycteris</i> bats may be 30 to 60 miles or more.	Unlikely to occur. A native plant survey targeting saguaros and agaves (i.e., forage plants) were conducted in the project area, and none were present. Further, there are no possible roost sites within the project area;
Masked bobwhite <i>Colinus virginianus ridgewayi</i>	E	Found at elevations between 1,000 and 4,000 feet amsl in desert grasslands with diverse, moderately dense native grasses and forbs and adequate brush cover. This subspecies has been found to be closely associated with prairie acacia (<i>Acacia angustissima</i>). Known only from reintroduced populations on Buenos Aires National Wildlife Refuge.	Unlikely to occur. The project area is approximately 40 miles northeast of the Buenos Aires National Wildlife Refuge, and prairie acacia does not occur in the project area.
Mexican spotted owl <i>Strix occidentalis lucida</i>	T	Found in mature, montane forests and woodlands and steep, shady, wooded canyons. Can also be found in mixed-conifer and pine-oak vegetation types. Generally nests in older forests of mixed conifers or ponderosa pine (<i>Pinus ponderosa</i>)–Gambel oak (<i>Quercus gambelii</i>). Nests in live trees on natural platforms (e.g., dwarf mistletoe [<i>Arceuthobium</i> spp.] brooms), snags, and canyon walls at elevations between 4,100 and 9,000 feet.	Unlikely to occur. There are no montane forests or steep, shady, wooded canyons in the project area, and the project area is below the known elevational range for this species.
Nichol Turk's head cactus <i>Echinocactus horizontalionius</i> var. <i>nicholii</i>	E	Found in Sonoran desertscrub with limestone-derived alluvium at elevations between 2,400 and 4,100 feet amsl. In Arizona, the known range is limited to the Waterman and Vekol Mountains.	Unlikely to occur. The only confirmed locations in Arizona are the Waterman and Vekol Mountains, and the project area is approximately 40 miles southeast of the closest known population.
Northern Mexican gartersnake <i>Thamnophis eques megalops</i>	PT	This species is most abundant at elevations between 3,000 and 5,000 feet amsl but occurs between 130 and 8,500 feet amsl in densely vegetated habitat surrounding cienegas, streams, and stock tanks, in or near water, and along streams in valley floors and generally open areas, but not in steep mountain canyon stream habitat. Suitable Mexican gartersnake habitat contains a stable native prey base of native fish (e.g., Gila topminnow, desert pupfish, etc.) and adult and larval native ranid frogs (e.g., lowland leopard frog, Chiricahua leopard frog, etc.) and possibly earthworms and vertebrates such as lizards, small rodents, salamanders, and hylid frogs (treefrogs). Considered extant in fragmented populations within the middle to upper Verde River drainage, middle to lower Tonto Creek, Cienega Creek, and a small number of isolated wetland habitats elsewhere in southeastern Arizona.	Unlikely to occur. There are no suitable water sources in the project area.
Ocelot <i>Leopardus pardalis</i>	E	In Arizona, this species has typically been observed in subtropical thorn forest, thornscrub, and dense, brushy thickets at elevations below 8,000 feet amsl and is often found in riparian bottomlands. The critical component for habitat is probably dense cover near the ground and complete avoidance of open country. Several unconfirmed sightings of ocelots have been made in Arizona in recent years, but until recently, the last confirmed account was of an ocelot that was shot on Pat Scott Peak in the Huachuca Mountains in 1964 (López González et al. 2003). Six confirmed reports of ocelots have been received since 2009: one from Gila County and five from Cochise County.	Unlikely to occur. This species is extremely rare, and although there have been sightings of this species in Arizona since 2009, the project area is more than 50 miles northwest of the nearest known recent occurrence. Further, there have been no sightings in Pima County in more than 48 years.

Table 1. Federally Listed Species Potentially Occurring in Pima County, Arizona (Continued)

Range or habitat information is from AZHGIS (2014); USFWS Arizona Ecological Services Field Office (USFWS 2014b); *Arizona Rare Plant Field Guide* (Arizona Rare Plant Committee n.d. [2002]); and Corman and Wise-Gervais (2005).

Species	Status*	Habitat Requirements	Exclusion Justification
Pima pineapple cactus <i>Coryphantha scheeri</i> var. <i>robustispina</i>	E	Found on alluvial bajadas in sand or rocky loam soils that are on slopes with less than 10% grade within desert grassland and Sonoran desertscrub at elevations between 2,800 and 3,500 feet amsl. In Arizona, found in the Santa Cruz and Altar Valleys and Patagonia Mountains.	Unlikely to occur. The project limits has been highly disturbed. Further, intensive surveys for western burrowing owls (<i>Athene cunicularia hypugaea</i>) and protected native plants were conducted within the project limits, and no Pima pineapple cacti were observed.
Sonoran desert tortoise <i>Gopherus morafkai</i>	C	Occurs on primarily rocky, and often steep, hillsides and bajadas of Mohave and Sonoran desertscrub, typically at elevations below 7,800 feet amsl. May occur, but is less likely to occur, in desert grassland, juniper woodland, and interior chaparral habitats and even pine communities.	Unlikely to occur. The project limits does not contain rocky, steep hillsides, Further, intensive surveys for western burrowing owls and protected native plants were conducted within the project limits, and no individuals or sign of desert tortoises was observed.
Sonoran pronghorn <i>Antilocapra americana sonoriensis</i>	E	Found in Sonoran desertscrub within broad, intermountain, alluvial valleys with creosote–bursage (<i>Ambrosia</i> spp.) and paloverde (<i>Parkinsonia</i> sp.)–mixed cacti associations at elevations between 2,000 and 4,000 feet amsl. The only extant U.S. population is in southwestern Arizona.	Unlikely to occur. The project area is approximately 100 miles east of the current range of this species.
Sonoyta mud turtle <i>Kinosternon sonoriense longifemorale</i>	C	In Arizona, found only in pond and stream habitats at 1,100 feet amsl at Quitobaquito Springs in Organ Pipe Cactus National Monument. This subspecies of the more common Sonora mud turtle (<i>Kinosternon sonoriense sonoriense</i>) also occurs in Rio Sonoyta, Mexico.	Unlikely to occur. There are no suitable water sources in the project area, and the only known population of this species is approximately 120 miles west of the project area.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	E	Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood (<i>Populus</i> sp.), willow (<i>Salix</i> sp.), boxelder (<i>Acer negundo</i>), saltcedar (<i>Tamarix</i> spp.), Russian olive (<i>Elaeagnus angustifolia</i>), buttonbush (<i>Cephalanthus</i> sp.), and arrowweed (<i>Pluchea sericea</i>) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13 to 23 feet tall, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet amsl.	Unlikely to occur. There is no dense riparian vegetation consisting of cottonwood, willow, boxelder, saltcedar, Russian olive, buttonbush, or arrowweed in the project area.
Tucson shovel-nosed snake <i>Chionactis occipitalis klauberi</i>	C	This snake is typically observed in creosote (<i>Larrea tridentata</i> var. <i>tridentata</i>)–mesquite (<i>Prosopis</i> spp.) floodplain habitats in soft, sandy loam soils at elevations between 785 and 1,662 feet in Pima, western Pinal, and eastern Maricopa Counties.	Unlikely to occur. The project area is above the elevational range of this species, and the nearest known occurrence of this species is approximately 30 miles northwest of the project area.

Table 1. Federally Listed Species Potentially Occurring in Pima County, Arizona (Continued)

Range or habitat information is from AZHGIS (2014); USFWS Arizona Ecological Services Field Office (USFWS 2014b); *Arizona Rare Plant Field Guide* (Arizona Rare Plant Committee n.d. [2002]); and Corman and Wise-Gervais (2005).

Species	Status*	Habitat Requirements	Exclusion Justification
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	PT	Typically found in riparian woodland vegetation (cottonwood, willow, or saltcedar) at elevations below 6,500 feet amsl. Dense understory foliage appears to be an important factor in nest site selection. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages and Cienega and Sonoita Creeks.	Unlikely to occur. There is no riparian woodland vegetation with dense understory foliage in the project area.

*USFWS Status Definitions

C = Candidate. Candidate species are those for which USFWS has sufficient information on biological vulnerability and threats to support proposals to list as endangered or threatened under the Endangered Species Act (ESA). However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.

E = Endangered. Endangered species are those in imminent jeopardy of extinction. The ESA specifically prohibits the take of a species listed as endangered. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

PT = Proposed Threatened. Proposed Threatened species are those that are not currently federally protected under the ESA but are eligible to be listed as Threatened under the ESA.

T = Threatened. Threatened species are those in imminent jeopardy of becoming endangered. The ESA prohibits the take of a species listed as threatened under Section 4d of the ESA. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

5. MITIGATION MEASURES

The following mitigation measures are required for this project:

Pima County and POT Responsibilities:

- Protected native plants within the project limits will be impacted by this project; therefore, Pima County will send the notification to the Arizona Department of Agriculture at least 60 calendar days prior to the start of construction.
- The POT shall prepare a SWPPP that meets the requirements of the current AZPDES general permit for Discharge from Construction Activities to WUS and notify the ADEQ.
- If any burrowing owls are located during construction, the contractor shall stop work at that location and notify Pima County Department of Environmental Quality at 520.724.6885 immediately to determine whether the owls can be avoided or must be relocated. If owls must be relocated, Pima County will employ a biologist holding a permit from the USFWS to relocate burrowing owls from the project area, as appropriate.
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity by the POT.

Contractor Responsibilities:

- If any Sonoran desert tortoises are encountered during construction, the contractor shall adhere to the attached Arizona Game and Fish Department’s (AGFD’s) “Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects” (Revised October 23, 2007) (Appendix G).
- To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be inspected and washed at the contractor’s storage facility prior to entering the construction site.

- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.
- The contractor shall follow Pima County's standard specifications for dust suppression during construction and shall obtain an air quality permit for dust from the Pima County Department of Environmental Quality.
- The contractor shall certify that the SWPPP prepared by the POT meets the requirements of the current AZPDES general permit for Discharge from Construction Activities to WUS and submit notification to the ADEQ.
- Active bird nests shall not be disturbed during construction.

6. COORDINATION

Applicable agencies, including AGFD, USFWS, Pima County Natural Resources, Parks and Recreation (PCNRPR), and Pima County Regional Flood Control District (PCRFCDD), have been contacted regarding this project. Correspondence with USFWS, PCNRPR, and PCRFCDD is included in Appendix H. Pima County will request technical assistance from USFWS based on the draft BE, and any comments from their technical assistance letter will be incorporated herein (Appendix I). The AGFD on-line environmental review tool was accessed to determine special status species known to occur in the project vicinity (AZHGIS 2014), and an analysis of state sensitive species is included in Appendix E.

7. LITERATURE CITED

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8. ADDITIONAL INFORMATION

SWCA Environmental Consultants biologists conducted a site visit of the project area in April 2014. Field notes, photographs, and maps are available at SWCA Environmental Consultants, Tucson, Arizona.

9. SIGNATURE

Prepared and Submitted By:



Angela M. D. Barclay
SWCA Senior Natural Resources Specialist

Date: April 16, 2014

APPENDICES

A. Protected Native Plants

The project limits was surveyed for the presence of protected native plants in April 2014 using pedestrian surveys. Protected plants found within the project limits are listed in Table A1. No saguaros (*Carnegiea gigantea*), agaves (*Agave* spp.), or ironwoods (*Olneya tesota*) were located within the project limits.

Table A1. List of Protected Arizona Native Plants in the Project Limits

Scientific Name	Common Name	Arizona Department of Agriculture Protection Category*
<i>Cylindropuntia fulgida</i>	Jumping chain-fruit cholla	Salvage Restricted
<i>Cylindropuntia spinosior</i>	Cane cholla	Salvage Restricted
<i>Ferocactus wislizeni</i>	Barrel cactus	Salvage Restricted
<i>Mammillaria grahamii</i>	Graham's nipple cactus	Salvage Restricted
<i>Opuntia engelmannii</i>	Cactus apple	Salvage Restricted
<i>Parkinsonia florida</i>	Blue palo verde	Salvage Assessed
<i>Prosopis velutina</i>	Velvet mesquite	Salvage Assessed and Harvest Restricted
<i>Yucca baccata</i>	Banana yucca	Salvage Restricted
<i>Yucca elata</i>	Soaptree yucca	Salvage Restricted

* Status Definitions:

Salvage Assessed. Includes those native plants that are not included in either the highly safeguarded or salvage restricted categories but that nevertheless have a sufficient value if salvaged to support the cost of salvage tags and seals.

Salvage Restricted. Includes those native plants that are not included in the Highly Safeguarded category but that are nevertheless subject to a high potential for damage by theft or vandalism.

Harvest Restricted. Includes those native plants that are not included in the Highly Safeguarded category but that are subject to excessive harvesting or overcutting because of the intrinsic value of their by-products, fiber, or woody parts.

Because protected native plants were found within the project limits, Pima County will adhere to the following mitigation measure:

- Protected native plants within the project limits will be impacted by this project; therefore, Pima County will send the notification to the Arizona Department of Agriculture at least 60 calendar days prior to the start of construction.

B. Wildlife Observed

A wildlife inventory was conducted as part of the biological evaluation fieldwork. Table B1 lists the wildlife species that were detected directly (i.e., by sight) or indirectly (i.e., through sound or sign) within the project area during the field reconnaissance.

Table B1. Wildlife Species Observed in the Project Area

Common Name	Scientific Name
Reptiles	
<i>Uta stansburiana</i>	Common side-blotched lizard
Birds	
<i>Amphispiza bilineata</i>	Black-throated sparrow
<i>Auriparus flaviceps</i>	Verdin
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Callipepla gambelii</i>	Gambel's quail
<i>Campylorhynchus brunneicapillus</i>	Cactus wren
<i>Cardinalis cardinalis</i>	Northern cardinal
<i>Carpodacus mexicanus</i>	House finch
<i>Corvus corax</i>	Common raven
<i>Eremophila alpestris</i>	Horned lark
<i>Geothlypis trichas</i>	Common yellowthroat
<i>Icterus bullockii</i>	Bullock's oriole
<i>Myiarchus cinerascens</i>	Ash-throated flycatcher
<i>Oreothlypis luciae</i>	Lucy's warbler
<i>Peucaea carpalis</i>	Rufous-winged sparrow
<i>Picoides scalaris</i>	Ladder-backed woodpecker
<i>Setophaga coronata</i>	Yellow-rumped warbler
<i>Toxostoma curvirostre</i>	Curve-billed thrasher
<i>Vireo bellii</i>	Bell's vireo
<i>Zenaida macroura</i>	Mourning dove
<i>Zonotrichia leucophrys</i>	White-crowned sparrow
Mammals	
<i>Ammospermophilus</i> or <i>Spermophilus</i> sp.	Ground squirrel

C. Photographs of the Project Area



Photo C1. View of Area A within project limits, facing west.



Photo C2. View of Area D (proposed construction materials staging area) within project limits, facing north.



Photo C3. View of area upstream of six-barrel concrete box culvert proposed for extension, facing east.



Photo C4. View of upstream side of concrete box proposed for extension, facing south.

D. U.S. Fish and Wildlife Service Endangered Species Act List for Pima County



U.S. Fish and Wildlife Service

Natural Resources of Concern

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

Arizona Ecological Services Field Office
2321 WEST ROYAL PALM ROAD, SUITE 103
PHOENIX, AZ 85021
(602) 242-0210
<http://www.fws.gov/southwest/es/arizona/>
<http://www.fws.gov/southwest/es/EndangeredSpecies/lists/>

Project Name:

Port of Tucson

Project Counties:

Pima, AZ

Project Type:

Transportation

Endangered Species Act Species List (USFWS Endangered Species Program).

There are a total of 24 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fishes may appear on the species list because a project could cause downstream effects on the species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section below for critical habitat that lies within your project area. Please contact the designated FWS office if you have questions.

Species that should be considered in an effects analysis for your project:

Amphibians	Status	Has Critical Habitat	Contact
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U.S. Fish and Wildlife Service

Natural Resources of Concern

Chiricahua leopard frog (<i>Lithobates chiricahuensis</i>) Population: Entire	Threatened	species info	Final designated critical habitat Final designated critical habitat	Arizona Ecological Services Field Office
Birds				
California Least tern (<i>Sterna antillarum browni</i>)	Endangered	species info		Arizona Ecological Services Field Office
Masked bobwhite (<i>Colinus virginianus ridgwayi</i>) Population: Entire	Endangered	species info		Arizona Ecological Services Field Office
Mexican Spotted owl (<i>Strix occidentalis lucida</i>) Population: Entire	Threatened	species info	Final designated critical habitat	Arizona Ecological Services Field Office
Southwestern Willow flycatcher (<i>Empidonax traillii extimus</i>) Population: Entire	Endangered	species info	Final designated critical habitat	Arizona Ecological Services Field Office
Yellow-Billed Cuckoo (<i>Coccyzus americanus</i>) Population: Western U.S. DPS	Proposed Threatened	species info		Arizona Ecological Services Field Office
Fishes				



U.S. Fish and Wildlife Service

Natural Resources of Concern

Desert pupfish (<i>Cyprinodon macularius</i>) Population: Entire	Endangered	species info	Final designated critical habitat Final designated critical habitat	Arizona Ecological Services Field Office
Gila chub (<i>Gila intermedia</i>) Population: Entire	Endangered	species info	Final designated critical habitat Proposed critical habitat (map unavailable)	Arizona Ecological Services Field Office
Gila topminnow (<i>Poeciliopsis occidentalis</i>) Population: U.S.A. only	Endangered	species info		Arizona Ecological Services Field Office
Sonora chub (<i>Gila ditaenia</i>) Population: Entire	Threatened	species info	Final designated critical habitat Final designated critical habitat	Arizona Ecological Services Field Office
Flowering Plants				
Acuna Cactus (<i>Echinomastus erectocentrus</i> var. <i>acumensis</i>)	Endangered	species info		Arizona Ecological Services Field Office
Canelo Hills ladies'-tresses (<i>Spiranthes delitescens</i>)	Endangered	species info		Arizona Ecological Services Field Office



U.S. Fish and Wildlife Service

Natural Resources of Concern

Huachuca water-umbel (<i>Lilaeopsis schaffneriana</i> var. <i>recurva</i>)	Endangered	species info	Final designated critical habitat	Arizona Ecological Services Field Office
Kearney's blue-star (<i>Amsonia kearneyana</i>)	Endangered	species info		Arizona Ecological Services Field Office
Nichol's Turk's Head cactus (<i>Echinocactus horizontalis</i> var. <i>nicholii</i>)	Endangered	species info		Arizona Ecological Services Field Office
Pima Pineapple cactus (<i>Coryphantha scheeri</i> var. <i>robustispina</i>)	Endangered	species info		Arizona Ecological Services Field Office
Mammals				
jaguar (<i>Panthera onca</i>) Population: U.S.A (AZ,CA,LA,NM,TX),Mexico, Central and South America	Endangered	species info		Arizona Ecological Services Field Office
Lesser Long-Nosed bat (<i>Leptonycteris curasoae yerbabuena</i>) Population: Entire	Endangered	species info		Arizona Ecological Services Field Office



U.S. Fish and Wildlife Service

Natural Resources of Concern

<p>ocelot (<i>Leopardus (=felis) pardalis</i>) Population: U.S.A.(AZ, TX) to Central and South America</p>	Endangered	species info	Arizona Ecological Services Field Office
<p>Sonoran pronghorn (<i>Antilocapra americana sonoriensis</i>) Population: Entire</p>	Endangered	species info	Arizona Ecological Services Field Office
Reptiles			
<p>Northern Mexican gartersnake (<i>Thamnophis eques megalops</i>)</p>	Proposed Threatened	species info	Arizona Ecological Services Field Office
<p>Sonoran desert tortoise (<i>Gopherus morafkai</i>) Population:</p>	Candidate	species info	Arizona Ecological Services Field Office
<p>Sonoyta Mud turtle (<i>Kinosternon sonoriense longifemorale</i>) Population:</p>	Candidate	species info	Arizona Ecological Services Field Office
<p>Tucson Shovel-Nosed Snake (<i>Chionactis occipitalis klauberi</i>)</p>	Candidate	species info	Arizona Ecological Services Field Office

Critical habitats within your project area: [\(View all critical habitats within your project area on one map\)](#)

The following critical habitats lie fully or partially within your project area.



U.S. Fish and Wildlife Service

Natural Resources of Concern

Amphibians	Critical Habitat Type
Chiricahua leopard frog (<i>Lithobates chiricahuensis</i>) Population: Entire	Final designated critical habitat Final designated critical habitat
Birds	
Mexican Spotted owl (<i>Strix occidentalis lucida</i>) Population: Entire	Final designated critical habitat
Southwestern Willow flycatcher (<i>Empidonax traillii extimus</i>) Population: Entire	Final designated critical habitat
Fishes	
Desert pupfish (<i>Cyprinodon macularius</i>) Population: Entire	Final designated critical habitat
Gila chub (<i>Gila intermedia</i>) Population: Entire	Final designated critical habitat

FWS National Wildlife Refuges (USFWS National Wildlife Refuges Program).

There are 2 refuges in your refuge list

Cabeza Prieta National Wildlife Refuge (520) 387-6483 1611 NORTH SECOND AVENUE AJO, AZ85321	refuge profile
Buenos Aires National Wildlife Refuge (520) 823-4251 PO. BOX 109 SASABE, AZ85633	refuge profile

FWS Migratory Birds (USFWS Migratory Bird Program).

Most species of birds, including eagles and other raptors, are protected under the Migratory Bird Treaty Act (16 U.S.C. 703). Bald eagles and golden eagles receive additional protection under the [Bald and Golden Eagle Protection Act](#) (16 U.S.C. 668). The Service's [Birds of Conservation Concern \(2008\)](#) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).



U.S. Fish and Wildlife Service

Natural Resources of Concern

Migratory bird information is not available for your project location.

NWI Wetlands ([USFWS National Wetlands Inventory](#)).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

IPaC is unable to display wetland information at this time.

E. State Sensitive Species

The Arizona Game and Fish Department (AGFD) on-line environmental review tool was accessed to determine special status species known to occur in the project vicinity. The AGFD on-line environmental review tool included a list of special status species known to occur within the project vicinity. According to the Arizona Heritage Geographic Information System (AZHGIS) on-line environmental review tool, there are occurrence records for three species within 3 miles of the project area (AZHGIS 2014): western burrowing owl (*Athene cunicularia hypugaea*), cave myotis (*Myotis velifer*), and a bat colony. The agency did not include any species specific concerns related to this project.

Surveys for the western burrowing owl following AGFD recommended guidelines were conducted within the project limits, and no burrowing owls or signs of burrowing owls were detected (surveyor certifications and AGFD data sheets attached). Although, no burrowing owls or signs of burrowing owls were detected, this project will incorporate the following measure in order to prevent impacts to burrowing owls during construction:

- If any burrowing owls are located during construction, the contractor shall stop work at that location and notify Pima County Department of Environmental Quality at 520.724.6885 immediately to determine whether the owls can be avoided or must be relocated. If owls must be relocated, Pima County will employ a biologist holding a permit from the U.S. Fish and Wildlife Service to relocate burrowing owls from the project area, as appropriate.

In addition, the project area was assessed for potential bat habitat: there was no suitable roosting habitat or signs of bats within the one culvert in the project limits. The cave myotis and several other bat species in Arizona feed on insects, and it is possible that they could forage on insects within the project area. However, the bats are not likely to be present in the project area during the day, when construction activities are likely to occur. Additionally, no forage plant species for bats (i.e., saguaros or agaves) were observed within the project area, so the project should not result in direct impacts to nectivorous bat species. Based on the lack of specific concerns from the AGFD and because most the project area has been previously disturbed and no state sensitive bat species or habitat were detected in the project area, protection of state sensitive species is not necessary.

Buffelgrass (*Pennisetum ciliare*) was documented as a common plant species in the understory in the project area. The AGFD on-line environmental review tool included a standard response for treatment and management of invasive species. This project will incorporate the following measures in order to prevent the introduction and spread of invasive species:

- To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be washed at the contractor's storage facility prior to entering the construction site.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.

The AGFD on-line environmental review tool included a standard response regarding local or regional needs of wildlife movement, connectivity, access to habitat needs, and design of various roadway features such as culverts and bridges. The Arizona Department of Transportation, AGFD, Federal Highway Administration, and representatives from other agencies have completed a Wildlife Linkages Assessment to address important wildlife movement corridors in Arizona. The AGFD on-line environmental review tool did not identify any wildlife linkages within 3 miles of the project area.

Arizona's On-line Environmental Review Tool

Search ID: 20140401022928
 Project Name: Port of Tucson
 Date: 4/1/2014 3:44:03 PM

Project Location



Project Name: Port of Tucson
 Submitted By: Angela Barclay
 On behalf of: PIMA
 Project Search ID: 20140401022928
 Date: 4/1/2014 3:43:57 PM
 Project Category: Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,
 Project Coordinates (UTM Zone 12-NAD 83): 516123.470, 3553021.244
 meter
 Project Length: 5118.256 meter
 County: PIMA
 USGS 7.5 Minute Quadrangle ID: 1766
 Quadrangle Name: TUCSON EAST
 Project locality is not anticipated to change

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 3 miles of Project Vicinity:

Name	Common Name	FWS	USFS	BLM	State
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S	
Bat Colony					
Myotis velifer	Cave Myotis	SC		S	

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: 20140401022928

Project Name: Port of Tucson

Date: 4/1/2014 3:44:03 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 Bontia, 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

Arizona's On-line Environmental Review Tool

Search ID: 20140401022928

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

Project Category: Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,

Project Type Recommendations:

Based on the project type entered; coordination with Arizona Department of Environmental Quality may be required (<http://www.azdeq.gov/>).

Based on the project type entered; coordination with County Flood Control districts may be required.

Based on the project type entered; coordination with State Historic Preservation Office may be required (<http://azstateparks.com/SHPO/index.html>)

Based on the project type entered; coordination with U.S. Army Corps of Engineers may be required (<http://www.spl.usace.army.mil/regulatory/phonedir.html>)

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.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife.

Follow manufacturer's recommended application guidelines for all chemical treatments. The U.S. Fish and Wildlife Service, Region 2,

Arizona's On-line Environmental Review Tool

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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.

Hydrological considerations: design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Aquatic wildlife considerations: reduce/minimize barriers to migration of amphibians or fish (e.g. eliminate falls). Terrestrial wildlife: washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found at <http://www.azgfd.gov/hgis/guidelines.aspx>.

Planning: consider impacts of lighting intensity on mammals and birds and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use.

Preconstruction - Consider design structures and construction plans that minimize impacts to channel geometry (i.e. width/depth ratio, sinuosity, allow overflow channels) to avoid alteration of hydrological

function. Identify whether wildlife species use the structure for roosting or nesting during anticipated construction period. Plan the timing of construction/maintenance to minimize impacts to wildlife species. In addition to the species list generated by the Arizona's On-line Environmental Review Tool, the Department recommends that surveys be conducted at the bridge and in the vicinity of the bridge to identify additional or currently undocumented bat, bird, or aquatic species in the project area. To minimize impacts to birds and bats, as well as aquatic species, consider conducting maintenance and construction activities outside the breeding/maternal season (breeding seasons for birds and bats usually occur spring - summer). Examining the crevices for the presence of bats prior to pouring new paving materials. When bats are present, the top of the crevices should be sealed to prevent material from dripping or falling through the cracks and potentially onto bats. If bats are present, maintenance and construction (including paving and milling) activities should be conducted during nighttime hours, if possible, when the fewest number of bats will be roosting. Consider incorporating roosting habitat for bats into bridge designs. Minimize impacts to the vegetation community. A revegetation plan should be developed to replace impacted communities. Unavoidable impacts to vegetation should be mitigated on-site whenever possible. During construction, erosion control structures and drainage features should be used to prevent introduction of sediment laden runoff into the waterway. Minimize instream construction activity. If culverts are planned, mitigate impacts to wildlife and fish movement. Guidelines for bridge designs to facilitate wildlife passage can be found at <http://www.azgfd.gov/hgis/guidelines.aspx>.

Recommendations will be dependant upon goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42"; minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's

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Fencing Guidelines located at
<http://www.azgfd.gov/hgis/guidelines.aspx>.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly.

Project Location and/or Species recommendations:

Heritage Data Management System records indicate that western burrowing owls have been documented within the vicinity of your project area (refer to the species list on page 1 of the receipt). Please review the relocation procedures recommended for burrowing owls found on the Environmental Review Home Page:
http://mirror-pole.com/bur_owl/bur_owl1.htm.

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.

Arizona's On-line Environmental Review Tool

Search ID: 20140401022928

Project Name: Port of Tucson

Date: 4/1/2014 3:44:03 PM

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 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: _____

Arizona's On-line Environmental Review Tool

Search ID: 20140401022928

Project Name: Port of Tucson

Date: 4/1/2014 3:44:03 PM

Phone: _____

E-mail: _____

Person Conducting Search (if not applicant)

Agency/Organization: _____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____



Page 7 of 7 APPLICATION INITIALS: _____



Certificate of Completion



Presented to

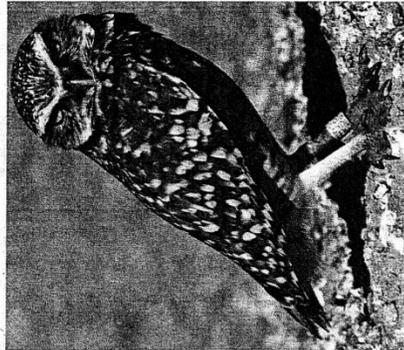
Bob Pape

*for completing the Burrowing Owl Surveyor Training
offered by the Arizona Burrowing Owl Working Group.*

Held on

March 4, 2008

**Casa Grande
Arizona**



*James T. Driscoll, Chair
Arizona Burrowing Owl Working Group
Arizona Game and Fish Department*



Certificate of Completion

Presented to

Thomas Staudt

*for completing the Burrowing Owl Surveyor Training
offered by the Arizona Burrowing Owl Working Group.*

Held on

June 6, 2012

Tucson, Arizona



A handwritten signature in black ink, appearing to read "J. T. Driscoll".

*James T. Driscoll, Chair
Arizona Burrowing Owl Working Group
Arizona Game and Fish Department*

APPENDIX B. BURROWING OWL SURVEY REPORT FORM

Surveyor(s): *BOB PAPE & THOMAS STAUDT*

Date of Survey: *APRIL 3, 2014*

Project Location Information

Project Name: *PORT OF TUCSON-CONTAINER RAIL EXPORT FACILITY*
 City: *TUCSON*
 County: *PIMA*
 Legal Description (address, 1/4 Section, Township, Range):

Weather Conditions During Survey

Precipitation: Y (circle one)
 Wind Speed (mph): *0-5*
 Temperature: *72* °F °C (circle)
 % Cloud Cover: *25*

Survey Data

Area Surveyed: *45* acres / ha / km² / m² (circle one)
 # Adult burrowing owls detected: *NONE*
 # Juvenile burrowing owls detected: *NONE*
 Total # burrowing owls detected: *NONE*

Total # Active burrows: *NONE*
 Total # Potentially Active burrows: *NONE*

Habitat Description within Project Area (check if applicable)

- Open, treeless area
- Creosote flats
- Wash corridor
- Suitable burrows
- Fossorial mammals present – list species: *SPERMOPHILUS TERETICAUDUS (ONLY)*
- Sonoran desert scrub
- Agriculture
- Urban development

Attach map of surveyed area with locations of survey transects. Identify locations of owls and suitable burrows. List owl detections and active or potentially active burrow locations in the following table (please include coordinates and datum) Attach additional pages if necessary:

Observation Type (Owl or Burrow)	Coordinates
<i>NONE</i>	<i>N/A</i>

Observation Type (Owl or Burrow)	Coordinates

Return completed forms (regardless of whether burrowing owls are detected) along with the surveyor's certification to:
 Raptor Management Coordinator
 Arizona Game and Fish Department
 Nongame Branch
 5000 West Carefree Highway
 Phoenix, AZ 85086
 (623) 236-7500
 raptors@azgfd.gov

F. Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918, as amended (MBTA), gives federal protection to all migratory birds, including nests and eggs. Under this act, it is unlawful to take, kill, or possess migratory birds. If an active nest is observed during any activities related to the project, measures should be taken to protect the nest from destruction and to avoid a violation of the MBTA. Under the MBTA, it is unlawful to take, kill, or possess migratory birds. Section 1 of the Interim Empty Nest Policy of the U.S. Fish and Wildlife Service, Region 2, states that if the nest is completely inactive at the time of destruction or movement, a permit is not required in order to comply with the MBTA. However, unlike the Bald and Golden Eagle Protection Act, there are no specific provisions or permit requirements for non-purposeful take; indeed, the intent of the act is to protect migratory birds from purposeful take and regulate take where warranted. See Appendix B, Table B1, for a list of birds detected within the project area.

This project will incorporate the following mitigation measure:

- Active bird nests shall not be disturbed during construction.

G. Arizona Game and Fish Department's Guidelines for Handling Sonoran Desert Tortoises

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised October 23, 2007

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

The Sonoran population of desert tortoises occurs south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 40° Celsius (105° Fahrenheit) unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to one-half mile, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 40° Celsius (105° Fahrenheit), the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- . These guidelines do not apply to the Mojave population of desert tortoises (north and west of the Colorado River). Mojave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.
- . These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.
- . Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.

H. Applicable Agency Scoping or Response Letters

- Pima County Regional Flood Control District response letter (April 10, 2014)
- Pima County Natural Resources, Parks and Recreation response letter (March 20, 2014)
- U.S. Department of Transportation email to USFWS (April 2, 2014)



**PIMA COUNTY
REGIONAL FLOOD CONTROL DISTRICT**
97 EAST CONGRESS STREET, THIRD FLOOR
TUCSON, ARIZONA 85701-1797

**SUZANNE SHIELDS, P.E.
DIRECTOR**

**(520) 243-1800
FAX (520) 243-1821**

April 10, 2014

Nancy Cole, Project Manager
Pima County Administration, Project Management Office
201 N. Stove Avenue, 2nd Floor
Tucson, Arizona 85701

**Re: Port of Tucson – Container Export Rail Facility TIGER Grant Project
Review of Impacts to Pima County Regulated Riparian Habitat**

Dear Ms. Cole:

We have reviewed the information you provided regarding the above-referenced project as it pertains to impacts to Pima County regulated riparian habitat identified on the Riparian Classification Maps.

A portion of this project lies within the City of Tucson; the Pima County requirements regarding the disturbance of the riparian habitat do not apply in the City of Tucson. The remainder of the project, located in unincorporated Pima County, will not cause any new disturbances of regulated riparian habitat that will require mitigation.

If you have any questions regarding this letter, please contact me at 724-4610.

Sincerely,


Eric Shepp, P.E.
Floodplain Administrator

ES/tj

March 20, 2014

Nancy Cole, Project Manager
Project Management Office, Pima County
201 N. Stone 2nd Floor, Tucson, AZ 85701

RE: Port of Tucson – Container Export Rail Facility TIGER Grant Project
Review of Impacts on Julian Wash Greenway Trail System

Nancy,

We have reviewed your email, dated March 20, 2014, regarding the proposed TIGER Grant project described above. We understand this project is located within the Union Pacific Railroad Right of Way north of the Julian Wash Greenway trail and trailhead.

Because the proposed project is an enhancement to the existing railroad, located north of the existing railroad further away from the trail, and is already fenced off from the existing trail and trailhead, Pima County Natural Resources, Parks and Recreation does not anticipate any adverse impacts to the recreation area as a result of this project. If you have any questions regarding this letter, please contact me at (520) 877-6000.

Sincerely,



Chris Cawein, Director
Pima County Natural Resources, Parks and Recreation Department

Angela Barclay

From: Nancy Cole [Nancy.Cole@pima.gov]
Sent: Monday, April 07, 2014 7:34 AM
To: Angela Barclay
Subject: FW: Port of Tucson Rail Improvements Project - Section 7 consultation under the Endangered Species Act
Attachments: IPac_review_4214.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

Angela,

This is the only contact with USFS to date.

Jonathan also attached the USGS location map to this email, but due to size I deleted it from this one.

Nancy Cole
Project Management Office, Pima County
520-724-6312 – Office

From: Jonathan.Cybulski@dot.gov [mailto:Jonathan.Cybulski@dot.gov]
Sent: Wednesday, April 02, 2014 12:30 PM
To: scott_richardson@fws.gov
Cc: melissa.dumond@dot.gov; Nancy Cole; Nanette Slusser
Subject: Port of Tucson Rail Improvements Project - Section 7 consultation under the Endangered Species Act

Scott,

We spoke earlier this week on the phone about a proposed USDOT TIGER project I am working on behalf of the Federal Rail Administration (FRA) for minor rail line improvements at the Port of Tucson, in Pima County Arizona. The proposed project would construct additional track along the north side of the Union Pacific Railroad Sunset Corridor Mainline and along the east side of the UPRR segment that provides access from the mainline to the Port of Tucson, and provide construction materials staging within the Port. (Please See attached project location map).

The Project limits extend from approximately 4,400 feet east of S. Kolb Road and 1.2 miles south of Davis-Monthan Air Force Base to approximately 1,100 feet west of S. Rita Road in unincorporated Pima County, Arizona. The project will construct an extension of the Wilmot siding and Port of Tucson industrial lead tracks, install high-speed switches to connect Union Pacific's Mainline to the Port of Tucson infrastructure, and install a bridge extension on the north side of an existing culvert over UNT1 Julian Wash within the UPRR right-of-way. The Project area and vicinity is zoned general industrial by Pima County and light and heavy industrial and low density residential by the City of Tucson.

As preliminary research, the Project proponent, Pima County, ran a report utilizing the Arizona On-Line Environmental Review Tool via the Arizona Game and Fish website, and we utilized the online IPaC system (IPaC review attached) to retrieve FWS information for the purposes of Section 7 consultation under the Endangered Species Act. (We understand that this list does not take the place of Section 7 consultation, but is used as a starting point for agency consultation.)

According to the both reviews, the following species were identified as endangered in the Project area. The California Least tern (*Sterna antillarum brownii*), Southwestern Willow flycatcher (*Empidonax traillii extimus*), Pima Pineapple cactus (*Coryphantha scheeri* var. *robustispina*), jaguar (*Panthera onca*), and the Lesser Long-Nosed bat (*Leptonycteris curasoae yerbabuena*). IPaC did not list any Critical Habitat in the Project area. The Western Burrowing Owl (*Athene cunicularia hypugaea*) and Cave Myotis (*Myotis velifer*) are state species of concern within 3 miles of the Project area.

All work will occur within previously disturbed UPRR right-of-way or within previously disturbed areas on the Port of Tucson property and will entail site clearing and preparation, earthwork for railroad roadbed elevation, extending the existing six box culvert to support an additional track line to the north, and approved track work for the subgrade of the track foundation and the rail ballast and tie installation. Based on the anticipated activities and their location within previously disturbed areas in an active port and adjacent to active rail lines, FRA has determined the Project **may affect but is not likely to adversely affect** any listed or endangered species or their habitat. While state species of concern are noted within 3 miles of the Project area, there is no habitat in the Project area; therefore, there is no potential to impact the species. Based on these findings, no additional consultation is necessary. Should you have questions or need additional information, please feel free to contact me or Melissa DuMond with FRA (202-493-6366).

Thank you for your time.

Jonathan D Cybulski

Environmental Protection Specialist | Environmental Science and Engineering Division
Volpe, The National Transportation Systems Center | U.S. Department of Transportation
55 Broadway, Cambridge MA 02142 | Web: www.volpe.dot.gov
Office: 617-494-2464 | Fax: 617-494-2789 | Email: jonathan.cybulski@dot.gov
Advancing transportation innovation for the public good

I. U.S. Fish and Wildlife Service's Technical Assistance Letter (*pending*)