APPENDIX E

BIOLOGICAL RESOURCES

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BIOLOGICAL RESOURCE METHODOLOGY

Biological Resource Methodology

To identify resources, a preliminary analysis was conducted at each LTE site. A field survey area (FSA) was identified for each of the 231 proposed LTE sites on maps using a 500-foot radius circle centered on a presumed monopole location within each LTE site boundary. For all sites, the FSA encompasses the LTE site. At some larger LTE sites the boundary of the FSA and the LTE site boundary coincide. Some resources, including species with larger ranges, required analysis of a wider area. For these resources, including fish, amphibian and bird species, a wider review area was considered.

The FSA was used initially as a tool to help classify sites as either urban or non-urban. All 231 proposed LTE sites were examined using high resolution aerial photography provided by ESRI in ArcGIS version 10.0. Proposed LTE sites were classified as either urban or non-urban based on the vegetation or land cover within the FSA.[1] Google Earth[2] was also used for perspective views to verify the lack of potential habitat at sites classified as urban.

Sites with FSAs consisting entirely of urban or built-up land, disturbed land, ornamental vegetation, or a combination of these settings were classified as "urban" and not subjected to a field investigation due to their perceived non-existent value to evaluated species. A list of the 168 sites classified as "urban" is provided in Appendix E (Urban and Non-Urban Site Index) of the Biological Assessment. Non-urban sites were those containing native vegetation communities which warrant an investigation into their potential to support evaluated species. Most non-urban sites were subjected to field survey.

Field surveys for biological resources at non-urban sites were conducted in 2011, 2012 and 2013. The surveys in 2012 and 2013 covered new proposed sites as the proposed project was re-designed. Field surveys were conducted between January 24 and April 5, 2011; between January 18 and February 8, 2012; and between June 30 and July 26, 2013.

The surveys were conducted within the FSA of each non-urban LTE site by biologists with relevant expertise. Each field survey collected the following information:

- Names of biologists participating in the survey.
- Date/time survey began.
- Time survey ended.
- Weather (temperature, cloud cover, visibility).
- Location (site ID).
- Vegetation cover types and percent cover.
- Soil substrate particle size.
- Unique habitat features such as wetlands, cliffs, rocky outcrops, or trees suitable for nesting.
- Species of plants and animals observed.

Vegetation or land cover types were classified into 21 different vegetation types, primarily according to *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland,

[1] None of the urban sites were found to contain proposed or designated Critical Habitat.
[2] Website: http://www.google.com/earth/. Accessed 4/9/14.

1986). The following sources were used to classify vegetation or land cover types occurring within FSAs, but not described by Holland (1986):

- Ruderal: Ruderal Vegetation Along Some California Roadsides (Frenkel, 1970).
- Marine and Ornamental: A Guide to Wildlife Habitats of California (Mayer and Laudenslayer, 1988).
- Ephemeral Stream: The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest (USEPA, 2008).

Biologists also carried into the field a color California Natural Diversity Database (CNDDB) map displaying all CNDDB records within a two-mile buffer around each site and a corresponding database extract. These materials included a column to record species occurrence potential (SOP) for all of the species considered in this EA. SOP is identified as one of the following: Not Anticipated, Low, Moderate, High, and Observed. Plant species were recorded in the field or were later identified through verification of voucher specimens. Wildlife species were identified through direct observation (aided by binoculars), identification of songs, call notes and alarm calls, or by detection of sign (burrows, tracks, scat, etc.). Field survey data were initially recorded on an approximately 1 inch: 90 feet scale color aerial photograph (with topographical overlay) of the project site, and then digitized into ArcGIS. Site photographs were taken to record general habitats, overall topography, and surrounding land use.

Depending on the season and time of day during which field surveys are conducted, some species of annual plants, invertebrates, amphibians, reptiles, birds, and mammals may not be detected due to dormancy, metamorphosis, hibernation, or seasonal migrations. However, field surveys for the proposed project supplement literature reviews, information from databases (CNDDB, IPaC), and biologists' knowledge of species-specific habitat requirements and distribution patterns. This body of information is adequate to evaluate the potential for species to occur or to be affected at each of the proposed sites.

APPENDIX E-2

SENSITIVE SPECIES IN THE STUDY AREA

APPENDIX E-3

BIOLOGICAL SURVEYS BY SURVEY PERIOD

APPENDIX E-4

BIOLOGICAL ASSESSMENT

*Appendix E-4 contains the BA and Revisions resulting from USFWS review