

EXHIBIT D

This page intentionally left blank

EXHIBIT D: BIOLOGICAL RESOURCES

List the fish, wildlife, plant life and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, the proposed facilities will have thereon.

D.1 General Project Setting

The Project will be constructed in a largely undeveloped area within the COT. Approximate elevations within the study area range from 2,730 to 2,780 feet above mean sea level, sloping from southeast down to the northwest. The study area consists mostly of rangeland, with a 65-acre inactive borrow pit in the northern portion.

Annual precipitation recorded in Tucson, Arizona is 11.62 inches (WRCC, 2018). Nearly half of the annual rainfall occurs during the summer monsoon season (July to September); the remainder is spread over the balance of the year, with approximately one quarter of the total occurring during the winter rainy season (December to February). High summer temperatures are consistently just over 100 degrees Fahrenheit (°F), with winter highs approximately 68 °F (WRCC, 2018). Terrain is low profile valley floor. Soils in the study area are unconsolidated to strongly consolidated alluvial and aeolian deposits. Storm water runoff generally drains in a west-northwest direction.

D.2 Biological Resources

A brief discussion of vegetation and wildlife resources potentially occurring within the study area and the potential impacts to them from the Project are outlined below and described in more detail in the BE, Exhibit C-2.

Vegetation

Native plants observed in the study area are characteristic of the Arizona Upland biotic community, and include trees such as velvet mesquite (*Prosopis velutina*) and yellow paloverde (*Parkinsonia microphylla*). Other native species observed include whitethorn acacia (*Vachellia constricta*), creosote (*Larrea tridentata*), triangle-bur ragweed (*Ambrosia deltoidea*), brittlebush (*Encelia farinosa*), burroweed (*Isocoma tenuisecta*), ocotillo (*Fouquieria splendens*), desert Indian weed (*Plantago ornata*), and desert zinnia (*Zinnia acerosa*). Cacti species observed include cactus apple (*Opuntia engelmannii*), candy barrel cactus (*Ferocactus wislizenii*), Arizona pencil cholla (*Cylindropuntia arbuscula*), saguaro (*Carnegiea gigantea*), and the endangered Pima Pineapple Cactus (PPC) (*Coryphantha scheerii* var. *robustispina*).

Seven weed species listed by the Arizona Wildlands Invasive Plant Working Group were identified in the study area (Table 5).

Table 5. Invasive, Non-native Plant Species Observed in the Project Area

Species	Rating	Abundance
bermudagrass (<i>Cynodon dactylon</i>)	mediu	rare
redstem stork's bill (<i>Erodium</i>)	mediu	common
buffelgrass (<i>Pennisetum ciliare</i>)	high	uncommon
prickly Russian thistle (<i>Salsola tragus</i>)	mediu	uncommon
Arabian schismus (<i>Schismus arabicus</i>)	mediu	common
athel tamarisk (<i>Tamarix aphylla</i>)	low	rare
saltcedar (<i>Tamarix ramosissima</i>)	high	rare

Wildlife

Mammal species observed in the study area at the time of the biological survey included coyote (*Canis latrans*), black-tailed jackrabbit, round-tailed ground squirrel (*Xerospermophilus tereticaudus*), and Harris's antelope squirrel (*Ammospermophilus harrisi*). There were signs of white-throated woodrat (*Neotoma albigula*) dens. Bird species observed include cactus wren (*Campylorhynchus brunneicapillus*), curve-billed thrasher (*Toxostoma curvirostre*), Gila woodpecker (*Melanerpes uropygialis*), common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), Gambel's quail (*Callipepla gambelii*), and Lucy's warbler (*Vermivora luciae*). Observed reptiles include zebra-tailed lizard (*Callisaurus draconoides*), regal horned lizard (*Phrynosoma solare*), and tiger whiptail (*Aspidoscelis tigris*).

D.3 Impacts

Removal of vegetation associated with clearing and grading has the potential to impact nesting birds protected under the MBTA. In the event construction is scheduled during nesting/breeding seasons, TEP will conduct pre-construction bird surveys and avoid nesting birds until fledging is complete. Vegetation will be checked prior to construction to ensure there would be no impacts to migratory birds.

Native plants in the study area are protected by Arizona Native Plant Law (ANPL) and are also subject to additional COT regulations. The COT has standards (COT LUC 3.8.0) for native plant preservation within construction areas and guidance for mitigation of impacts, which TEP will follow.

D.4 Conclusion

Impacts to general wildlife and vegetation along the alternative routes is anticipated to be minor as existing roads will be used to access the corridors and the corridors will not be cleared 100%.

D.5 References

SWCA Environmental Consultants. 2017. Native Plant Survey for the Wilmot Solar Energy Center in Pima County, Arizona. Prepared by Russell Waldron. October 2017.

Tierra. (2018a). Biological Evaluation for the Proposed Sonoran Substation–Wilmot Energy Center Transmission Line Project in Pima County, Arizona: Tierra Right of Way.

WRCC. (2018). *Arizona Climate Summaries: Tucson Univ of Arizona, Arizona – NCDC 1981-2010 Monthly Normals*. Retrieved from Western Region Climate Center: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?aztucs>

This page intentionally left blank