APPENDIX 2-D.4: BIOLOGICAL RESOURCES SURVEY SUMMARY

MEMORANDUM

Date	December 13, 2016
To	Serge Stanich
From	Jennifer Johnson, Mike Eng, Ted Thayer, Shannon Hickey
Project	Electrical Interconnections and Network Upgrades: Sites 6 and 7
Subject	Biological Resources Survey Summary

OVERVIEW

This memorandum summarizes the results of biological surveys conducted within the study area for electric interconnection and network upgrade (EINU) components associated with Traction Power Substation Sites 6 and 7 of the High Speed Rail project required to support the Central Valley Wye (Wye) alternatives of the Merced to Fresno Project Section (Exhibit 1).

Components

The power supply system is comprised of two potential electrical infrastructure categories: 1) interconnection facilities proposed to be designed and constructed by the Authority starting in 2021 that would connect the HSR to the statewide electrical grid; and 2) network facilities owned by PG&E that would require upgrades beginning in 2031 to serve the increased electrical load from implementation of the HSR system. Interconnection facilities (i.e., Site 6 – El Nido, TPSS, Switching Station, and Tie-Line) are included within the footprint of the Wye alignments as well as the previously analyzed Merced to Fresno Project Section (i.e., Site 7 – Wilson, TPSS and portion of a Tie-Line) and therefore, are not discussed further in this document.

EINU components by site are described below.

Site 6 – El Nido

Site 6 supports all Wye alternatives.

Network Upgrade

The network upgrades would be common to all alternatives.

- El Nido Substation: Expand the existing El Nido Substation by approximately 3.0 acres.
- Oro Loma – Panoche Junction 115 kV Power Line: Reconductor approximately 16.9 miles of the existing Oro Loma – Panoche Junction 115 kV Power Line from Panoche Junction to the Oro Loma Substation.
- Los Banos – Oro Loma – Canal 70 kV Power Line: Reconductor approximately 13.3 miles of the Los Banos – Oro Loma – Canal 70 kV Power Line from the Oro Loma Substation to the Mercy Springs Switching Station.

Site 7 – Wilson

Site 7 – Wilson would support the SR 152 (North) to Road 13, Avenue 21 to Road 13, and SR 152 (North) to Road 11 Wye alternatives.

Interconnection

- 230 kV Tie-Line: Construct an approximately 2.3 mile-long, double-circuit 230 kV transmission line.
- Wilson Substation: Reconfigure the Wilson Substation within the existing substation fence line.

Network Upgrades

- None

Site 7 – Le Grand Junction/Sandy Mush Road

Site 7 – Le Grand Junction/Sandy Mush Road would support the SR 152 (North) to Road 19 alternative.

Interconnection

- Dutchman Switching Station: Construct the new Dutchman Switching Station at the corner of East Sandy Mush Road and South Bliss Road.
- 115 kV Tie-Line: Construct an approximately 2.5 mile-long, double-circuit 115 kV power line

Network Upgrade

- Warnerville – Wilson 230 kV Transmission Line: Reconductor approximately 38.4 miles of the Warnerville – Wilson 230 kV Transmission Line from the Warnerville Substation to the Wilson Substation.
- Wilson – Dairyland (idle) 115 kV Power Line: Reconductor approximately 11.3 miles of the Wilson – Dairyland (idle) 115 kV Power Line from the Dairyland Substation to the new Dutchman Switching Station.

Survey Methodology

Background Review

Prior to conducting field surveys, Ascent biologists reviewed the *Final Biological Resources and Wetland Technical Report, Merced to Fresno Section: Central Valley Wye* (*Biological Resources and Wetlands Technical Report*) (Authority and FRA 2016)] and *Central Valley Wye Biological Resources and Wetlands Survey Plan* (*Biological Resources and Wetlands Survey Plan*) (Authority and FRA [2009] 2011). To determine species with potential to occur within the special-status plant study area and core habitat study area, Ascent biologists also conducted searches of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants. CNDDB was searched to determine the special-status plant and wildlife species documented as occurring within a 10-mile radius of the EINU footprint (CDFW 2016). The CNPS inventory was searched to identify the plant species documented as occurring on the following additional (i.e., in addition to quads considered for the Wye alignments) U.S. Geological Survey 7.5-minute quadrangles (quads): Oakdale, Waterford, Paulsell, Montpelier, Winton, Turlock Lake, Cressey, Yosemite Lake, Chaney Ranch, Broadview Farms, and Hammonds Ranch (CNPS 2016). GIS-based analysis was conducted using the U.S. Fish and Wildlife Service's (USFWS) Environmental Conservation Online System (ECOS) to determine whether critical habitat was present within the study area (USFWS 2016).

Habitat and land cover types used for field mapping are consistent with those described in Table 5-2 Wildlife Habitat Types, Land Uses and Typical Vegetation, as well as Section 5.1.2.1 (Agricultural Lands), Section 5.1.2.2 (Developed Areas) and Section 5.1.2.3 (Natural and Seminatural Areas) of the *Biological Resources and Wetlands Technical Report*. Descriptions of agricultural lands and developed areas are based on *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Descriptions of natural and seminatural habitat types were developed from classification systems including the *Manual of California Vegetation* (Sawyer et. al 2009), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *Classifications of Wetlands and Deeper Habitats of the United States* (Cowardian et. al 1979). A summary of plant communities, aquatic habitats, and land cover types documented during field surveys are presented in Table 1, Results Section, below.

The mapping area is composed of the EINU construction footprint and a 350-foot buffer. Due to the limited permanent and temporary nature of direct and indirect impacts from EINU components, a 350-foot buffer, rather than the 1,000-foot buffer used for the Wye alignments was used. This mapped area includes the following biological resource study areas (RSAs) to evaluate direct and indirect impacts from implementation of EINU components: the special-status plant species study area (comprised of a 100-foot buffer around the EINU construction footprint), and the core habitat study area and the wetland study area (both comprised of a 250-foot buffer around the construction footprint). The RSAs are described in greater detail in Section 4.2 of the *Biological Resources and Wetlands Technical Report*.

Field Surveys

Field surveys were conducted consistent with the methods described in the *Biological Resources and Wetlands Survey Plan* to identify and record habitats within the RSAs. The Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line and Wilson – Dairyland (idle)115 kV Power Line, and Site 7 – Wilson, 230 kV Tie-Line were surveyed on April 12, 13, and 14, 2016. The Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line and Los Banos – Oro Loma – Canal 70 kV Power Line were surveyed on April 26, 2016. Primarily, biologists drove along publicly accessible roadways and existing Pacific Gas & Electric easements adjacent to EINU components to conduct windshield surveys of the study area. The study area was surveyed visually for land cover types from adjacent public roadways. Portions of areas that were not entirely visible from public roadways, including the Site 6 – El Nido, El Nido Substation, were confirmed via review of 2016 aerial imagery on Google Earth. Ascent biologists conducted pedestrian surveys at all stream and riparian crossings and sensitive natural communities that were adjacent to public roadways. In addition to the field mapping of wildlife habitat, general wildlife surveys were conducted and any species of interest were noted. The wildlife habitat assessment was general in nature; it was not intended to be a substitute for protocol-level surveys.

Impact Analyses

The methods used for evaluating impacts to habitats, land cover types, special-status plants and wildlife, from implementation of EINU components are consistent with those outlined in Section 4, Methods for Evaluation Effects, of the *Biological Resources and Wetlands Technical Report* (Authority and FRA 2016) with the exception of indirect effects. Indirect impacts on the auxiliary habitat study area, supplemental habitat study area, and wildlife movement study area were analyzed qualitatively rather than by using a 1,000-foot, 10-mile, or 20-mile buffer. Because of the smaller permanent impact footprint of EINU components and the temporary nature of the majority of impacts (e.g., reconductoring of electrical lines and replacement of structures). Direct, indirect, and indirect bisected impacts were quantified as follows:

- *Direct impacts* were quantified by component based on the construction period (temporary) and project period (permanent) footprints used for the GIS analysis. Direct impacts, both temporary and permanent, were calculated by digitally overlaying the mapped land cover types/habitat types estimated construction footprint boundaries, using ArcGIS software. All impacts on vernal pools are considered permanent and were calculated using GIS resource layers.
- *Indirect impacts*, both temporary and permanent, were assessed by digitally overlaying RSA boundaries and estimated construction footprint boundaries between the footprint boundary and the RSA buffer.
- *Indirect bisected impacts* apply in circumstances where a vernal pool falls partially within the footprint and extends into adjacent areas, including areas beyond 250 feet, and includes impacts on jurisdictional waters as well as special-status vernal pool plant and wildlife species. Neither indirect impacts nor indirect bisected impacts were quantified for this analysis.

Survey Results

Habitat and Land Cover Types

Habitat and land cover types mapped within the vicinity of EINU components are consistent with those described in the *Biological Resources and Wetlands Technical Report* and include agricultural habitats, aquatic habitats, developed areas, and natural and seminatural areas, though they primarily traverse agricultural lands and rural residential communities. Natural and seminatural vegetation communities are fragmented and limited in the study area due to development and disturbance related to the agricultural industry. Habitats and land cover types mapped in the study area are described in Table 1 below. Associated figures are presented in Appendix A of this memorandum.

Agricultural lands in the study area primarily consist of row crops, field crops, and orchards. Other agricultural land cover types include pastures, vineyards, inactive agricultural fields, dairies, and rural residences. Vegetation other than the managed crop generally includes weedy species adapted to high levels of disturbance and is often actively managed with herbicides, mowing, and/or tilling. Sparse annual

grasses and weedy forbs may be present within hay fields and along the crop edges (Authority and FRA 2016).

Aquatic habitat in the study area consists of man-made and naturally occurring aquatic features including constructed basins and constructed watercourses (e.g., agricultural ditches and canals), as well as natural watercourses and seasonal wetlands. Open water habitat is also included in this grouping and is primarily present along rivers in the study area. Several habitat types; rice field, fallow field and valley sink scrub were not previously identified in the *Biological Resources and Wetlands Technical Report* were mapped within 350 feet of the Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line. Rice field was classified as its own land cover type because, though it is a row crop, when flooded it can support wetland-associated species including giant garter snake (*Thamnophis gigas*), which is listed as threatened under the California Endangered Species Act and the Federal Endangered Species Act. Fallow field was mapped within 350 feet of all EINU components with the exception of the Site 6 – El Nido, El Nido Substation. Fallow filed is consists of agricultural land that was not currently planted in a crop but that was estimated to have been recently in cultivation (during the past 3 years). Valley sink scrub was mapped along the Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line and consists of low, open to dense succulent shrublands characterized by alkali-tolerant plants in the Chenopodiaceae family, especially iodine bush.

The vernal pools and vernal swales documented along Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line (Appendix A; Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line; Figures 3 and 17 – 19), and described in Table 1, are likely northern hardpan vernal pools, a sensitive biological community described in the *Biological Resources and Wetlands Technical Report*. For the purpose of this document, these aquatic features are simply referred to as “vernal pools” and “vernal swales.”

Table 1 Terrestrial Habitats, Aquatic Habitats, and Land Uses in the Study Area

Land Cover/Habitat Type	Description
Agricultural Habitat	
Dairy	Large industrial-scale farming operations; barns, farm buildings, feedlots
Inactive Agriculture	Agricultural land not cropped the current or previous crop season, usually supports dense growth of non-native annual grasses
Pasture	Mix of annual and perennial grasses and forbs that provide forage for domestic livestock
Field Crop	Wheat, alfalfa
Row Crop	Sweet potatoes, tomatoes, beans, safflower, cotton
Rice Field	Flooded rice fields
Vineyard	Grapes
Fallow Field	Agricultural land that is not currently planted in a crop but that is estimated to have been in cultivation during the past 3 years
Orchard	Deciduous and evergreen trees: almond, walnut, pistachio, orange, lemon
Aquatic Habitat	
Constructed Basin	Stormwater and agricultural retention basins, tailwater ponds; mostly devoid of vegetation
Constructed Watercourse	Irrigation canals and ditches
Natural Watercourse	Rivers, creeks, natural ephemeral and perennial drainages
Open Water	Shallow depressions (scrapes, tire ruts) bare of vegetation with ephemeral hydroperiod
Seasonal Wetland	Shallow depressions with seasonal inundation, supporting native and non-native hydrophytic vegetation
Vernal Pool	Vernal pools and the swales that often connect vernal pools are a type of seasonal wetland underlain by a clay hardpan bottom, that support specific flora and fauna (including a number of special-status species) associated with a seasonal water cycle. The swales that connect pools may support many special-status plant species, but do not tend to hold water long enough to support the fauna associated with vernal pools.

Land Cover/Habitat Type	Description
Developed Areas	
Transportation Corridor	Roads, bridges, railways
Urban	High density residential areas and parks that include homes, various buildings, grass lawns, ornamental trees, hedges
Commercial/Industrial	Urban shops, businesses, warehouses, industrial plants, factories, junk yards, equipment storage yards, airports
Barren	Open plots of rock, gravel, or soil completely devoid or with sparse (< 2%) vegetation
Natural and Seminatural Areas	
Other Riparian*	Other riparian woodlands such as arroyo willow thickets, cottonwood-willow riparian, black walnut riparian. Also riparian areas dominated by Himalayan blackberry brambles and giant reed
California Annual Grassland	Mix of mostly non-native grasses such as wild oats, brome species, barley, annual fescues, and herbaceous species, such as mustards, wild radish, poppies
Ruderal	Vegetated areas, dominated by common weeds
Eucalyptus	Dense Eucalyptus forest
Great Valley Mixed Riparian*	Dense winter deciduous, broad-leafed riparian forest; tree, shrub and vine species include cottonwood, box elder, willows, buttonbush, poison oak, wild grape, and Western white clematis
Freshwater Marsh*	Cattails, rushes, and sedges
Valley Sink Scrub*	Low, open to dense succulent shrublands characterized by alkali-tolerant plants in the Chenopodiaceae family, especially iodine bush

*Sensitive Biological Communities

With the exception of Urban, developed areas are land cover types in the study area that do not support vegetation communities. Urban areas, including residential neighborhoods, parks, and schools, may include landscaped areas, yards, gardens, and ornamental shade trees. Other developed land cover types include transportation corridors, commercial and industrial parks, and barren areas that are unvegetated.

Natural and seminatural areas consist of California annual grassland, ruderal, eucalyptus woodlands, Great Valley mixed riparian, natural watercourses, freshwater marsh, vernal pools, vernal swales, seasonal wetlands, and valley sink scrub. Natural and seminatural areas are sporadic throughout the Site 6 and Site 7 study areas as compared to agricultural lands and are distinguished from other land uses by the degree of current human influence on the vegetation composition and structure. While the natural and seminatural vegetation types have been altered to some extent by past and present human activities, the composition and structure of these communities is generally not actively managed or controlled (Authority 2012). California annual grassland is present along the Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line and Site 7 – Le Grand Junction/Sandy Mush Road, 115 kV Tie-Line; as well as Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line. Ruderal is present within the study area for all EINU components. Eucalyptus woodlands are present in Site 7 – Le Grand Junction/Sandy Mush Road, the Warnerville – Wilson 230 kV Transmission Line study area. The rest of the natural areas are discussed in further detail under Habitats of Concern below.

Typical native fauna occurring in natural and seminatural areas as well as other land cover types in the study area include western toad (*Anaxyrus boreas*), Sierran treefrog (*Pseudacris sierra*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), gopher snake (*Pituophis catenifer*), common garter snake (*Thamnophis sirtalis*), great egret (*Ardea alba*), red-winged blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), American robin (*Turdus migratorius*), western scrub jay (*Aphelocoma californica*), turkey vulture (*Cathartes aura*), Brewer's blackbird (*Euphagus cyanocephalus*), American coot (*Fulica americana*), California ground squirrel (*Otospermophilus beecheyi*), and Botta's pocket gopher (*Thomomys bottae*) (Authority 2016).

Habitats of Concern

Habitats of concern are described in Section 4.1.2 of the *Biological Resources and Wetlands Technical Report* and are mostly consistent with those observed in the study area. They are: special-status plant communities, also referred to as sensitive natural communities; jurisdictional waters, including wetlands and riparian areas; and critical habitat. Other habitats of concern identified in the *Biological Resources and Wetlands Technical Report* are either not present in the study area, such as conservation easements and mitigation banks, or else will not be impacted as a result of construction, such as protected trees and essential fish habitat, and therefore are not discussed further in this memorandum.

Sensitive Natural Communities

Of the natural habitats mapped in the special-status plant study area, four are sensitive natural communities that are described in *A Manual of California Vegetation* (Sawyer et al. 2009). They are: Great Valley mixed riparian, other riparian, freshwater marsh, and valley sink scrub. Additionally, vernal pools and vernal swales support special-status plant communities.

Great Valley mixed riparian forest mostly occurs on the banks of natural waterways along EINU components, including streams, sloughs, and rivers, and is generally composed of several species including Fremont cottonwood (*Populus fremontii*), sycamore (*Platanus racemosa*), California black walnut (*Juglans hindsii*), Goodding's willow (*Salix gooddingii* var*. variabilis*), red willow (*Salix laevigata*), yellow willow (*Salix lasiandra*), and box elder (*Acer negundo* var. *californicum*) in the overstory (Holland, R.F. and C.L. Roye 1988). Great Valley mixed riparian is present along the Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line. Other riparian occurs primarily on the banks of streams and is typically dominated by open to dense woodlands, dominated by willows (*Salix* sp.) with taller trees intermixed, including cottonwoods, California black walnut, and oaks (*Quercus* sp.). Other riparian vegetation is present along the Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line, and the Wilson – Dairyland (idle) 115 kV Power Line.

Freshwater marsh occurs primarily in agricultural ditches where cattail (*Typha* sp.) has established. Freshwater marsh is present at the southernmost end of the study area of the Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line, and along the Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line and the Wilson – Dairyland (idle) 115 kV Power Line.

Valley sink scrub occurs in one location along the Site 6 – EL Nido, Oro Loma – Panoche Junction 115 kV Power Line. Valley sink scrub is characterized by low, open to dense succulent shrublands dominated by alkali-tolerant plants in the Chenopodiaceae family, especially iodinebush (*Allenrolfea occidentalis*) and several seepweed (*Sueda*) species. These habitats are also considered to be special-status plant communities. Vernal pools are also listed in this category because these specialized habitats support endemic flora and fauna (including a number of special-status species) associated with a seasonal water cycle. Vernal pools are present along the Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line and immediately north of Sandy Mush Road, across the road from the 115 kV Tie-Line.

Jurisdictional Waters

Jurisdictional waters in the study area are described in Section 4.1.2.2 of the *Biological Resources and Wetlands Technical Report* and include wetlands and other waters. Confirmation of these waters as jurisdictional by the USACE, the SWRCB, and the CDFW will be obtained through the regulatory permitting process. Wetlands found within the wetland study area for EINU component are; vernal pools, seasonal wetlands, freshwater marshes, mixed riparian, and other riparian. Other waters within the study area are natural watercourses, open waters, constructed basins, constructed watercourses, and rice fields.

Rivers, natural watercourses, and seasonal wetlands are present along the Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line and Wilson – Dairyland (idle) 115 kV Power Line. Vernal pools are present, within the wetland study area, along the Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line and immediately north of Sandy Mush Road, across the road from the 115 kV Tie-Line.

Designated Critical Habitat

Critical habitat is designated for eight species within the core habitat study area for the EINU (Table 2). Critical habitat for the following five species is present within the study area along the Warnerville – Wilson 230 kV Transmission Line (Appendix A; Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line; Figures 17 through 21): vernal pool fairy shrimp (*Branchinecta lynchi*), Conservancy fairy shrimp (*Branchinecta conservation*), central valley steelhead (*Oncorhynchus mykiss irideus*), fleshy owl's clover (*Castilleja campestris* ssp. *succulenta*), Greene's tuctoria (*Tuctoria greenei*), and San Joaquin Valley orcutt grass (*Orcuttia inaequalis*). Critical habitat for vernal pool tadpole shrimp (*Lepidurus packerdi*) and vernal pool fairy shrimp is also present north of Sandy Mush Road along the Site 7 – Le Grand Junction/Sandy Mush Road, 115 kV Tie-Line (Appendix A; Site 7 – Le Grand Junction/Sandy Mush Road, Dutchman Switching Station and Wilson – Dairyland (idle) 115 kV Power Line; Figure 1).

Wildlife Movement Corridors

The San Luis Canal-Kesterson National Wildlife Refuge ECA identified by Spencer et al. (2010) is within the core habitat study area and crossed by the existing Site – 6 El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line, proposed to be reconductored. The Eastman Lake–Bear Creek ECA occurs within the core habitat study area for the Site 7 – Le Grand Junction/Sandy Mush Road, Dutchman Switching Station and 115 kV Tie-Line. Due to the physical nature of these EINU components (intermittent structures), they do not pose a barrier to wildlife movement. Therefore, the continued crossing of the San Luis Canal-Kesterson National Wildlife Refuge ECA and Eastman Lake-Bear Creek ECA by the Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line, and Site 7 – Le Grand Junction/Sandy Mush Road, Dutchman Switching Station and 115 kV Tie-Line are not discussed further.

Special-Status Plant and Wildlife Species

Searches of the CNDDB (CDFW 2016), and CNPS Inventory of Rare and Endangered Plants (CNPS 2016) databases were conducted as part of the pre-field survey investigation. The likelihood of special-status plant and special-status wildlife occurrence within their respective RSAs is based on these inquiries and the sensitive natural communities and agricultural land cover types present within those RSAs, and is presented in Appendix B of this memorandum.

Swainson's hawk (*Buteo swainsonii*) were observed flying over fallow fields and whimbrel (*Numenius phaeopus*) were observed foraging in row crops along the Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line. Swainson's hawk is listed as threatened by the State of California. Whimbrel is a bird of conservation concern (BCC) under the Federal Endangered Species Act. No other special-status species were observed during the field surveys.

Table 2 Acreage of Critical Habitat within the EINU Core Habitat Study Area

Land Cover Type	Component (acres of designated critical habitat/ acres of aquatic habitat within Core Habitat Study Area)												
	Site 6- El Nido				Site 7 – Wilson			Site 7 – Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
	El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
Conservancy fairy shrimp	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	345.34/5.03	0.00	**345.34/5.03**	**0.00**	**345.34/5.03**
Vernal pool fairy shrimp	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	18.71/0.00	345.34/5.03	0.00	**364.05/5.03**	**0.00**	**364.05/5.03**
Vernal pool tadpole shrimp	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	18.71/0.00	0.00	0.00	**18.71/0.00**	**0.00**	**18.71/0.00**
Central Valley Steelhead	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.81/0.81	0.00	**0.81/0.81**	**0.00**	**0.81/0.81**
Colusa grass	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	345.34/5.03	0.00	**345.34/5.03**	**0.00**	**345.34/5.03**
Fleshy owl's clover	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	345.34/5.03	0.00	**345.34/5.03**	**0.00**	**345.34/5.03**
Greene's tuctoria	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	345.34/5.03	0.00	**345.34/5.03**	**0.00**	**345.34/5.03**
San Joaquin Orcutt grass	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	345.34/5.03	0.00	**345.34/5.02**	**0.00**	**345.34/5.02**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**18.71/0.00**	**364.86/5.84**	**0.00**	**364.86/5.84**	**0.00**	**364.86/5.84**

Impact Summary

Construction of EINU components include construction of new electrical facilities as well as upgrades to existing power/transmission lines involving activities such as removal of existing structures (e.g., lattice steel towers, wooden power poles, power lines, electrical switchgear) and vegetation removal; handling, storing, hauling, helicopter operations, excavating, and placing of fill. Construction activities are described in further detail in Section 2.4.3, Major Construction Activities, of Appendix 2-D.1: Electrical Interconnections and Network Upgrades, Detailed Project Description). Figures that depict direct impacts associated with each individual EINU component, temporary and permanent impacts within mapped habitat and land cover types, are presented in Appendix A of this memorandum.

The methods used for calculating acreage amounts of impacts to habitats, land cover types, and special-status species within the appropriate RSAs from implementation of EINU construction activities are described in the Methods section of this memorandum. Due to the nature of large-scale GIS mapping, some overlap between estimated construction footprint boundaries, habitat/land cover boundaries and RSAs is unavoidable. Therefore, temporary and permanent calculations for direct impacts initially included minute acreage amounts of impacts to habitats of concern that will be avoided during construction. These areas were identified and acreage amounts were adjusted, as part of the post calculation analyses. Acreage amounts in Tables 2 through 8 reflect these adjustments. For clarity of visual depiction, the figures in Appendix A depict direct impacts only and not the aforementioned adjustments.

Direct Impacts to Habitat/Land Cover Types in the Core Habitat Study Area

Tables 2 through 3 below present acreage amounts for direct impacts within the Core Habitat Study Area, including temporary and permanent, to habitat and land cover types associated with construction of EINU components. Tables 2 provides a summary of temporary and permanent, direct impacts associated with construction of Site 6 – El Nido and Site 7 – Wilson, required to support the SR 152 to Road 13, Avenue 21 to Road 13, and SR 152 to Road 11 alternatives. Since there are no permanent impacts associated with the Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line or Oro Loma – Panoche Junction 115 kV Power Line and no temporary impacts associated with the Site 6 – El Nido, El Nido Substation and Site 7 – Wilson, 230 kV Tie-Line, values are not included in Table 3. Table 4 provides a summary of temporary and permanent, direct impacts associated with Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road required to support the SR 152 to Road 19 alternative.

Impacts to Habitats of Concern

Table 5 and Table 6 below present temporary and permanent direct impacts to habitats of concern within the RSAs for Site 6 – El Nido, Site 7 – Wilson, and Site 7 – Le Grand Junction/Sandy Mush Road, including impacts to special-status plant communities and potential jurisdictional waters.

Impacts to Special-Status Species

Table 7 and Table 8 below present temporary and permanent direct impacts to special-status plant and wildlife species for Site 6 – El Nido, Site 7 – Wilson, and Site 7 – Le Grand Junction/Sandy Mush Road.

Table 3 Site 6 – El Nido and Site 7 – Wilson - Temporary and Permanent Direct Impacts

Estimated Acres of Impact							
	Construction Period (Temporary Impacts)		Total	Project Period (Permanent Impacts)			Total
	Site 6 – El Nido			Site 6 – El Nido	Site 7 – Wilson		
	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line		El Nido Substation	230 kV Tie-Line	Additional Study Area	
Agricultural Lands							
Fallow Field	4.88	6.63	**11.51**	0.00	6.95	0.00	**6.95**
Field Crop	5.01	1.31	**6.32**	2.54	21.99	30.29	**54.82**
Inactive Agriculture	1.07	2.71	**3.78**	0.00	0.00	0.00	**0.00**
Orchard	5.00	27.56	**32.56**	0.00	3.17	0.00	**3.17**
Pasture	2.55	0.00	**2.55**	0.00	2.85	0.00	**2.85**
Row Crop	2.91	3.46	**6.37**	0.00	0.00	0.00	**0.00**
Vineyard	0.00	1.18	**1.18**	0.00	0.00	0.00	**0.00**
Subtotal	*21.42*	*42.85*	*64.27*	*2.54*	*34.96*	*30.29*	*67.79*
Developed Areas							
Barren	35.42	2.36	**37.78**	0.00	0.00	0.00	**0.00**
Commercial/Industrial	6.96	0.87	**7.83**	0.00	19.04	0.33	**19.37**
Transportation Corridor	6.68	0.02	**6.70**	0.00	1.08	0.74	**1.82**
Urban	0.00	0.00	**0.00**	0.00	0.00	0.03	**0.03**
Subtotal	*49.06*	*3.25*	*52.31*	*0.00*	*20.12*	*1.10*	*21.22*
Natural and Semi Natural Areas							
California Annual Grassland	0.06	0.00	**0.06**	0.00	0.00	0.00	**0.00**
Ruderal	2.78	0.32	**3.10**	0.45	1.08	14.38	**15.59**
Valley Sink Scrub[1]	4.26	0.00	**4.26**	0.00	0.00	0.00	**0.00**
Subtotal	*7.10*	*0.32*	*7.42*	*0.45*	*1.08*	*14.38*	*15.59*
Other Waters							
Constructed Basin	0.00	0.08	**0.08**	0.00	0.00	0.00	**0.00**
Constructed Watercourse	1.02	0.18	**1.20**	0.00	0.07	0.16	**0.54**
Subtotal	1.02	0.26	1.28	0.00	0.07	0.16	0.54
Total	**78.60**	**46.68**	**125.28**	**2.99**	**56.23**	**45.93**	**105.14**

[1] Special-status plant community/sensitive natural community.

Table 4 Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road Acreage Amounts for Temporary and Permanent Direct Impacts

	Estimated Acres of Impact								
	Construction Period (Temporary Impacts)						Project Period (Permanent Impacts)		
	Site 6 – El Nido		Site 7 – Le Grand Junction/Sandy Mush Road			Total	Site 6 – El Nido	Site 7 – Le Grand Junction/Sandy Mush Road	Total
	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction – 115 kV Power Line	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line		El Nido Substation	Dutchman Switching Station and 115 kV Tie-Line	
Agricultural Lands									
Dairy	0.00	0.00	0.00	0.45	0.34	**0.79**	0.00	0.00	**0.00**
Fallow Field	4.88	6.63	0.00	43.64	2.75	**57.90**	0.00	0.00	**0.00**
Field Crop	5.01	1.31	0.82	38.34	6.31	**51.79**	2.54	44.47	**47.01**
Inactive Agriculture	1.07	2.71	0.00	2.13	0.23	**6.14**	0.00	0.00	**0.00**
Orchard	5.00	27.56	0.00	225.60	8.53	**266.69**	0.00	0.00	**0.00**
Pasture	2.55	0.00	0.00	40.05	0.72	**43.32**	0.00	0.00	**0.00**
Row Crop	2.91	3.46	0.00	0.00	0.09	**6.46**	0.00	0.00	**0.00**
Vineyard	0.00	1.18	0.00	0.00	0.00	**1.18**	0.00	0.00	**0.00**
Subtotal	*21.42*	*42.85*	*0.82*	*350.21*	*18.97*	*434.27*	*2.54*	*44.47*	*47.01*
Developed Areas									
Barren	35.42	2.36	0.00	3.70	2.64	**44.12**	0.00	0.00	**0.00**
Commercial/Industrial	6.96	0.87	0.00	8.13	0.00	**15.96**	0.00	0.00	**0.00**
Transportation Corridor	6.68	0.02	0.10	2.43	2.80	**12.03**	0.00	4.02	**4.02**
Urban	0.00	0.00	0.00	0.49	0.00	**0.49**	0.00	0.00	**0.00**
Subtotal	*49.06*	*3.25*	*0.10*	*14.75*	*5.44*	*72.60*	*0.00*	*4.02*	*4.02*

	Estimated Acres of Impact								
	Construction Period (Temporary Impacts)						Project Period (Permanent Impacts)		
	Site 6 – El Nido		Site 7 – Le Grand Junction/Sandy Mush Road			Total	Site 6 – El Nido	Site 7 – Le Grand Junction/Sandy Mush Road	Total
	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction – 115 kV Power Line	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line		El Nido Substation	Dutchman Switching Station and 115 kV Tie-Line	
Natural and Semi Natural Areas									
California Annual Grassland	0.06	0.00	0.50	23.72	0.00	**24.28**	0.00	0.34	**0.34**
Ruderal	2.78	0.32	0.00	11.59	0.94	**15.63**	0.45	0.00	**0.45**
Valley Sink Scrub[1]	4.26	0.00	0.00	0.00	0.00	**4.26**	0.00	0.00	**0.00**
Subtotal	*7.10*	*0.32*	*0.50*	*35.31*	*0.94*	*44.17*	*0.45*	*0.34*	*0.79*
Aquatic Habitats									
Depressional/Palustrine Wetlands									
Seasonal Wetland[1]	0.00	0.00	0.00	0.08	0.00	**0.08**	0.00	0.00	**0.00**
subtotal	0.00	0.00	0.00	0.08	0.00	0.08	0.00	0.00	0.00
Other Waters									
Constructed Basin	0.00	0.08	0.00	0.02	0.02	**0.12**	0.00	0.00	**0.00**
Constructed Watercourse	1.02	0.18	0.00	0.14	0.03	**1.37**	0.00	0.00	**0.00**
Subtotal	*1.02*	*0.26*	*0.00*	*0.16*	*0.05*	*1.49*	*0.00*	*0.00*	*0.00*
Total	**78.60**	**46.68**	**1.42**	**400.51**	**25.40**	**552.61**	**2.99**	**48.83**	**51.82**

[1] Potentially jurisdictional waters
[2] Special-status plant community/sensitive natural community.

Special-Status Plant Community Impacts

Table 5 Acreage Amounts for Direct Temporary and Bisected Indirect Impacts to Special-Status Plant Communities

Land Cover Type	Component (acres)												
	Site 6 – El Nido				Site 7 – Wilson			Site 7 – Le Grand Junction/Sandy Mush Road				Total: Site 6 – El Nido and Site 7 – Wilson	Total: Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
	El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
Vernal Pool	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Bisected indirect Vernal Pool	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Freshwater Marsh	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Mixed Riparian	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Other Riparian	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Seasonal Wetland	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.08	0.00	**0.08**	**0.00**	**0.08**
Valley Sink Scrub	0.00	4.26	0.00	**4.26**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**4.26**	**4.26**
Total	**0.00**	**4.26**	**0.00**	**4.26**	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**0.00**	**0.08**	**4.26**	**4.34**

Potentially Jurisdictional Waters Impacts

Table 6 Acreage Amounts for Direct and Bisected Indirect Impacts to Aquatic Features

Land Cover Type		Component (acres)												
		Site 6 – El Nido				Site 7 – Wilson			Site 7 – Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/ Sandy Mush Road
		El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
Wetlands														
Vernal Pool	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Vernal Pool bisected Indirect	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Seasonal Wetland	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.08	0.00	**0.08**	**0.00**	**0.08**
Freshwater Marsh	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Other Riparian	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Mixed Riparian	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Sub Total Wetlands	*Permanent*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	*0.00*	**0.00**	**0.00**	**0.00**
	Temporary	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	**0.00**	*0.00*	*0.08*	*0.00*	**0.08**	**0.00**	**0.08**

Land Cover Type		Component (acres)												
		Site 6 – El Nido				Site 7 – Wilson			Site 7 – Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/ Sandy Mush Road
		El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
Other Waters of the U.S.														
Natural Watercourse	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Constructed Basin	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Temporary	0.00	0.00	0.08	**0.08**	0.00	0.00	**0.00**	0.00	0.02	0.02	**0.04**	**0.08**	**0.12**
Constructed Watercourse	Permanent	0.00	0.00	0.00	**0.00**	0.07	0.16	**0.23**	0.00	0.00	0.00	**0.00**	**0.23**	**0.00**
	Temporary	0.00	1.02	0.18	**1.20**	0.00	0.00	**0.00**	0.00	0.14	0.03	**0.17**	**1.20**	**1.37**
Open Water	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
Subtotal Other Waters	*Permanent*	*0.00*	*0.00*	*0.00*	**0.00**	*0.07*	*0.16*	**0.23**	*0.00*	*0.00*	*0.00*	**0.00**	**0.23**	**0.00**
	Temporary	*0.00*	*1.02*	*0.26*	**1.28**	*0.00*	*0.00*	**0.00**	*0.00*	*0.16*	*0.05*	**0.21**	**1.28**	**1.49**
Total	**Permanent**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.16**	**0.23**	**0.00**	**0.00**	**0.00**	**0.00**	**0.23**	**0.00**
	Temporary	**0.00**	**1.02**	**0.26**	**1.28**	**0.00**	**0.00**	**0.00**	**0.00**	**0.24**	**0.05**	**0.29**	**1.28**	**1.57**

Impacts to Special-Status Species

Table 7 Acreage of Direct Impact to Special-Status Plant Species within the Limit of Direct Effect for EINU Components

Special-Status Plant Species	Land Cover Type	Impact	Component (acres)												
			Site 6 – El Nido				Site 7 – Wilson			Site 7 – Le Grand Junction/Sandy Mush Road				Total: Site 6 – El Nido and Site 7 – Wilson	Total: Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
			El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
Hall's tarplant, Munz's tidy-tips, showy golden madia, San Joaquin woollythreads, Lemmon's jewelflower, lost Hills crownscale, subtle orache, round-leaved filaree, palmate-bracted bird's-beak, hispid bird's-beak, California alkali grass, recurved larkspur	California Annual Grassland	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.34	0.00	0.00	**0.34**	**0.00**	**0.34**
		Temporary	0.00	0.06	0.00	**0.06**	0.00	0.00	**0.00**	0.50	23.72	0.00	**24.22**	**0.06**	**24.28**
		Subtotal	*0.00*	*0.06*	*0.00*	**0.06**	*0.00*	*0.00*	**0.00**	*0.84*	*23.72*	*0.00*	**24.56**	**0.06**	**24.62**
Sanford's arrowhead, Peruvian dodder, BoggsLake hedge-hyssop	Freshwater Marsh, Natural Watercourse, Open Water, Seasonal Wetland	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.08	0.00	**0.08**	**0.00**	**0.08**
		Subtotal	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	**0.00**	*0.00*	*0.08*	*0.00*	**0.08**	**0.00**	**0.08**
Hall's tarplant, San Joaquin woollythreads, lost Hills crownscale, palmate-bracted bird's-beak	Valley Sink Scrub	Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Temporary	0.00	4.26	0.00	**4.26**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**4.26**	**4.26**
		Subtotal	*0.00*	*4.26*	*0.00*	**4.26**	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	*0.00*	**0.00**	**4.26**	**4.26**
		Total	**0.00**	**4.32**	**0.00**	**4.32**	**0.00**	**0.00**	**0.00**	**0.84**	**23.80**	**0.00**	**24.64**	**4.32**	**28.96**

Table 8 Acreage of Direct Impact to Special-Status Wildlife Species within the Limit of Direct Effect for EINU Components

Species Group and Species	Associated Land Cover Type	Effect Type	Component (acres)												
			Site - 6 El Nido				Site - 7 Wilson			Site - 7 Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
			El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
Invertebrates															
Conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp	VP, SEW	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.08	0.00	**0.08**	**0.00**	**0.08**
		Indirect Bisected	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**0.00**	**0.08**	**0.00**	**0.08**
Valley elderberry longhorn beetle	MIR, OTR, PFW with elderberry shrubs	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Fish															
Central Valley steelhead	NAW, OTR	Direct	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Hardhead	NAW, OTR	Direct	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Amphibians															
California tiger salamander	Aquatic: FWM, OPW, SEW, VP	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.08	0.00	**0.08**	**0.00**	**0.08**
		Subtotal	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	**0.00**	*0.00*	*0.08*	*0.00*	**0.08**	**0.00**	**0.08**
	Upland: BAR, AGS, MIR, OTR, PFW, PAS, RUD	Direct Permanent	0.45	0.00	0.00	**0.45**	3.82	0.00	**3.82**	0.34	0.00	0.00	**0.34**	**4.27**	**0.79**
		Direct Temporary	0.00	21.60	0.79	**22.39**	0.00	0.00	**0.00**	0.00	73.02	4.31	**77.33**	**22.39**	**99.72**
		Subtotal	*0.45*	*21.60*	*0.79*	**22.84**	*3.82*	*0.00*	**3.82**	*0.34*	*73.02*	*4.31*	**77.67**	**26.66**	**100.51**
		Total	**0.45**	**21.60**	**0.79**	**22.84**	**3.82**	**0.00**	**3.82**	**0.34**	**73.10**	**4.31**	**77.75**	**26.66**	**100.59**

Species Group and Species	Associated Land Cover Type	Effect Type	Component (acres)												
			Site - 6 El Nido				Site - 7 Wilson			Site - 7 Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
			El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
Western spadefoot	Aquatic: FWM, OPW, SEW, VP	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.08	0.00	**0.08**	**0.00**	**0.08**
		Subtotal	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	**0.00**	*0.00*	*0.08*	*0.00*	**0.08**	**0.00**	**0.08**
	Upland: BAR, AGS, RUD surrounding suitable aquatic habitat	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	17.16	0.83	**17.99**	**0.00**	**17.99**
		Subtotal	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	**0.00**	*0.00*	*17.16*	*0.83*	**17.99**	**0.00**	**17.99**
		Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**17.24**	**0.83**	**18.07**	**0.00**	**18.07**
Reptiles															
Western pond turtle	Aquatic: FWM, NAW, OPW, PFW, SEW	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.08	0.00	**0.08**	**0.00**	**0.08**
		Subtotal	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	**0.00**	*0.00*	*0.08*	*0.00*	**0.08**	**0.00**	**0.08**
	Upland: AGS, MIR, OTR, RUD within 1,300 feet of suitable aquatic habitat	Direct Permanent	0.45	0.00	0.00	**0.45**	0.00	0.00	**0.00**	0.34	0.00	0.00	**0.34**	**0.45**	**0.79**
		Direct Temporary	0.00	1.06	0.00	**1.06**	0.00	0.00	**0.00**	0.00	22.55	0.79	**23.34**	**1.06**	**24.40**
		Subtotal	*0.45*	*1.06*	*0.00*	**1.51**	*0.00*	*0.00*	**0.00**	*0.34*	*22.55*	*0.79*	**23.68**	**1.51**	**25.19**
		Total	**0.45**	**1.06**	**0.00**	**1.51**	**0.00**	**0.00**	**0.00**	**0.34**	**22.63**	**0.79**	**23.76**	**1.51**	**25.27**
Blunt-nosed leopard lizard	BAR, AGS, RUD within range	Direct Permanent	0.45	0.00	0.00	**0.45**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.45**	**0.45**
		Direct Temporary	0.00	6.66	0.00	**6.66**	0.00	0.00	**0.00**	0.00	0.00	3.53	**3.53**	**6.66**	**10.19**
		Total	**0.45**	**6.66**	**0.00**	**7.11**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.53**	**3.53**	**7.11**	**10.64**
Blainville's horned lizard	BAR, AGS, RUD within range	Direct Permanent	0.45	0.00	0.00	**0.45**	1.08	14.38	**15.46**	0.34	0.00	0.00	**0.34**	**15.91**	**0.79**
		Direct Temporary	0.00	42.53	2.68	**45.21**	0.00	0.00	**0.00**	0.50	39.01	0.00	**39.51**	**45.21**	**84.72**
		Total	**0.45**	**42.53**	**2.68**	**45.66**	**1.08**	**14.38**	**15.46**	**0.84**	**39.01**	**0.00**	**39.85**	**61.12**	**85.51**
Giant garter snake	Aquatic: FWM, NAW, OPW, RFW within range	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Subtotal	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	*0.00*	**0.00**	**0.00**	**0.00**

Species Group and Species	Associated Land Cover Type	Effect Type	Component (acres)												
			Site - 6 El Nido				Site - 7 Wilson			Site - 7 Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
			El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
	Upland: AGS, PAS within 200 feet of suitable aquatic habitat	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	5.37	0.09	**5.46**	**0.00**	**5.46**
		Subtotal	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*	**0.00**	*0.00*	*5.37*	*0.09*	**5.46**	**0.00**	**5.46**
		Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.37**	**0.09**	**5.46**	**0.00**	**5.46**
Silvery legless lizard	AGS,VSS	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.34	0.00	0.00	**0.34**	**0.00**	**0.34**
		Direct Temporary	0.00	4.32	0.00	**4.32**	0.00	0.00	**0.00**	0.50	23.72	0.00	**24.22**	**4.32**	**28.54**
		Total	**0.00**	**4.32**	**0.00**	**4.32**	**0.00**	**0.00**	**0.00**	**0.84**	**23.72**	**0.00**	**24.56**	**4.32**	**28.88**
San Joaquin coachwhip	AGS,VSS	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	4.32	0.00	**4.32**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**4.32**	**4.32**
		Total	**0.00**	**4.32**	**0.00**	**4.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.32**	**4.32**
Birds															
American peregrine falcon	Foraging: BAR, AGS, COI, COB, COW, DAI, EUC, FAF,FIC, FWM, INA, MIR, NAW, OPW, ORC, OTR, PFW, PAS, RFW, ROC, RUD, SEW, SLO, TRC, URB, URW, VP, VIN	Direct Permanent	2.99	0.00	0.00	**2.99**	54.40	45.39	**99.79**	48.83	0.00	0.00	**48.83**	**102.78**	**51.82**
		Direct Temporary	0.00	78.60	46.69	**125.29**	0.00	0.00	**0.00**	1.42	400.51	25.91	**427.84**	**125.29**	**553.13**
		Total	**2.99**	**78.60**	**46.69**	**128.28**	**54.40**	**45.39**	**99.79**	**50.25**	**400.51**	**25.91**	**476.67**	**228.07**	**604.95**
Bald eagle	Nesting: EUC, MIR, OTR, PFW	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Subtotal	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Foraging: BAR, AGS, FAF, FIC,FWM, INA, NAW, OPW, PAS, RFW,	Direct Permanent	2.99	0.00	0.00	**2.99**	32.88	0.00	**32.88**	44.81	0.00	0.00	**44.81**	**35.87**	**47.80**
		Direct Temporary	0.00	55.17	16.78	**71.95**	0.00	44.67	**44.67**	1.33	163.25	13.68	**178.26**	**116.62**	**250.21**
		Subtotal	2.99	55.17	16.78	**74.94**	32.88	44.67	**77.55**	46.14	163.25	13.68	**223.07**	**152.49**	**298.01**

Species Group and Species	Associated Land Cover Type	Effect Type	Component (acres)											
			Site - 6 El Nido				Site - 7 Wilson			Site - 7 Le Grand Junction/Sandy Mush Road				
			El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total	Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
	ROC, RUD, SEW, SLO, VP	**Total**	2.99	55.17	16.78	**74.94**	32.88	44.67	**77.55**	46.14	163.25	13.68	**223.07**	**152.49**	**298.01**
Golden eagle	Nesting: EUC, MIR, OTR, PFW	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Subtotal	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Foraging: BAR, AGS, FAF,FIC, FWM, INA, PAS, RFW, ROC, RUD, SEW, SLO, VP	Direct Permanent	2.99	0.00	0.00	**2.99**	0.00	0.00	**0.00**	44.81	0.00	0.00	**44.81**	**2.99**	**47.80**
		Direct Temporary	0.00	55.17	16.78	**71.95**	32.88	44.67	**77.55**	1.33	163.25	13.68	**178.26**	**149.50**	**250.21**
		Subtotal	2.99	55.17	16.78	**74.94**	32.88	44.67	**77.55**	46.14	163.25	13.68	**223.07**	**152.49**	**298.01**
		Total	**2.99**	**55.17**	**16.78**	74.94	**32.88**	**44.67**	77.55	**46.14**	**163.25**	**13.68**	223.07	152.49	298.01
Swainson's hawk	Nesting: EUC, MIR, ORC, OTR	Direct Permanent	0.00	0.00	0.00	**0.00**	3.17	0.00	**3.17**	0.00	0.00	0.00	**0.00**	**3.17**	**0.00**
		Direct Temporary	0.00	5.00	27.56	**32.56**	0.00	0.00	**0.00**	0.00	225.60	8.54	**234.14**	**32.56**	**266.70**
		Subtotal	0.00	5.00	27.56	**32.56**	3.17	0.00	**3.17**	0.00	225.60	8.54	**234.14**	**35.73**	**266.70**
	Foraging: BAR, AGS, FAF, FIC, INA, PAS, ROC, RUD, SEW, TRC	Direct Permanent	2.99	0.00	0.00	**2.99**	32.88	44.67	**77.55**	44.81	0.00	0.00	**44.81**	**80.54**	**47.80**
		Direct Temporary	0.00	54.69	16.78	**71.47**	0.00	0.00	**0.00**	1.33	163.25	13.68	**178.26**	**71.47**	**249.73**
		Subtotal	2.99	54.69	16.78	**74.46**	32.88	44.67	**77.55**	46.14	163.25	13.68	**223.07**	**152.01**	**297.53**
	Nesting/Foraging: TRC	Direct Permanent	0.00	0.00	0.00	**0.00**	1.08	0.74	**1.82**	4.02	0.00	0.00	**4.02**	**1.82**	**4.02**
		Direct Temporary	0.00	6.20	0.02	**6.22**	0.00	0.00	**0.00**	0.10	2.43	2.80	**5.33**	**6.22**	**11.55**
		Subtotal	0.00	6.20	0.02	**6.22**	1.08	0.74	**1.82**	4.12	2.43	2.80	**9.35**	**8.04**	**15.57**
		Total	**5.98**	**125.58**	**44.36**	175.92	**37.13**	**45.41**	82.54	**50.26**	**391.28**	**25.02**	466.56	258.46	642.48
Greater sandhill crane	Foraging: AGS, FAF, FIC, FWM, INA, PAS,RFW, ROC, RUD, SEW	Direct Permanent	2.99	0.00	0.00	**2.99**	32.88	44.67	**77.55**	44.81	0.00	0.00	**44.81**	**80.54**	**47.80**
		Direct Temporary	0.00	14.86	7.81	**22.67**	0.00	0.00	**0.00**	1.32	159.56	11.07	**171.95**	**22.67**	**194.62**
		Total	**2.99**	**14.86**	**7.81**	25.66	**32.88**	**44.67**	77.55	**46.13**	**159.56**	**11.07**	216.76	103.21	242.42
Western snowy plover (interior	Foraging: BAR, AGS, FAF, FIC, INA, PAS,	Direct Permanent	2.99	0.00	0.00	**2.99**	32.88	44.67	**77.55**	44.81	0.00	0.00	**44.81**	**80.54**	**47.80**
		Direct Temporary	0.00	50.28	10.17	**60.45**	0.00	0.00	**0.00**	1.32	163.17	13.71	**178.20**	**60.45**	**238.65**

Species Group and Species	Associated Land Cover Type	Effect Type	Component (acres)												
			Site - 6 El Nido				Site - 7 Wilson			Site - 7 Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
			El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
population)	RFW, ROC, RUD	**Total**	**2.99**	**50.28**	**10.17**	**63.44**	**32.88**	**44.67**	**77.55**	**46.13**	**163.17**	**13.71**	**223.01**	**140.99**	**286.45**
Least Bell's vireo	Nesting: MIR, OTR, PFW	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Subtotal	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
	Foraging: FWM, MIR, NAW, OTR, PFW	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Subtotal	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Tricolored blackbird	Nesting: COW, NAW, OPW	Direct Permanent	0.00	0.00	0.00	**0.00**	0.07	0.16	**0.23**	0.00	0.00	0.00	**0.00**	**0.23**	**0.00**
		Direct Temporary	0.00	1.02	0.18	**1.20**	0.00	0.00	**0.00**	0.00	0.14	0.03	**0.17**	**1.20**	**1.37**
		Subtotal	0.00	1.02	0.18	**1.20**	0.07	0.16	**0.23**	0.00	0.14	0.03	**0.17**	**1.43**	**1.37**
	Foraging: AGS, DAI, INA, MIR, OTR, PAS, VP	Direct Permanent	0.00	0.00	0.00	**0.00**	2.85	0.00	**2.85**	0.34	0.00	0.00	**0.34**	**2.85**	**0.34**
		Direct Temporary	0.00	3.68	2.71	**6.39**	0.00	0.00	**0.00**	0.50	66.35	1.29	**68.14**	**6.39**	**74.53**
		Subtotal	0.00	3.68	2.71	**6.39**	2.85	0.00	**2.85**	0.84	66.35	1.29	**68.48**	**9.24**	**74.87**
	Nesting/Foraging: FIC, FRM, SEW	Direct Permanent	2.54	0.00	0.00	**2.54**	21.99	30.29	**52.28**	44.47	0.00	0.00	**44.47**	**54.82**	**47.01**
		Direct Temporary	0.00	5.01	1.31	**6.32**	0.00	0.00	**0.00**	0.82	38.42	6.31	**45.55**	**6.32**	**51.87**
		Subtotal	2.54	5.01	1.31	**8.86**	21.99	30.29	**52.28**	45.29	38.42	6.31	**90.02**	**61.14**	**98.88**
		Total	**2.54**	**9.71**	**4.20**	**16.45**	**24.91**	**30.45**	**55.36**	**46.13**	**104.91**	**7.63**	**158.67**	**71.81**	**175.12**
Western burrowing owl	Nesting/Foraging: BAR, AGS, COI, COW, INA, ORC, RUD, RUR, TRC, URB	Direct Permanent	0.45	0.00	0.00	**0.45**	27.29	15.64	**42.93**	4.36	0.00	0.00	**4.36**	**43.38**	**4.81**
		Direct Temporary	0.00	63.29	34.02	**97.31**	0.00	0.00	**0.00**	0.60	317.98	15.34	**333.92**	**97.31**	**431.23**
		Total	**0.45**	**63.29**	**34.02**	**97.76**	**27.29**	**15.64**	**42.93**	**4.96**	**317.98**	**15.34**	**338.28**	**140.69**	**436.04**
Special-status ground nesting	Nesting/Foraging: BAR, AGS, FAF, FIC, FWM,	Direct Permanent	2.99	0.00	0.00	**2.99**	26.70	45.39	**72.09**	48.83	0.00	0.00	**48.83**	**75.08**	**51.82**
		Direct Temporary	0.00	58.45	6.73	**65.18**	0.00	0.00	**0.00**	1.42	165.69	13.67	**180.78**	**65.18**	**245.96**

Species Group and Species	Associated Land Cover Type	Effect Type	Component (acres)												
			Site - 6 El Nido				Site - 7 Wilson			Site - 7 Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
			El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
bird species	INA, PAS, RUD, SEW, TRC	**Total**	**2.99**	**58.45**	**6.73**	**68.17**	**26.70**	**45.39**	**72.09**	**50.25**	**165.69**	**13.67**	**229.61**	**140.26**	**297.78**
Special-status wading bird/shorebird/ duck species	Nesting: COB, COW, FWM, MIR, NAW, OPW, OTR, PFW, PAS, SEW	Direct Permanent	2.99	0.00	0.00	**2.99**	32.94	44.83	**77.77**	44.81	0.00	0.00	**44.81**	**80.76**	**47.80**
	Foraging: BAR, AGS, COB, COW, FAF, FIC, FWM, INA, MIR, NAW, OPW, OTR, PFW, PAS, RFW, ROC, RUD, SEW, VP	Direct Temporary	0.00	55.71	16.89	**72.60**	0.00	0.00	**0.00**	1.32	163.41	13.71	**178.44**	**72.60**	**251.04**
		Total	**2.99**	**55.71**	**16.89**	**75.59**	**32.94**	**44.83**	**77.77**	**46.13**	**163.41**	**13.71**	**223.25**	**153.36**	**298.84**
Special-status tree-nesting bird species	Nesting: EUC, MIR, ORC, OTR, PFW, TRC	Direct Permanent	2.99	0.00	0.00	**2.99**	37.13	45.41	**82.54**	48.83	0.00	0.00	**48.83**	**85.53**	**51.82**
	Foraging: AGS, FAF, FIC, FWM, INA, MIR, ORC, OTR, PFW, PAS, ROC, RUD, SEW, TRC	Direct Temporary	0.00	25.94	42.20	**68.14**	0.00	0.00	**0.00**	1.42	387.58	22.40	**411.40**	**68.14**	**479.54**
		Total	**2.99**	**25.94**	**42.20**	**71.13**	**37.13**	**45.41**	**82.54**	**50.25**	**387.58**	**22.40**	**460.23**	**153.67**	**531.36**
Mammals															
Pallid bat	Roosting: MIR, OTR, PFW, Foraging: BAR, AGS, COI, COB, COW, DAI, EUC,FAF, FIC, FWM, INA, MIR, NAW, OPW, ORC, OTR, PFW, PAS, ROC, RUD, SEW, TRC,	Direct Permanent	2.99	0.00	0.00	**2.99**	57.40	45.93	**103.33**	48.83	0.00	0.00	**48.83**	**106.32**	**51.82**
		Direct Temporary	0.00	78.60	46.69	**125.29**	0.00	0.00	**0.00**	1.42	400.51	25.91	**427.84**	**125.29**	**553.13**
		Total	**2.99**	**78.60**	**46.69**	**128.28**	**57.40**	**45.93**	**103.33**	**50.25**	**400.51**	**25.91**	**476.67**	**231.61**	**604.95**

Species Group and Species	Associated Land Cover Type	Effect Type	Component (acres)												
			Site - 6 El Nido				Site - 7 Wilson			Site - 7 Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
			El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
	URB, VP, VIN														
Western red bat	Roosting: MIR, OTR, PFW	Direct Permanent	2.99	0.00	0.00	**2.99**	57.40	45.93	**103.33**	48.83	0.00	0.00	**48.83**	**106.32**	**51.82**
	Foraging: BAR, AGS, COI, COB, COW, DAI, EUC, FAF, FIC, FWM, INA, MIR, NAW, OPW, ORC, OTR, PFW, PAS, ROC, RUD, SEW, TRC, URB,VP, VIN	Direct Temporary	0.00	78.60	46.69	**125.29**	0.00	0.00	**0.00**	1.42	400.51	25.91	**427.84**	**125.29**	**553.13**
		Total	**2.99**	**78.60**	**46.69**	**128.28**	**57.40**	**45.93**	**103.33**	**50.25**	**400.51**	**25.91**	**476.67**	**231.61**	**604.95**
Western mastiff bat	Foraging: BAR, AGS, COI, COB, COW, DAI, EUC, FAF, FIC, FWM, INA, MIR, NAW, OPW, ORC, OTR, PFW, PAS, ROC, RUD, RUR, SEW, TRC, URB,VP, VIN	Direct Permanent	2.99	0.00	0.00	**2.99**	57.40	45.93	**103.33**	48.83	0.00	0.00	**48.83**	**106.32**	**51.82**
		Direct Temporary	0.00	78.60	46.69	**125.29**	0.00	0.00	**0.00**	1.42	400.51	25.91	**427.84**	**125.29**	**553.13**
		Total	**2.99**	**78.60**	**46.69**	**128.28**	**57.40**	**45.93**	**103.33**	**50.25**	**400.51**	**25.91**	**476.67**	**231.61**	**604.95**
Townsend's big-eared bat	Roosting/Foraging: MIR, OTR	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Ringtail	MIR, OTR, PFW	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
American badger	BAR, AGS, INA, MIR, OTR, PAS, RUD	Direct Permanent	0.45	0.00	0.00	**0.45**	3.93	14.38	**18.31**	0.34	0.00	0.00	**0.34**	**18.76**	**0.79**
		Direct Temporary	0.00	46.15	5.39	**51.54**	0.00	0.00	**0.00**	0.00	81.19	4.54	**85.73**	**51.54**	**137.27**
		Total	**0.45**	**46.15**	**5.39**	**51.99**	**3.93**	**14.38**	**18.31**	**0.34**	**81.19**	**4.54**	**86.07**	**70.30**	**138.06**

Species Group and Species	Associated Land Cover Type	Effect Type	Component (acres)												
			Site - 6 El Nido				Site - 7 Wilson			Site - 7 Le Grand Junction/Sandy Mush Road				Total Site 6 – El Nido and Site 7 – Wilson	Total Site 6 – El Nido and Site 7 – Le Grand Junction/Sandy Mush Road
			El Nido Substation	Los Banos – Oro Loma – Canal 70 kV Power Line	Oro Loma – Panoche Junction 115 kV Power Line	Total	230 kV Tie-Line	Additional Study Area	Total	Dutchman Switching Station and 115 kV Tie-Line	Warnerville – Wilson 230 kV Transmission Line	Wilson – Dairyland (idle) 115 kV Power Line	Total		
San Joaquin kit fox	Denning: COW	Direct Permanent	0.00	0.00	0.00	**0.00**	0.07	0.16	**0.23**	0.00	0.00	0.00	**0.00**	**0.23**	**0.00**
		Direct Temporary	0.00	0.97	0.00	**0.97**	0.00	0.00	**0.00**	0.00	0.85	0.00	**0.85**	**0.97**	**1.82**
		Subtotal	*0.00*	*0.97*	*0.00*	**0.97**	*0.07*	*0.16*	**0.23**	*0.00*	*0.85*	*0.00*	**0.85**	**1.20**	**1.82**
	Denning and Movement: AGS, COW, PAS, RUD	Direct Permanent	0.00	0.00	0.00	**0.00**	2.85	0.00	**2.85**	0.34	0.00	0.00	**0.34**	**2.85**	**0.34**
		Direct Temporary	0.00	6.86	0.00	**6.86**	0.00	0.00	**0.00**	0.50	63.06	0.72	**64.28**	**6.86**	**71.14**
		Subtotal	*0.00*	*6.86*	*0.00*	**6.86**	*2.85*	*0.00*	**2.85**	*0.84*	*63.06*	*0.72*	**64.62**	**9.71**	**71.48**
	Movement: BAR, INA, ORC, ROC, RUD	Direct Permanent	0.45	0.00	0.00	**0.45**	4.16	14.38	**18.54**	0.00	0.00	0.00	**0.00**	**18.99**	**0.45**
		Direct Temporary	0.00	47.18	36.57	**83.75**	0.00	0.00	**0.00**	0.00	243.02	12.45	**255.47**	**83.75**	**339.22**
		Subtotal	*0.45*	*47.18*	*36.57*	**84.20**	*4.16*	*14.38*	**18.54**	*0.00*	*243.02*	*12.45*	**255.47**	**102.74**	**339.67**
		Total	**0.45**	**55.01**	**36.57**	**92.03**	**7.08**	**14.54**	**21.62**	**0.84**	**306.93**	**13.17**	**320.94**	**113.65**	**412.97**
Giant Kangaroo Rat	AGS, within species range	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	0.06	0.00	**0.06**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.06**	**0.06**
		Total	**0.00**	**0.06**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.06**
Nelson's antelope squirrel	AGS,VSS within range	Direct Permanent	0.00	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
		Direct Temporary	0.00	4.26	0.00	**4.26**	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**	**4.26**	**4.26**
		Total	**0.00**	**4.26**	**0.00**	**4.26**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.26**	**4.26**

REFERENCES

Bolster 1998.

California Department of Fish and Wildlife. (CDFW). 2016. California Natural Diversity Database (CNDDB). Commercial version dated February 28, 2016. Biogeographic Data Branch, Sacramento, CA. (Accessed on August 8, 2016).

Authority 2012

California High-Speed Rail Authority and Federal Railroad Administration (Authority and FRA). [2009]. 2011. *Central Valley Biological Resources and Wetlands Survey Plan*. San Jose to Merced Section. Merced to Fresno Section. Fresno to Bakersfield Section. Prepared by: URS/HMM/Arup Joint Venture, CH2M Hill, and ICF Jones and Stokes.

Authority and FRA 2012

———. 2016. *Merced to Fresno: Central Valley Wye Biological Resources and Wetlands Technical Report*. Sacramento, CA and Washington, D.C. Prepared by ICF International.

California Native Plant Society (CNPS), Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). Sacramento, CA. Available: http://www.rareplants.cnps.org. Accessed: August 4, 2016.

Cowardin, L.M., V. Carter, F. Golet, and E. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Northern Prairie Wildlife Research Center Online. Washington, D.C., Jamestown, ND. http://pubs.er.usgs.gov/publication/2000106. Version 04DEC1998.

Holland, R.F. and C.L. Roye. 1988. *Great Valley Mixed Riparian Habitats and the National Registry of National Landmarks*. Presented at the California Riparian Systems Conference. September 22 – 24, 1988; Davis, CA

Holland, Robert F. 1986. Preliminary descriptions of the terrestrial natural communities of California. California Department of Fish and Game, Sacramento, CA.

Mayer, Kenneth E and William F. Laudenslayer, Jr. 1988. *A Guide to Wildlife Habitats of California.* California Forestry Department.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation*, 2nd Edition. California Native Plant Society, Sacramento, CA.

Spencer, W. D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California.* Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration. February. www.wildcalifornia.org/wp-content/uploads/2014/04/CEHC_Plan_MASTER_030210_3-reduced.pdf.

United States Fish and Wildlife Service. 2016. U.S. Critical Habitat Data. http://ecos.fws.gov/crithab/ (Accessed July 14, 2016).

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1990. *California's Wildlife.* Vol. I-III. California Depart. of Fish and Game, Sacramento, California. Updated 2014.

Appendix A
Habitat and Land Cover Types in the Site 6 and 7 Study Area

Appendix B
Special-status Plant and Wildlife Species Tables

Table B-1: Special-status Plants with the Potential to Occur in the Site 6 and 7 Study Area

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Alismataceae						
Sagittaria sanfordii Sanford's arrowhead	—	—	1B.2	Moderate: Potentially suitable freshwater marsh habitats are present in the special-status plant study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable freshwater marsh habitat within the special-status plant study area.	Moderate: Potentially suitable freshwater marsh habitats are present in the special-status plant study area. CNDDB reports 2 occurrences within 10 miles of the project footprint (CDFW 2016).
Apiaceae						
Eryngium racemosum Delta button-celery	—	E	1B.1	Unlikely: No potentially suitable riparian habitat within the special-status plant study area.	Unlikely: No potentially suitable riparian habitat within the special-status plant study area.	High: Potentially suitable riparian habitats are present in the special-status plant study area. CNDDB reports 2 occurrences within 10 miles of the project footprint (CDFW 2016).
Eryngium spinosepalum Spiny-sepaled button-celery	—	—	1B.2	Unlikely: No potentially suitable vernal pool habitat present in the plant study area. CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable vernal pool or California annual grassland habitat within the special-status plant study area.	High: Potentially suitable vernal pool and California annual grassland habitat within the special-status plant study area and 17 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.
Asteraceae						
Calycadenia hooveri Hoover's calycadenia	—	—	1B.3	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area.	High: Potentially suitable California annual grassland habitat within the special-status plant study area and 9 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Deinandra halliana Hall's tarplant	—	—	1B.1	High: Potentially suitable California annual grassland and valley sink scrub habitat within the special-status plant study area and 3 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland or valley sink scrub habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland is present in the special-status plant study area, however CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).
Lagophylla dichotoma Forked hare-leaf	—	—	1B.1	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area.	Moderate: Potentially suitable California annual grassland habitat within the special-status plant study area and 3 historic (1938 or older) presumed extant CNDDB reported occurrences within 10 miles of the project footprint.
Layia heterotricha Pale-yellow layia	—	—	1B.1	Unlikely: Potentially suitable California annual grassland habitat within the special-status plant study area and one presumed extant CNDDB reported occurrence within 10 miles of the project footprint, however project footprint is below species elevational range 300-1705 meters.	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area, however CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).
Layia munzii Munz's tidy-tips	—	—	1B.2	High: Potentially suitable California annual grassland habitat within the special-status plant study area and 3 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area, however CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).
Madia radiata Showy golden madia	—	—	1B.1	High: Potentially suitable California annual grassland habitat within the special-status plant study area and 4 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area, however CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Monolopia congdonii San Joaquin woollythreads	E	—	1B.2	High: Potentially suitable California annual grassland and valley sink scrub habitat within the special-status plant study area and 5 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland or valley sink scrub habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland is present in the special-status plant study area, however CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).
Pseudobahia bahiifolia Hartweg's golden sunburst	E	E	1B.1	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area.	Moderate: Potentially suitable California annual grassland habitat within the special-status plant study area and 2 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.
Senecio aphanactis Chaparral ragwort	—	—	2B.2	Low: Marginally suitable valley sink scrub habitat is present within the special-status plant study area and 1 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable habitat within the special-status plant study area.	Unlikely: No potentially suitable habitat is present in the special-status plant study area. CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).
Boraginaceae						
Cryptantha hooveri Hoover's cryptantha	—	—	1A	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016). This species is presumed to be extirpated from California (Authority and FRA 2012)	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area. This species is presumed to be extirpated from California (Authority and FRA 2012)	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. CNDDB reports 2 presumed extant, historical (1939) occurrences within 10 miles of the project footprint (CDFW 2016). This species is presumed to be extirpated from California (Authority and FRA 2012)

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Phacelia ciliata var. *opaca* Merced phacelia	—	—	3.2	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area.	High: Potentially suitable California annual grassland habitat within the special-status plant study area and 7 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.
Brassicaceae						
Caulanthus lemmonii Lemmon's jewelflower	—	—	1B.2	Moderate: Potentially suitable California annual grassland habitat within the special-status plant study area and 2 presumed extant CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).
Lepidium jaredii ssp. album Panoche pepper-grass	—	—	1B.2	Unlikely: Potentially suitable California annual grassland present in the special-status plant study area CNDDB reports 10 presumed extant occurrences within 10 miles of the project footprint (CDFW 2016). However, the project footprint is below the elevational range of the species, 185-275 meters.	Unlikely: No potentially suitable coastal scrub habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat present in the special-status plant study area, no CNDDB reported occurrences within 10 miles of the project footprint (CDFW 2016).
Streptanthus insignis ssp. *lyonii* Arburua Ranch jewelflower	—	—	1B.2	Unlikely: No Potentially suitable costal scrub present in the special-status plant study area CNDDB reports 5 extant occurrences within 10 miles of the project footprint (CDFW 2016), the project footprint is below the elevational range of the species, 230-855 meters.	No Potential: No potentially suitable coastal scrub habitat within the special-status plant study area, and the project footprint is below the elevational range of the species, 230-855 meters.	Unlikely: No potentially suitable coast scrub habitat present in the special-status plant study area, no CNDDB reported occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Campanulaceae						
Downingia pusilla Dwarf downingia	—	—	2B.2	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable California annual grassland or vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool and California annual grassland habitat within the special-status plant study area and 8 extant CNDDB reported occurrences within 10 miles of the project footprint.
Legenere limosa Legenere	—	—	1B.1	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	Unlikely: Potentially suitable vernal pool habitat is present in the special-status plant study area. However, CNDDB reports only one extirpated occurrence within 10 miles of the project footprint (CDFW 2016). This location and all extant records in the CNDDB are north of the project footprint.
Chenopodiaceae						
Atriplex cordulata var. *cordulata* Heartscale	—	—	1B.2	Unlikely: Potentially suitable valley sink scrub habitat within the special-status plant study area for the Los Banos – Oro Loma – Canal 70 kV Power Line area; however, there are no extant CNDDB reported occurrences within 10 miles of the project footprint. There are extant CNDDB occurrences within 10 miles of the EL Nido Substation project footprint; however, there is no suitable habitat at that location.	Unlikely: No potentially suitable valleys sink scrub or California annual grassland within the special-status plant study area.	High: Potentially suitable California annual grassland habitat within the special-status plant study area and five extant CNDDB reported occurrences within 10 miles of the project footprint.
Atriplex coronata var. vallicola Lost Hills crownscale	—	—	1B.2	High: Potentially suitable California annual grassland and valley sink scrub habitat within the special-status plant study area and 8 extant CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable valley sink scrub California annual grassland or vernal pool habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Atriplex minuscula Lesser saltscale	—	—	1B.1	Unlikely: Potentially suitable California annual grassland and valley sink scrub habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable valleys sink scrub or California annual grassland within the special-status plant study area.	High: Potentially suitable California annual grassland habitat within the special-status plant study area and five extant CNDDB reported occurrences within 10 miles of the project footprint.
Atriplex persistens Vernal pool smallscale	—	—	1B.2	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool habitat is present in the special-status plant study area. CNDDB reports three presumably extant occurrences within 10 miles of the project footprint (CDFW 2016).
Atriplex subtilis Subtle orache	—	—	1B.2	High: Potentially suitable California annual grassland habitat within the special-status plant study area and one extant CNDDB reported occurrence within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).
Convolvulaceae						
Cuscuta obtusiflora var. glandulosa Peruvian dodder	—	—	2B.2	Unlikely: Potentially suitable freshwater marsh habitat within the special-status plant study area; however, no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable freshwater marsh habitat within the special-status plant study area.	Moderate: Potentially suitable freshwater marsh habitat is present in the special-status plant study area. CNDDB reports one presumed extant historic (1948) occurrence within 10 miles of the project footprint (CDFW 2016).
Euphorbiaceae						
Euphorbia hooveri Hoover's spurge	T	—	1B.2	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool habitat is present in the special-status plant study area. CNDDB reports two occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Geraniaceae						
California macrophylla Round-leaved filaree	—	—	1B.2	High: Potentially suitable California annual grassland habitat within the special-status plant study area and 4 CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland within the special-status plant study area.	Moderate: Potentially suitable California annual grassland habitats are present in the special-status plant study area. CNDDB reports one presumed extant historical (1915) occurrence within 10 miles of the project footprint (CDFW 2016).
Lamiaceae						
Monardella leucocephala Merced monardella	—	—	1A	Unlikely: Potentially suitable California annual grassland habitat within the special-status plant study area; however, no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat is present in the special-status plant study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016), and the species is presumed to be extirpated in California (Authority and FRA 2012)
Malvaceae						
Sidalcea keckii Keck's checkerbloom	E	—	1B.1	Unlikely: Potentially suitable California annual grassland habitat within the special-status plant study area; however, no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland within the special-status plant study area.	High: Potentially suitable California annual grassland habitat is present in the special-status plant study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).
Onagraceae						
Clarkia rostrata Beaked clarkia	—	—	1B.3	Unlikely: Potentially suitable California annual grassland habitat within the special-status plant study area; however, no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland within the special-status plant study area.	High: Potentially suitable California annual grassland habitat is present in the special-status plant study area. CNDDB reports 9 occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Orobanchaceae						
Castilleja campestris subsp. *Succulenta* Succulent owl's-clover	T	E	1B.2	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool habitats are present in the special-status plant study area. CNDDB reports 56 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Chloropyron palmatum palmate-bracted bird's-beak	E	E	1B.1	High: Potentially suitable valley sink scrub habitat within the special-status plant study area and 3 CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat within the special-status plant study area; however, no CNDDB reported occurrences within 10 miles of the project footprint.
Chloropyron molle subsp. *hispidum* Hispid bird's-beak	—	—	1B.1	High: Potentially suitable California annual grassland habitat within the special-status plant study area and 9 CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat within the special-status plant study area; however, no CNDDB reported occurrences within 10 miles of the project footprint
Plantaginaceae						
Gratiola heterosepala Boggs Lake hedge-hyssop	—	E	1B.2	Unlikely: Potentially suitable freshwater marsh habitat within the special-status plant study area; however, no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable freshwater marsh habitat within the special-status plant study area.	High: Potentially suitable vernal pool and freshwater marsh habitats are present in the special-status plant study area. CNDDB reports one extant occurrence within 10 miles of the project footprint (CDFW 2016).
Poaceae						
Agrostis hendersonii Henderson's bent grass	—	—	3.2	Unlikely: Potentially suitable California annual grassland habitat within the special-status plant study area; however, no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland or vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool habitats are present in the special-status plant study area. CNDDB reports 4 extant occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Neostapfia colusana Colusa grass	T	E	1B.1	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool habitats are present in the special-status plant study area. CNDDB reports 33 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Orcuttia inaequalis San Joaquin Valley Orcutt grass	T	E	1B.1	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area and no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool habitats are present in the special-status plant study area. CNDDB reports 18 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Orcuttia pilosa Hairy orcutt grass	T	E	1B.1	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area and no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool habitats are present in the special-status plant study area. CNDDB reports one extant and 7 extirpated occurrences within 10 miles of the project footprint (CDFW 2016).
Puccinellia simplex California alkali grass	—	—	1B.2	High: Potentially suitable valley sink scrub habitat is present in the special-status plant study area of the Los Banos – Oro Loma – Canal 70 kV Power Line. CNDDB reports 2 extant occurrences within 10 miles of the project footprint (CDFW 2016). No potential suitable California annual grassland or vernal pool habitat in the El Nido substation project footprint which is within 10 miles of a CNDDB reported occurrence (CDFW 2016).	Unlikely: No potentially suitable habitat within the special-status plant study area.	Unlikely: California annual grassland and vernal pool habitat is present; however, this species requires alkaline sinks and flats, and alkaline soil conditions, which are not present along this section of the study area.
Tuctoria greenei Greene's tuctoria	E	—	1B.1	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area and no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool habitats are present in the special-status plant study area. CNDDB reports 9 extant occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Polemoniaceae						
Navarretia myersii ssp. myersii Pincushion navarretia	—	—	1B.1	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area and no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable vernal pool habitat within the special-status plant study area.	High: Potentially suitable vernal pool habitats are present in the special-status plant study area. CNDDB reports 4 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Navarretia nigelliformis subsp. *radians* Shining navarretia	—	—	1B.2	Unlikely: Potentially suitable California annual grassland habitat within the special-status plant study area and no CNDDB reported occurrences within 10 miles of the project footprint.	Unlikely: No potentially suitable California annual grassland or vernal pool habitat within the special-status plant study area.	High: Potentially suitable California annual grassland and vernal pool habitats are present in the special-status plant study area. CNDDB reports 29 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Navarretia prostrata Prostrate vernal pool navarretia	—	—	1B.1	Unlikely: No potentially suitable mesic, alkaline grassland habitat is present within the special-status plant study area.	Unlikely: No potentially suitable California annual grassland or vernal pool habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland habitat within the special-status plant study area and no CNDDB reported occurrences within 10 miles of the project footprint.
Polygonaceae						
Eriogonum temblorense Temblor buckwheat	—	—	1B.2	Unlikely: Potentially suitable California annual grassland present in the special-status plant study area CNDDB reports one extant occurrence within 10 miles of the project footprint (CDFW 2016). However, the project footprint is below the elevational range of the species, 300-1000 meters.	Unlikely: No potentially suitable California annual grassland habitat within the special-status plant study area.	Unlikely: Potentially suitable California annual grassland present in the special-status plant study area; however, there are no CNDDB reported occurrences within 10 miles of the project footprint (CDFW 2016). The project footprint is below the elevational range of the species, 300-1000 meters.

Common Name Scientific Name	Federal Status[1]	State Status[2]	CNPS[3]	Potential to Occur[4]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Ranunculaceae						
Delphinium recurvatum Recurved larkspur	—	—	1B.2	High: Potentially suitable California annual grassland and valley sink scrub habitats are present in the special-status plant study area. CNDDB reports eight extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable California annual grassland or valley sink scrub habitat within the special-status plant study area.	High: Potentially suitable California annual grassland habitats are present in the special-status plant study area. CNDDB reports nine extant occurrences within 3 miles of the project footprint (CDFW 2016).

Notes:

Federal Status[1]:

E Endangered (legally protected by ESA)

T Threatened (legally protected by ESA)

State Status[2]:

E Endangered (legally protected by CESA)

Potential to Occur[4]

High: RSA is in species range; occurrences present within 10 miles of RSA; habitat present in RSA

Moderate: RSA is on margin of species range and occurrences present within 10 miles of RSA, or RSA is in species range and only historic

occurrences present within 10 miles of RSA; habitat present in RSA

Low: RSA is in species range; no occurrences present within 10 miles of RSA; habitat present in RSA

None: RSA is outside of species range or no habitat present in RSA

RSA = Resource study area

California Rare Plant Ranks[3]:

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

2 Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

3 Plants about which more information is needed - A Review List (generally not protected under CEQA, not legally protected under ESA or CESA)

4 Plants of Limited Distribution - A Watch List (generally not protected under CEQA, not legally protected under ESA or CESA)

Threat Ranks

0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

CNDDB = California Natural Diversity Database

Source: Authority and FRA 2012, CDFW 2016, CNPS 2016

Table B-2: Special-Status Animal Species with Potential to Occur in the Special-Status Animal Study Area by Component

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Invertebrates						
Conservancy fairy shrimp	*Branchinecta conservatio*	E	—	Unlikely: No potentially suitable vernal pool habitat within the special-status animal study area.	Unlikely: No potentially suitable vernal pool habitat within the special-status animal study area.	High: Potentially suitable vernal pool habitats are present in the special-status animal study area. CNDDB reports 8 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Longhorn fairy shrimp	*Branchinecta longiantenna*	E	—	Unlikely: No potentially suitable vernal pool habitat within the special-status animal study area.	Unlikely: No potentially suitable vernal pool habitat within the special-status animal study area.	Unlikely: Potentially suitable vernal pool habitats are present in the special-status animal study area; however, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016), and the project footprint is outside of the known range of the species.
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	—	Unlikely: No potentially suitable vernal pool habitat within the special-status animal study area.	Unlikely: No potentially suitable vernal pool habitat within the special-status animal study area.	High: Potentially suitable vernal pool habitats are present in the special-status animal study area. CNDDB reports 145 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	—	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Moderate: Potentially suitable riparian habitats are present in the special-status animal study area, although presence of elderberry plants is unknown. CNDDB reports 11 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Vernal pool tadpole shrimp	*Lepidurus packardi*	E	—	Unlikely: No potentially suitable vernal pool habitat within the special-status animal study area.	Unlikely: No potentially suitable vernal pool habitat within the special-status animal study area.	High: Potentially suitable vernal pool habitats are present in the special-status animal study area. CNDDB reports 38 extant occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Fish						
Steelhead - Central Valley DPS	*Oncorhynchus mykiss irideus*	T	—	Unlikely: No potentially suitable natural watercourse habitat within the special-status animal study area.	Unlikely: No potentially suitable natural watercourse habitat within the special-status animal study area.	High: Potentially suitable natural watercourse habitats are present in the special-status animal study area. CNDDB reports 4 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Hardhead	*Mylopharodon conocephalus*	—	SSC	Unlikely: No potentially suitable natural watercourse habitat within the special-status animal study area.	Unlikely: No potentially suitable natural watercourse habitat within the special-status animal study area.	High: Potentially suitable natural watercourse habitats are present in the special-status animal study area. CNDDB reports 8 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Amphibian						
California tiger salamander	*Ambystoma californiense*	T	T	Unlikely: No potentially suitable seasonal wetland or vernal pool-breeding habitat within the special-status animal study area.	Unlikely: No potentially suitable seasonal wetland or vernal pool-breeding habitat within the special-status animal study area.	High: Potentially suitable seasonal wetland and vernal pool breeding habitats and associated upland habitats are present in the special-status animal study area. CNDDB reports 63 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Foothill yellow-legged frog	*Rana boylii*	—	SSC	Unlikely: No potentially suitable natural watercourse habitat within the special-status animal study area. CNDDB reports one extant occurrence within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable natural watercourse habitat within the special-status animal study area.	Unlikely: Potentially suitable natural watercourse habitats are present in the special-status animal study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016), and the project footprint is outside of the known range of the species (Zeiner et al. 1990).

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
California red-legged frog	*Rana draytonii*	T	SSC	Low: Potentially suitable freshwater marsh habitat within the special-status animal study area. CNDDB reports 4 extant occurrences within 10 miles of the project footprint (CDFW 2016). However, freshwater marsh habitat in the RSA is greater than 10 miles from these known occurrences and the project is outside of the known range of the species.	Unlikely: No potentially suitable natural watercourse habitat within the special-status animal study area.	Unlikely: Potentially suitable freshwater marsh present in the special-status animal study area. However, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).
Western spadefoot	*Spea hammondii*	—	SSC	Unlikely: No potentially suitable seasonal wetland or vernal pool breeding habitat or associated upland habitat within the special-status animal study area.	Unlikely: No potentially suitable seasonal wetland or vernal pool breeding or associated upland habitat within the special-status animal study area.	High: Potentially suitable seasonal wetland and vernal pool habitats and associated upland habitats are present in the special-status animal study area. CNDDB reports 22 extant occurrences within 10 miles of the project footprint (CDFW 2016).
Reptiles						
Western pond turtle	*Actinemys marmorata*	—	SSC	Moderate: Potentially suitable constructed watercourse habitat and small freshwater marsh (0.01 acres) in the Panoche area are present in the special-status animal study area; however, these constructed watercourses and lack vegetative cover or suitable basking sites. CNDDB reports 7 extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: Potentially suitable constructed watercourse habitat within the special-status animal study area; however, these watercourses have no vegetative cover or suitable basking sites. CNDDB reports one extant occurrence within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable freshwater marsh, natural watercourse and constructed watercourse and associated upland habitat within the special-status animal study area. CNDDB reports 9 extant occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Silvery legless lizard	*Anniella pulchra*	—	SSC	High: Potentially suitable habitats with sparse vegetative cover are present in the special-status animal study area (e.g., valley sink scrub, California annual grassland, pasture, fallow field). CNDDB reports one extant occurrence within 10 miles of the project footprint (CDFW 2016).	Unlikely: Potentially suitable habitats with sparse vegetative cover are present in the special-status animal study area (e.g., pasture); however, CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable habitats with sparse vegetative cover are present in the special-status animal study area (e.g., California annual grassland, pasture, fallow field). CNDDB reports one extant occurrence within 10 miles of the project footprint (CDFW 2016).
Blunt-nosed leopard lizard	*Gambelia sila*	E	E	High: Potentially suitable habitats with sparse vegetative cover are present in the special-status animal study area (e.g., valley sink scrub). CNDDB reports 14 extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: Potentially suitable valley sink scrub habitats with sparse vegetative cover are not present in the special-status animal study area. CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Moderate: No potentially suitable valley sink scrub habitat is present in special-status animal study area, although other habitats with sparse vegetative cover are present in the special-status animal study area (e.g., California annual grassland, pasture, fallow field), and CNDDB reports 7 extant occurrences within 10 miles of the project footprint (CDFW 2016).
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	—	SSC	High: Potentially suitable California annual grassland and valley sink scrub habitats are present in the special-status animal study area. CNDDB reports 13 extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: Potentially suitable California annual grassland and valley sink scrub habitats are not present in the special-status animal study area. CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: Potentially suitable California annual grassland habitat is present in special-status animal study area, although CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Coast horned lizard	*Phrynosoma blainvillii*	—	SSC	High: Potentially suitable California annual grassland and valley sink scrub habitats are present in the special-status animal study area. CNDDB reports one extant occurrence within 10 miles of the project footprint (CDFW 2016).	Unlikely: Potentially suitable California annual grassland and valley sink scrub habitats are not present in the special-status animal study area. CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: Potentially suitable California annual grassland habitat is present in special-status animal study area, although CNDDB reports no extant occurrences within 10 miles of the project footprint (CDFW 2016).
giant garter snake	*Thamnophis gigas*	T	T	Moderate: Potentially suitable constructed watercourse habitat, rice fields and small freshwater marsh (0.01 acres) in the Panoche area are present in the special-status animal study area; however, the constructed watercourses and lack vegetative cover. CNDDB reports 11 extant occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: Potentially suitable constructed watercourse habitat within the special-status animal study area; however, these watercourses have no vegetative cover or suitable basking sites. CNDDB reports one historic (1908) possibly extirpated occurrence within 10 miles of the project footprint (CDFW 2016).	Low: Potentially suitable freshwater marsh, natural watercourse and constructed watercourse and associated upland habitat within the special-status animal study area; however, CNDDB reports one historic (1908) possibly extirpated occurrence within 10 miles of the project footprint (CDFW 2016).
Birds						
Accipitriformes						
Golden eagle (nesting and wintering)	*Aquila chrysaetos*	BGEPA	FP	High: Potentially moderately suitable foraging (e.g., California annual grassland and pasture) habitat is present in the special-status animal study area. CNDDB reports 2 occurrences within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially moderately suitable foraging (e.g., pasture) habitat is present in the special-status animal study area. CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially moderately suitable foraging (e.g., California annual grassland and pasture) habitat is present in the special-status animal study area. CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Swainson's hawk (nesting)	*Buteo swainsoni*	—	T	High: Potentially suitable foraging (e.g., row crops and pasture) habitat is present in the special-status animal study area. May also nest in adjacent trees. CNDDB reports 36 occurrences within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable foraging (e.g., field crops, row crops, pasture) habitat is present in the special-status animal study area. May also nest in adjacent trees. CNDDB reports 19 occurrences within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable foraging (e.g., California annual grassland, row crops and pasture) habitat, as well as suitable riparian habitat for nesting are present in the special-status animal study area. CNDDB reports 52 occurrences within 10 miles of the project footprint (CDFW 2016). In addition, the species was observed in the study area during field surveys on April 14, 2016.
Northern harrier (nesting)	*Circus cyaneus*	—	SSC	High: Potentially suitable foraging (e.g., California annual grassland, freshwater marsh row crops and pasture) habitat and potentially suitable nesting habitat (California annual grasslands, freshwater marsh) are present in the special-status animal study area. CNDDB reports 2 occurrences within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially moderately suitable foraging (e.g., field crops, row crops, pasture) habitat is present in the special-status animal study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable foraging (e.g., California annual grassland, vernal pool field crops, row crops and pasture) habitat, as well as suitable riparian, and California annual grassland habitat for nesting are present in the special-status animal study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).
White-tailed kite (nesting)	*Elanus leucurus*	—	FP	High: Potentially suitable foraging (e.g., row crops and pasture) habitat is present in the special-status animal study area. May also nest in adjacent trees. CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable foraging (e.g., field crops, row crops, pasture) habitat is present in the special-status animal study area. May also nest in adjacent trees. CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable foraging (e.g., California annual grassland, row crops and pasture) habitat, as well as suitable riparian habitat for nesting are present in the special-status animal study area. CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Bald eagle (nesting and wintering)	*Haliaeetus leucocephalus*	BGEPA	FP	Unlikely: No potentially suitable riverine or riparian habitat within the special-status animal study area.	Unlikely: No potentially suitable riverine or riparian habitat within the special-status animal study area.	High: Potentially suitable natural watercourse and riparian habitats are present in the special-status animal study area. CNDDB reports 2 occurrences within 10 miles of the project footprint (CDFW 2016).
Anseriformes						
Redhead (nesting)	*Aythya americana*	—	SSC	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area and constructed basin habitat within the special-status animal study area.	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area.	High: Potentially suitable natural watercourse constructed basin and freshwater marsh habitats are present in the special-status animal study area.
Barrow's goldeneye (nesting)	*Bucephala islandica*	—	SSC	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area and constructed basin habitat within the special-status animal study area.	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area.	High: Potentially suitable natural watercourse constructed basin and freshwater marsh habitats are present in the special-status animal study area.
Fulvous whistling-duck (nesting)	*Dendrocygna bicolor*	—	SSC	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area and constructed basin habitat within the special-status animal study area.	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area.	High: Potentially suitable natural watercourse constructed basin and freshwater marsh habitats are present in the special-status animal study area.
harlequin duck (nesting)	*Histrionicus*	—	SSC	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area. The habitat study area is beyond the known range for this species.	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area. The habitat study area is beyond the known range for this species.	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area. The habitat study area is beyond the known range for this species.

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Apodiformes						
Costa's hummingbird (nesting)	*Calypte costae*	BCC	—	Moderate: Potentially suitable agricultural and natural land cover types are present in the special-status animal study area.	Moderate: Potentially suitable agricultural and natural land cover types are present in the special-status animal study area.	Moderate: Potentially suitable agricultural and natural land cover types are present in the special-status animal study area.
Cathartiformes						
California Condor	*Gymnogyps californianus*	E	E	Unlikely: The RSA is outside of the known range of this species and CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: The RSA is outside of the known range of this species and CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: The RSA is outside of the known range of this species and CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).
Charadriiformes						
Red knot (migrating)	*Calidris canutus*	BCC	—	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area and constructed basin foraging habitat within the special-status animal study area.	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area.	High: Potentially suitable constructed basin, vernal pool and seasonal wetland foraging habitats are present in the special-status animal study area.
Snowy plover (nesting)	*Charadrius alexandrinus*	T	SSC	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area and constructed basin habitat within the special-status animal study area.	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area.	High: Potentially suitable constructed basin, vernal pool and seasonal wetland habitats are present in the special-status animal study area.
Mountain plover (migrating)	*Charadrius montanus*	BCC	SSC	Moderate: Potentially suitable California annual grassland and agricultural foraging habitats are present in the special-status animal study area.	Moderate: Potentially suitable California annual grassland and agricultural foraging habitats are present in the special-status animal study area.	High: Potentially suitable California annual grassland and agricultural foraging habitats are present in the special-status animal study area.

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
black tern (nesting)	*Chlidonias niger*	—	SSC	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area and constructed basin habitat within the special-status animal study area.	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area.	Moderate: Potentially moderately suitable constructed basin and freshwater marsh habitats are present in the special-status animal study area.
Short-billed dowitcher (migrating)	*Limnodromus griseus*	BCC	—	Unlikely: A small (0.01 acre) freshwater marsh in the Panoche area and constructed basin foraging habitat within the special-status animal study area; however, this freshwater marsh habitat is outside of the species known range.	Unlikely: No potentially suitable seasonal wetland, vernal pool or constructed basin habitat within the special-status animal study area.	Unlikely: Potentially suitable constructed basin, vernal pool and seasonal wetland foraging habitats are present in the special-status animal study area; however, this freshwater marsh habitat is outside of the species known range.
Marbled godwit (migrating)	*Limosa fedoa*	BCC	—	Low: A small (0.01 acre) freshwater marsh in the Panoche area and constructed basin foraging habitat within the special-status animal study area; however, this freshwater marsh is just over 10 miles from the known range of the species.	Unlikely: No potentially suitable seasonal wetland, vernal pool or constructed basin habitat within the special-status animal study area.	High: Potentially suitable constructed basin, vernal pool and seasonal wetland foraging habitats are present in the special-status animal study area.
Long-billed curlew (migrating)	*Numenius americanus*	BCC	—	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area, as well as California annual grassland, agricultural and constructed basin foraging habitat within the special-status animal study area.	Unlikely: No potentially suitable seasonal wetland, vernal pool or constructed basin habitat within the special-status animal study area.	High: Potentially suitable constructed basin, vernal pool and seasonal wetland foraging habitats are present in the special-status animal study area.

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Whimbrel (migrating)	*Numenius phaepus*	BCC	—	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area, as well as California annual grassland, agricultural and constructed basin habitat within the special-status animal study area.	Unlikely: No potentially suitable seasonal wetland, vernal pool or constructed basin habitat within the special-status animal study area.	High: Potentially suitable constructed basin, vernal pool and seasonal wetland foraging habitats are present in the special-status animal study area. In addition, the species was observed in the study area during field surveys on April 14, 2016.
Cuculiformes						
Western yellow-billed cuckoo (nesting)	*Coccyzus americanus occidentalis*	T	E	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Low: Potentially suitable riparian habitat within the special-status animal study area; however, the project footprint is outside of the current range of this species (Authority and FRA 2012).
Falconiformes						
Prairie falcon (nesting)	*Falco columbarius*	BCC	—	Unlikely: No potentially suitable cliffs for nesting habitat within the special-status animal study area. CNDDB reports 9 occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable cliffs for nesting habitat within the special-status animal study area.	Unlikely: No potentially suitable cliffs for nesting habitat within the special-status animal study area.
American peregrine falcon (nesting)	*Falco peregrinus*	BCC	FP	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Moderate: Potentially suitable riparian habitat within the special-status animal study area. CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).
Gruiformes						
Lesser sandhill crane (wintering)	*Antigone canadensis*	—	SSC	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area, as well as California annual grassland, pasture and constructed basin habitat within the special-status animal study area.	Moderate: Potentially suitable pasture habitat within the special-status animal study area.	High: Potentially suitable habitat (e.g., constructed basin, California annual grassland, pasture, vernal pool and seasonal wetland) are present in the special-status animal study area.

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Greater sandhill crane (wintering)	*Antigone Canadensis tabida*	—	T	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area, as well as California annual grassland, pasture and constructed basin habitat within the special-status animal study area.	Moderate: Potentially suitable pasture habitat within the special-status animal study area.	High: Potentially suitable habitat (e.g., constructed basin, California annual grassland, pasture, vernal pool and seasonal wetland) are present in the special-status animal study area.
Yellow rail	*Coturnicops noveboracensis*	—	SSC	Unlikely: A small (0.01 acre) freshwater marsh in the Panoche area and constructed basin habitat within the special-status animal study area; however, project footprint presumed to be outside of species range (Shuford and Gardali 2008), one historic (1911) CNDDB record within 10 miles of project footprint (CDFW 2016).	Unlikely: No potentially suitable freshwater marsh or constructed basin habitat within the special-status animal study area.	Unlikely: Potentially suitable freshwater marsh and constructed basin habitat within the special-status animal study area; however, project footprint presumed to be outside of species range (Shuford and Gardali 2008).
Passeriformes						
Tricolored blackbird (nesting colony)	*Agelaius tricolor*	BCC	SSC	High: Potentially suitable habitat (e.g., constructed basin, California annual grassland, pasture, freshwater marsh, field crops) are present in the special-status animal study area. CNDDB reports 18 occurrences within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable habitat (e.g., pasture, field crops) are present in the special-status animal study area. CNDDB reports 12 occurrences within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable habitat (e.g., constructed basin, California annual grassland, pasture, vernal pool, seasonal wetland, and field crops) are present in the special-status animal study area. CNDDB reports 20 occurrences within 10 miles of the project footprint (CDFW 2016).
Grasshopper sparrow (nesting)	*Ammodramus savannarum*	—	SSC	Moderate: Potentially suitable California annual grassland, and pasture habitat is present in the special-status animal study area.	Moderate: Potentially suitable pasture habitat is present in the special-status animal study area.	Moderate: Potentially suitable California annual grassland, and pasture habitat is present in the special-status animal study area.

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Lawrence's goldfinch (nesting)	*Carduelis lawrencei*	BCC	—	Moderate: Potentially suitable agricultural and natural land cover types are present in the special-status animal study area.	Moderate: Potentially suitable agricultural and natural land cover types are present in the special-status animal study area.	Moderate: Potentially suitable agricultural and natural land cover types are present in the special-status animal study area.
Yellow-breasted chat (nesting)	*Icteria virens*	—	SSC	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	High: Potentially suitable riparian habitat within the special-status animal study area. CNDDB reports 2 occurrences within 10 miles of the project footprint (CDFW 2016).
Loggerhead shrike (nesting)	*Lanius ludovicianus*	BCC	SSC	Moderate: Potentially suitable California annual grassland, field crop, row crop, and pasture habitat is present in the special-status animal study area.	Moderate: Potentially suitable pasture and field crop habitat is present in the special-status animal study area.	Moderate: Potentially suitable California annual grassland, field crop, row crop, and pasture habitat is present in the special-status animal study area.
Song sparrow ("Modesto" population)	*Melospiza melodia*	—	SSC	Moderate: Potentially suitable habitat (e.g., constructed basin, freshwater marsh) are present in the special-status animal study area.	Unlikely: No potentially suitable freshwater marsh, constructed basin, or riparian habitat within the special-status animal study area.	Moderate: Potentially suitable habitat (e.g., constructed basin, vernal pool and seasonal wetland) are present in the special-status animal study area.
Yellow-billed magpie (nesting & communal roosts)	*Pica nuttalli*	BCC	—	Moderate: Potentially suitable habitat (e.g., constructed basin, freshwater marsh) are present in the special-status animal study area.	Unlikely: No potentially suitable freshwater marsh, constructed basin, natural watercourse or riparian habitat within the special-status animal study area.	Moderate: Potentially suitable habitat (e.g., constructed basin, natural watercourse, riparian and freshwater marsh) are present in the special-status animal study area.
Spotted towhee	*Pipilo maculates*	BCC	—	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Moderate: Potentially suitable riparian habitat is present in the special-status animal study area.

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Oregon vesper Sparrow (wintering)	*Pooecetes gramineus affinis*	—	SSC	Moderate: Potentially suitable California annual grassland, field crop, row crop, and pasture habitat is present in the special-status animal study area.	Moderate: Potentially suitable pasture and field crop habitat is present in the special-status animal study area.	Moderate: Potentially suitable California annual grassland, field crop, row crop, and pasture habitat is present in the special-status animal study area.
Purple martin (nesting)	*Progne subis*	—	SSC	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Moderate: Potentially suitable riparian habitat within the special-status animal study area.
Yellow warbler (nesting)	*Setophaga petechia*	—	SSC	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Moderate: Potentially suitable riparian habitat within the special-status animal study area.
Least Bell's vireo (nesting)	*Vireo bellii pusillus*	E	E	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Unlikely: No potentially suitable riparian habitat within the special-status animal study area.	Moderate: Potentially suitable riparian habitat within the special-status animal study area.
Yellow-headed blackbird (nesting)	*Xanthocephalus xanthocephalus*	—	SSC	Moderate: Potentially suitable California annual grassland, field crop, and pasture habitat is present in the special-status animal study area.	Moderate: Potentially suitable pasture and field crop habitat is present in the special-status animal study area.	Moderate: Potentially suitable California annual grassland, vernal pool, seasonal wetland, field crop, and pasture habitat is present in the special-status animal study area.
Pelecaniformes						
Least bittern (nesting)	*Ixbrychus exilis*	—	SSC	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area, as well as constructed basin habitat within the special-status animal study area.	Unlikely: No potentially suitable, natural watercourse, riparian, constructed basin or freshwater marsh habitat within the special-status animal study area.	Moderate: Potentially suitable, natural watercourse, riparian, constructed and freshwater marsh habitat within the special-status animal study area.

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
American white pelican (nesting colony)	*Pelecanus erythrorhynchos*	—	SSC	Moderate: A small (0.01 acre) freshwater marsh in the Panoche area, as well as constructed basin habitat within the special-status animal study area.	Unlikely: No potentially suitable, natural watercourse, riparian, constructed basin or freshwater marsh habitat within the special-status animal study area.	Moderate: Potentially suitable, natural watercourse, riparian, constructed and freshwater marsh habitat within the special-status animal study area.
Piciformes						
Lewis's woodpecker (nesting)	*Melanerpes lewis*	BCC	—	Unlikely: No potentially suitable open forest and woodland habitat occurs within the special-status animal study area.	Unlikely: No potentially suitable open forest and woodland habitat occurs within the special-status animal study area.	Unlikely: No potentially suitable open forest and woodland habitat occurs within the special-status animal study area.
Nuttall's woodpecker	*Picoides nuttallii*	BCC	—	Unlikely: No potentially suitable oak woodland habitat occurs within the special-status animal study area.	Unlikely: No potentially suitable oak woodland habitat occurs within the special-status animal study area.	Moderate: Potentially suitable riparian habitat occurs within the special-status animal study area.
Strigiformes						
Short-eared owl (nesting)	*Asio flammeus*	—	SSC	Moderate: Potentially suitable California annual grassland, field crop, and pasture habitat is present in the special-status animal study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially suitable pasture and field crop habitat is present in the special-status animal study area.	Moderate: Potentially suitable California annual grassland, vernal pool, seasonal wetland, field crop, and pasture habitat is present in the special-status animal study area.
Long-eared owl (nesting)	*Asio otus*	—	SSC	Moderate: Potentially suitable California annual grassland, field crop, orchard and pasture habitat is present in the special-status animal study area.	Moderate: Potentially suitable pasture, orchard and field crop habitat is present in the special-status animal study area.	Moderate: Potentially suitable California annual grassland, vernal pool, seasonal wetland, field crop, orchard, riparian and pasture habitat is present in the special-status animal study area.

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Western burrowing owl (burrowing sites)	*Athene cunicularia*	BCC	SSC	Moderate: Potentially suitable California annual grassland, field crop, ruderal and pasture habitat is present in the special-status animal study area. CNDDB reports 11 occurrences within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially suitable pasture, ruderal and field crop habitat is present in the special-status animal study area. CNDDB reports 2 occurrences within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially suitable California annual grassland, field crop, ruderal, and pasture habitat is present in the special-status animal study area. CNDDB reports 14 occurrences within 10 miles of the project footprint (CDFW 2016).
Mammals						
Nelson's antelope squirrel	*Ammospermophilus nelsoni*	—	T	High: Potentially suitable California annual grassland, and valley sink scrub habitat is present in the special-status animal study area. CNDDB reports 21 occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable California annual grassland or valley sink scrub habitat is present in the special-status animal study area.	Unlikely: Potentially suitable California annual grassland, habitat is present in the special-status animal study area. However, CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).
Pallid bat	*Antrozous pallidus*	—	SSC	High: Potentially suitable California annual grassland and agricultural habitat is present in the special-status animal study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially suitable agricultural habitat is present in the special-status animal study area.	High: Potentially suitable riparian, California annual grassland, and agricultural habitat is present in the special-status animal study area. CNDDB reports 7 occurrences within 10 miles of the project footprint (CDFW 2016).
Ringtail	*Bassariscus astutus*	—	FP	Unlikely: No potentially suitable riparian habitat is present in the special-status animal study area.	Unlikely: No potentially suitable riparian habitat is present in the special-status animal study area.	Moderate: There is potentially suitable riparian habitat in the special-status animal study area. CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).
Townsend's big-eared bat	*Corynorhinus townsendii*	—	SSC	Unlikely: No potentially suitable woodland (Bolster 1998) or riparian habitat is present in the special-status animal study area.	Unlikely: No potentially suitable woodland (Bolster 1998) or riparian habitat is present in the special-status animal study area.	Moderate: Potentially suitable riparian habitat is present in the special-status animal study area. CNDDB reports 2 occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
Giant kangaroo rat	*Dipodomys ingens*	E	E	High: Potentially suitable California annual grassland, and valley sink scrub habitat is present in the special-status animal study area. CNDDB reports 17 occurrences within 10 miles of the project footprint (CDFW 2016).	Unlikely: No potentially suitable California annual grassland or valley sink scrub habitat is present in the special-status animal study area.	Unlikely: Potentially suitable California annual grassland, habitat is present in the special-status animal study area. However, CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016).
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	E	E	Unlikely: Potentially suitable California annual grassland, and valley sink scrub habitat is present in the special-status animal study area. However, CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016) and the project is outside of the known range of the species.	Unlikely: No potentially suitable California annual grassland or valley sink scrub habitat is present in the special-status animal study area.	Unlikely: Potentially suitable California annual grassland, habitat is present in the special-status animal study area. However, CNDDB reports no occurrences within 10 miles of the project footprint (CDFW 2016) and the project is outside of the known range of the species.
Western mastiff bat	*Eumops perotis californicus*	—	SSC	High: Potentially suitable California annual grassland and ruderal habitat is present in the special-status animal study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially suitable ruderal habitat is present in the special-status animal study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable riparian, ruderal, and California annual grassland habitat is present in the special-status animal study area. CNDDB reports 7 occurrences within 10 miles of the project footprint (CDFW 2016).
Western red bat	*Lasiurus blossevillii*	—	SSC	High: Potentially suitable commercial/industrial, residential and agricultural habitat is present in the special-status animal study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially suitable commercial/industrial, residential and agricultural habitat is present in the special-status animal study area.	High: Potentially suitable riparian, commercial/industrial, residential and agricultural habitat is present in the special-status animal study area. CNDDB reports 6 occurrences within 10 miles of the project footprint (CDFW 2016).

Common Name	Scientific Name	Federal Status[1]	State Status[2]	Potential to Occur[3]		
				Site 6 – El Nido	Site 7 – Wilson	Site 7 – Le Grand Junction/Sandy Mush Road
American badger	*Taxidea taxus*	—	SSC	High: Potentially suitable California annual grassland and pasture habitat is present in the special-status animal study area. CNDDB reports 5 occurrences within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable pasture, habitat is present in the special-status animal study area. CNDDB reports one occurrence within 10 miles of the project footprint (CDFW 2016).	High: Potentially suitable California annual grassland, riparian, and pasture habitat is present in the special-status animal study area. CNDDB reports 2 occurrences within 10 miles of the project footprint (CDFW 2016).
San Joaquin kit fox	*Vulpes macrotis mutica*	E	T	Moderate: Potentially suitable California annual grassland and pasture habitat is present in the special-status animal study area. CNDDB reports 31 occurrences within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially suitable pasture habitat is present in the special-status animal study area. CNDDB reports 3 occurrences within 10 miles of the project footprint (CDFW 2016).	Moderate: Potentially suitable California annual grassland and pasture habitat is present in the special-status animal study area. CNDDB reports 8 occurrences within 10 miles of the project footprint (CDFW 2016).

Notes:

Federal Status[1]

C(E) = Candidate for Endangered listing status

C(T) = Candidate for Threatened listing status

C(T/E) = Candidate for Threatened or Endangered listing status

SC = Special Concern

E = Endangered

T = Threatened

BGEPA = Protected under the Bald and Golden Eagle Protection Act

BCC = Birds of Conservation Concern designated by the U.S. Fish and Wildlife Service.

State Status[2]

E = Endangered

T = Threatened

CT = Candidate for Threatened listing status

SSC = California Species of Special Concern designated by the California Department of Fish and Game.

FP = Fully Protected species designated by the California Department of Fish and Game.

CDFW = California Department of Fish and Game

CNDDB = California Natural Diversity Database

RSA = Resource study area

USFWS = U.S. Fish and Wildlife Service

Potential to Occur[3]

High: RSA is in species range; occurrences present within 10 miles of RSA; habitat present in RSA

Moderate: RSA is on margin of species range and occurrences present within 10 miles of RSA, or RSA is in species range and only historic

occurrences present within 10 miles of RSA; habitat present in RSA

Low: RSA is in species range; no occurrences present within 10 miles of RSA; habitat present in RSA

Unlikely: RSA is outside of species range or no habitat present in RSA

RSA = Resource study area

Source: Zeiner et al.,1990.

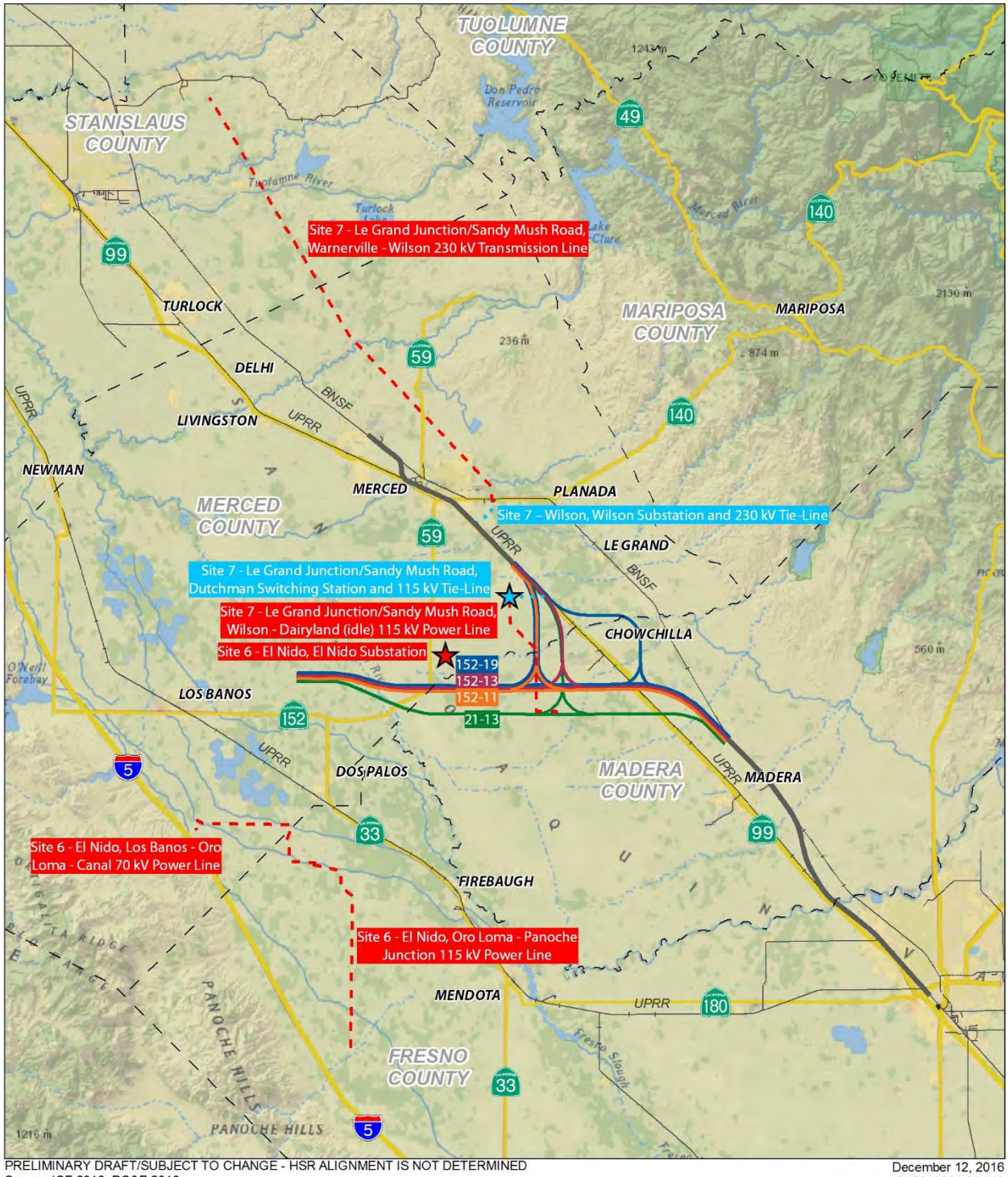


Figure 1 Vicinity Map

California High-Speed Rail Authority Electrical Interconnections and Network Upgrades: Sites 6 and 7

SITE 6 – El Nido

El Nido Substation

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Basemap Source: ESRI 2016

G15010064 01 073
December 6, 2016

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 1 Site 6 - El Nido, El Nido Substation Land Cover

California High-Speed Rail Authority Electrical Interconnections and Network Upgrades: Sites 6 and 7

SITE 6 – El Nido

Los Banos – Oro Loma – Canal 70 kV Power Line and
Oro Loma – Panoche Junction 115 kV Power Line

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

August 8, 2016
G15010064 01 072a

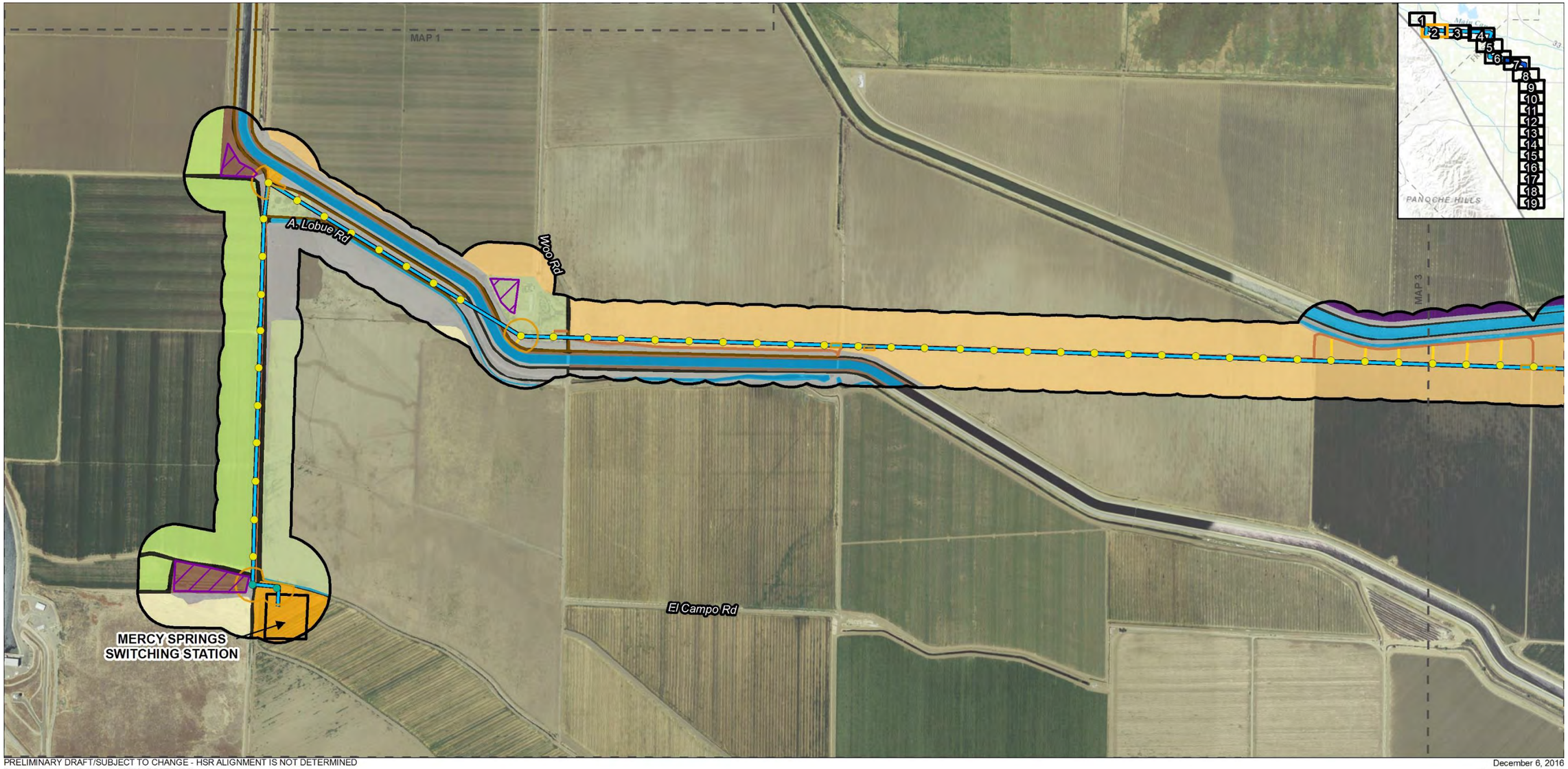
Access Routes
- Existing Paved Road
- Existing Dirt/Gravel Road

N

0 500 1,000
Feet

0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 1 Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072b

Los Banos - Oro Loma - Canal 70 kV Line
Survey Area
Existing Structures
Tubular Steel Pole
Wood Pole

Temporary Features
Pull Tension Site
Staging Area
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Fallow Field
Field Crop
Orchard
Pasture

Aquatic Habitat
Constructed Watercourse
Developed Area
Barren
Commercial/Industrial

Transportation Corridor
Natural and Seminatural Area
California Annual Grassland
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 2 Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072c

N

0 500 1,000
Feet

0 150 300
Meters

Los Banos - Oro Loma - Canal 70 kV Line
Survey Area

Existing Structures
- Wood Pole

Temporary Features
- Pull Tension Site
- Staging Area

Access Routes
- Existing Paved Road
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

Grasslands Ecological Reserve

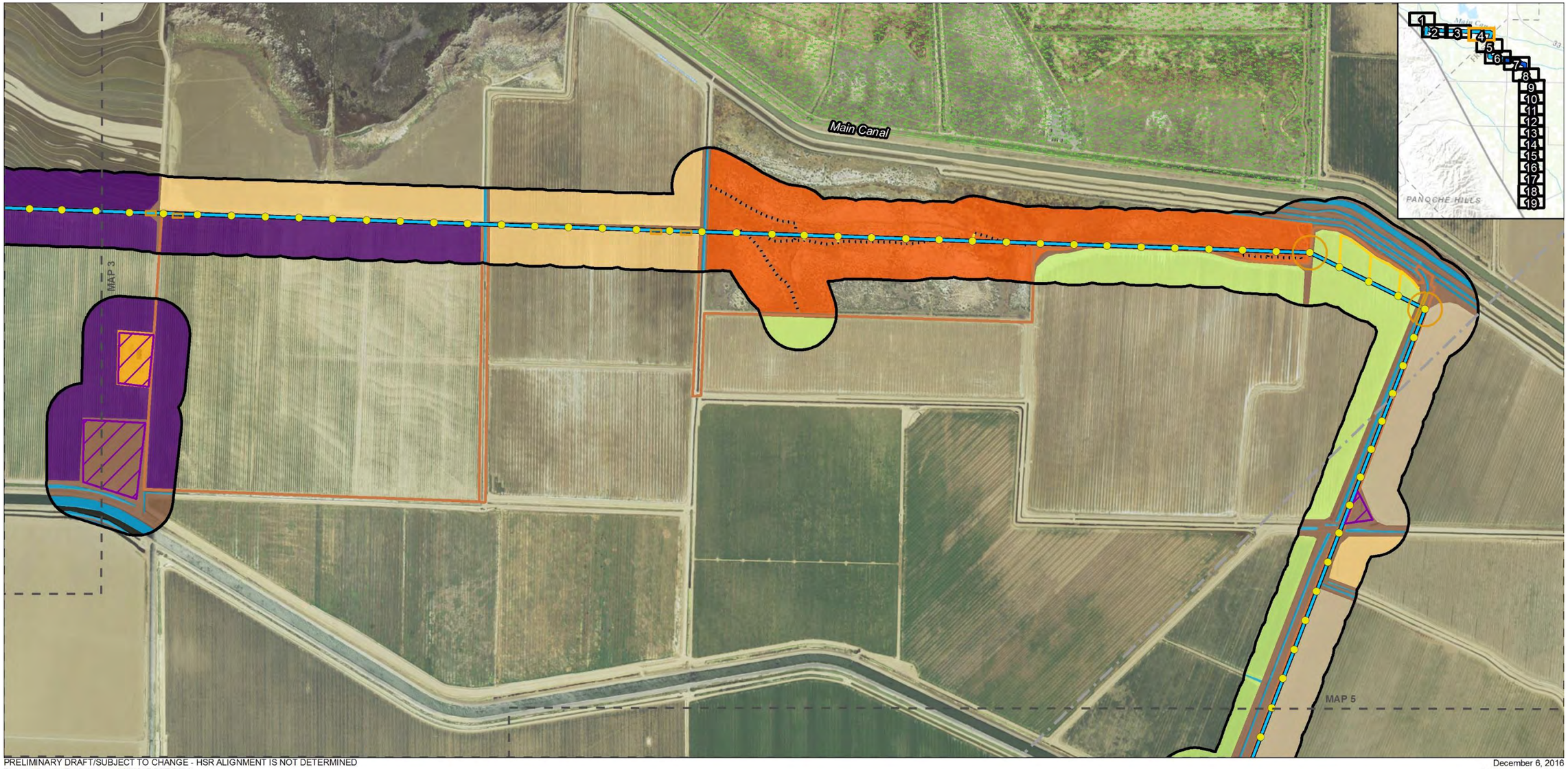
Agricultural Habitat
- Fallow Field
- Orchard

Aquatic Habitat
- Constructed Watercourse

Developed Area
- Barren
- Commercial/Industrial
- Transportation Corridor

Natural and Seminatural Area
- Ruderal

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 3 Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072d

Los Banos - Oro Loma - Canal 70 kV Line
Survey Area
Existing Structures
Wood Pole

Temporary Features
Pull Tension Site
Staging Area
Access Routes
Existing Dirt/Gravel Road
Existing Dirt/Gravel Road To Be Improved
Temporary Unpaved Road

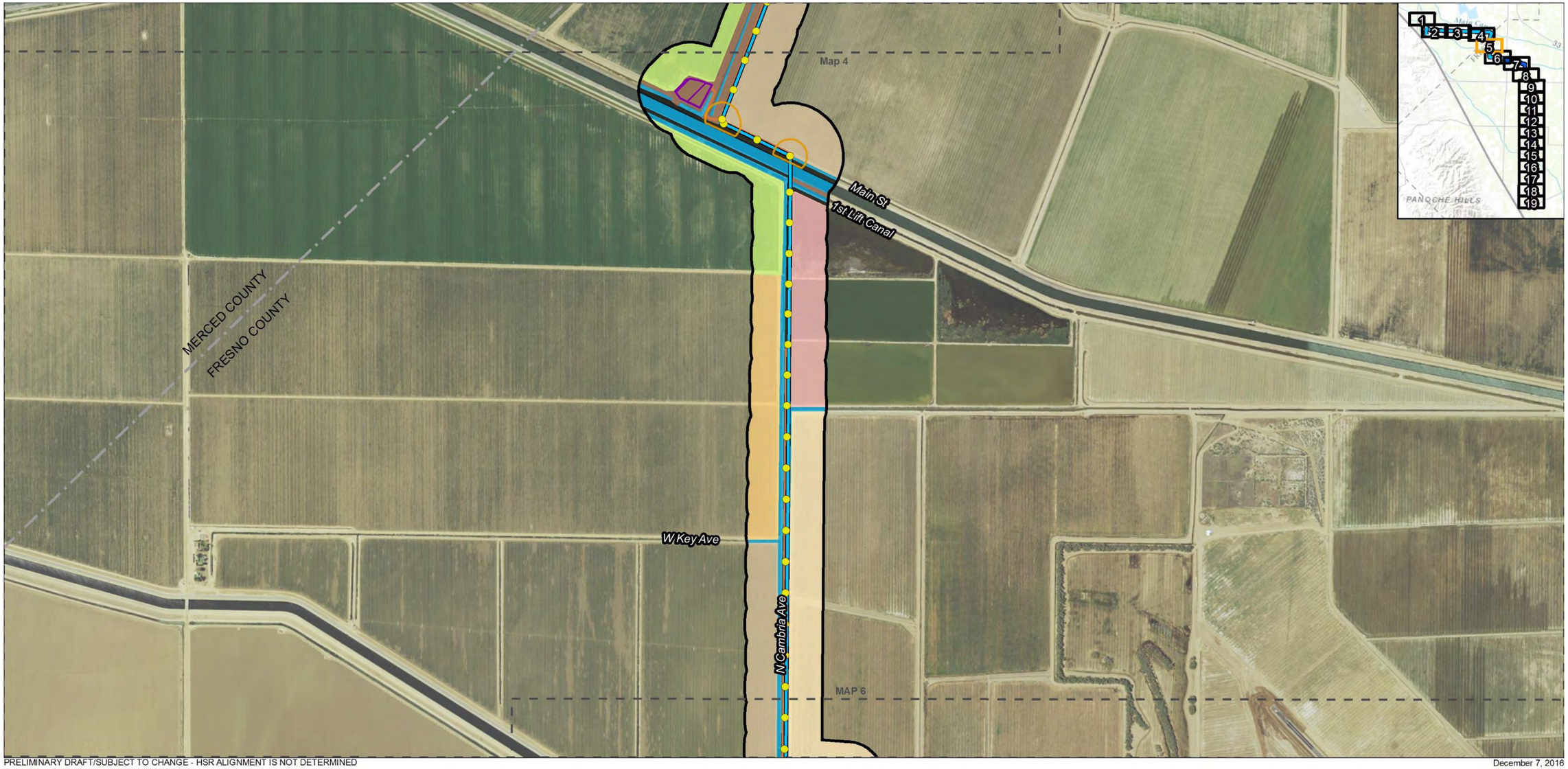
Grasslands Ecological Reserve
Agricultural Habitat
Fallow Field
Field Crop
Orchard

Row Crop
Aquatic Habitat
Constructed Watercourse
Developed Area
Barren

Commercial/Industrial
Transportation Corridor
Natural and Seminatural Area
Valley Sink Scrub

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 4 Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 7, 2016
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N

0 500 1,000
Feet

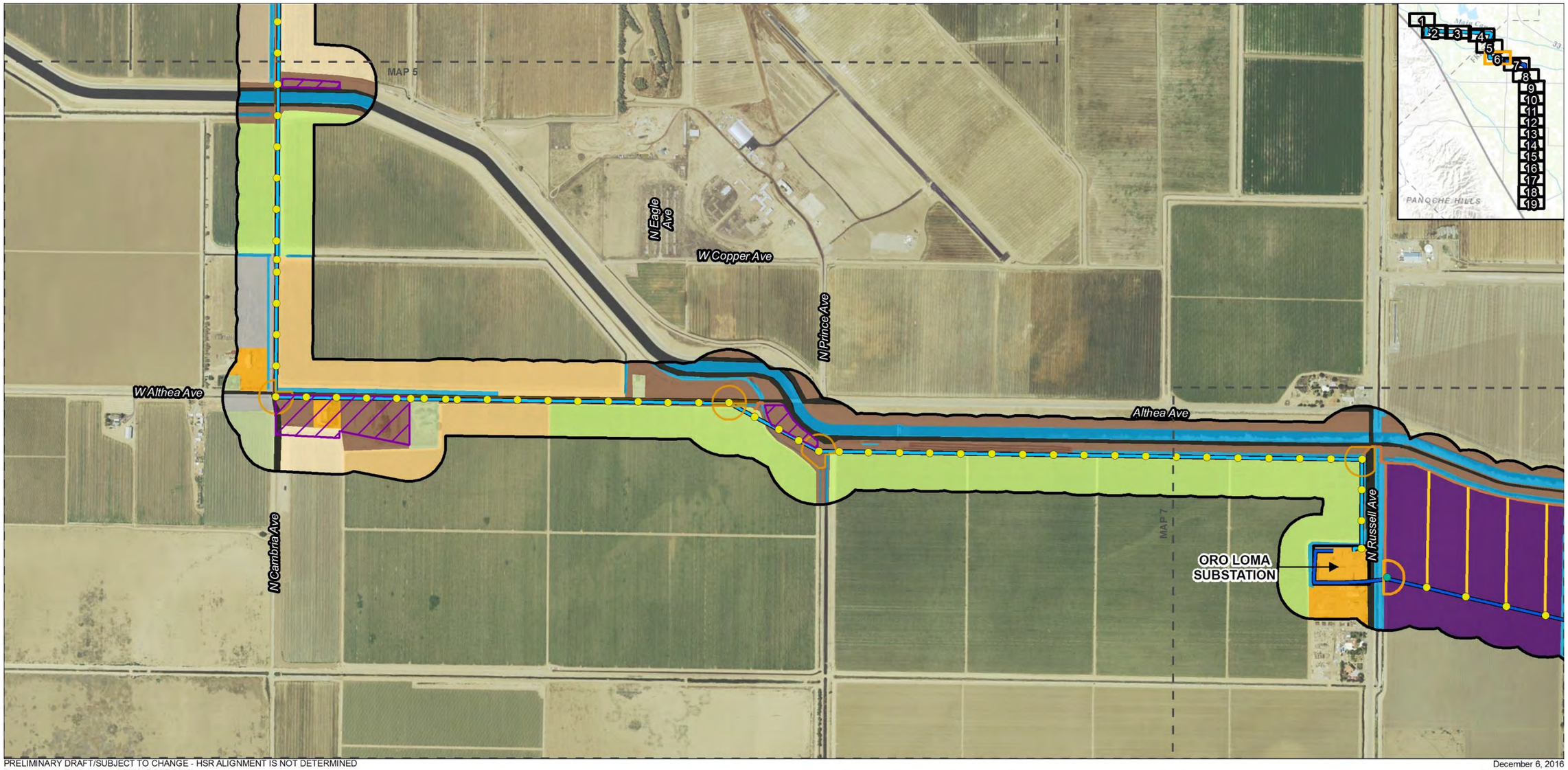
0 150 300
Meters

Los Banos - Oro Loma - Canal 70 kV Line
Survey Area
Existing Structures
Wood Pole

Temporary Features
Pull Tension Site
Staging Area
Access Routes
Existing Dirt/Gravel Road

Agricultural Habitat
Fallow Field
Field Crop
Inactive Agriculture
Rice Field
Row Crop
Aquatic Habitat
Constructed Watercourse
Developed Area
Barren
Transportation Corridor
Natural and Seminatural Area
Ruderal

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 5 Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072f

N
0 500 1,000
Feet
0 150 300
Meters

Los Banos - Oro Loma - Canal 70 kV Line
Oro Loma - Panoche Junction 115 kV Line
Survey Area

Existing Structures
- Tubular Steel Pole
- Wood Pole

Temporary Features
- Pull Tension Site
- Staging Area

Access Routes
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

Agricultural Habitat
- Fallow Field
- Field Crop
- Inactive Agriculture
- Orchard
- Pasture
- Row Crop

Aquatic Habitat
- Constructed Watercourse

Developed Area
- Barren
- Commercial/Industrial
- Transportation Corridor

Natural and Seminatural Area
- Ruderal

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 6 Site 6 – El Nido, Los Banos – Oro Loma – Canal 70 kV Power Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072g

N
0 500 1,000
Feet
0 150 300
Meters

Los Banos - Oro Loma - Canal 70 kV Line
Oro Loma - Panoche Junction 115 kV Line
Survey Area
Existing Structures
Tubular Steel Pole
Wood Pole

Temporary Features
Pull Tension Site
Access Routes
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Fallow Field
Field Crop
Orchard
Row Crop

Aquatic Habitat
Constructed Watercourse
Developed Area
Barren
Commercial/Industrial

Transportation Corridor
Natural and Seminatural Area
Ruderal

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 7 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
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Oro Loma - Panoche Junction 115 kV Line
Survey Area
Existing Structures
Wood Pole

Temporary Features
Pull Tension Site
Access Routes
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Fallow Field
Orchard

Aquatic Habitat
Constructed Watercourse
Natural and Seminatural Area
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 8 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

August 8, 2016
G15010064 01 072i

N

0 500 1,000
Feet

0 150 300
Meters

Oro Loma - Panoche Junction 115 kV Line
Survey Area

Existing Structures
- Stub Pole
- Wood Pole

Temporary Features
- Pull Tension Site

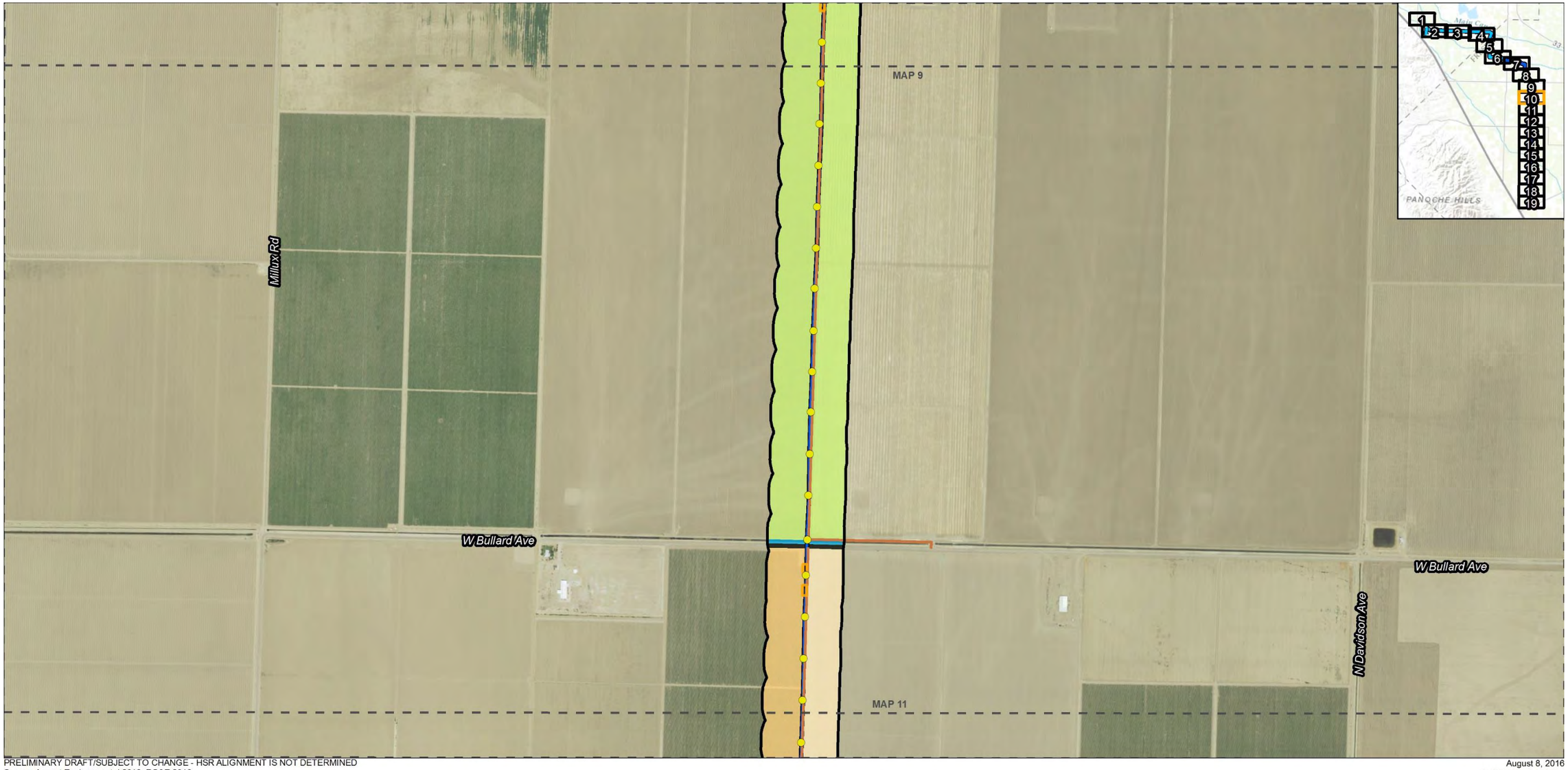
Access Routes
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

Agricultural Habitat
- Field Crop
- Orchard

Aquatic Habitat
- Constructed Watercourse

Developed Area
- Barren
- Commercial/Industrial
- Transportation Corridor

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 9 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

August 8, 2016
G15010064 01 072j

Oro Loma - Panoche Junction 115 kV Line
Survey Area
Existing Structures
Wood Pole

Temporary Features
Pull Tension Site
Access Routes
Existing Dirt/Gravel Road

Agricultural Habitat
Fallow Field
Field Crop
Inactive Agriculture

Aquatic Habitat
Constructed Watercourse
Developed Area
Transportation Corridor

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 10 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

August 8, 2016
G15010064 01 072k

Oro Loma - Panoche Junction 115 kV Line
Survey Area
Existing Structures
Wood Pole

Temporary Features
Pull Tension Site
Access Routes
Existing Dirt/Gravel Road

Agricultural Habitat
Fallow Field
Inactive Agriculture
Orchard

Aquatic Habitat
Constructed Watercourse
Developed Area
Barren
Commercial/Industrial

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 11 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072I

N

0 500 1,000
Feet

0 150 300
Meters

Oro Loma - Panoche Junction 115 kV Line
Survey Area

Existing Structures
Wood Pole

Temporary Features
Pull Tension Site
Staging Area

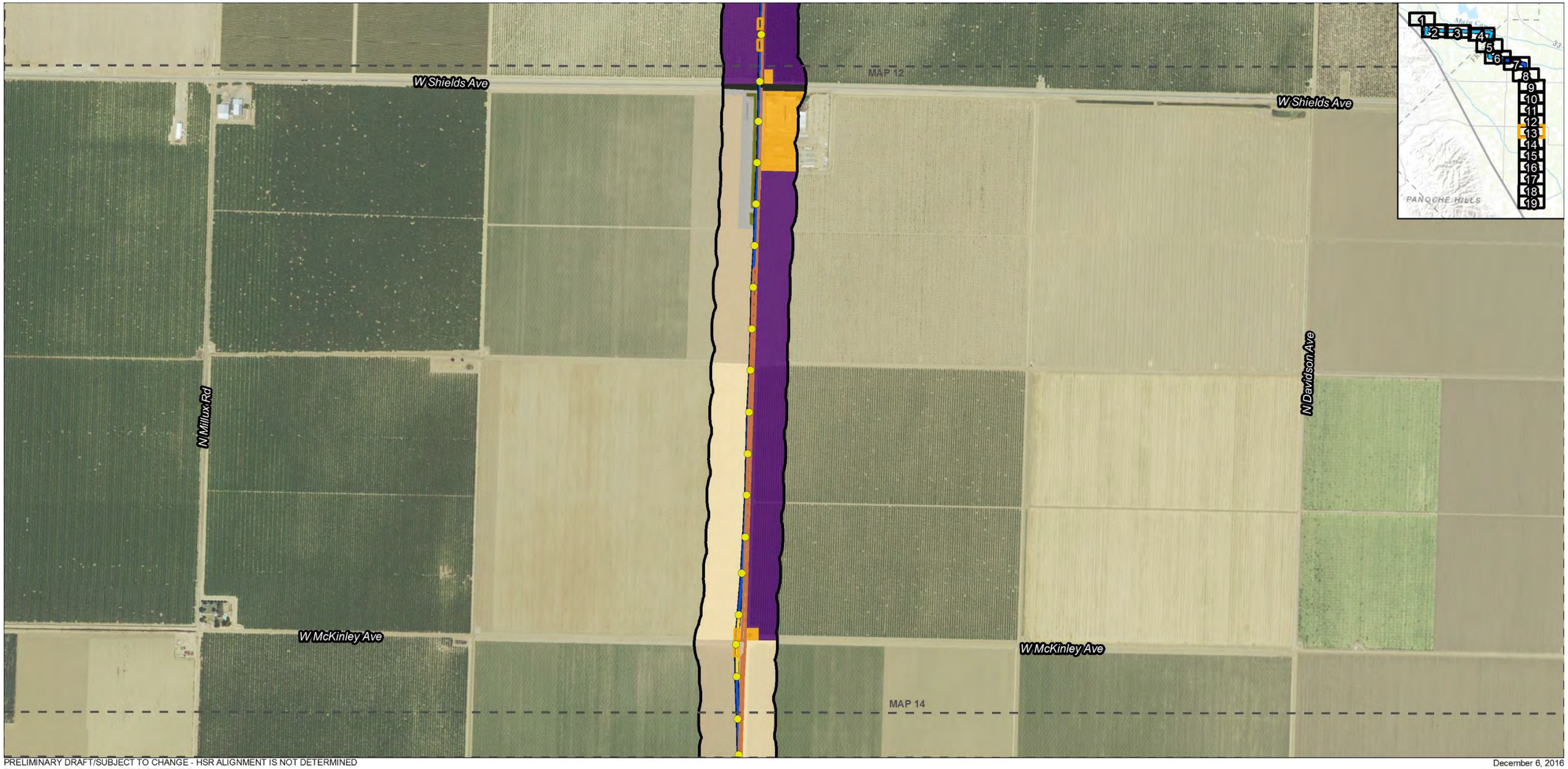
Access Routes
Existing Dirt/Gravel Road

Agricultural Habitat
Fallow Field
Orchard

Aquatic Habitat
Constructed Basin
Constructed Watercourse

Developed Area
Barren

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 12 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072m

Oro Loma - Panoche Junction 115 kV Line
Survey Area
Existing Structures
Wood Pole

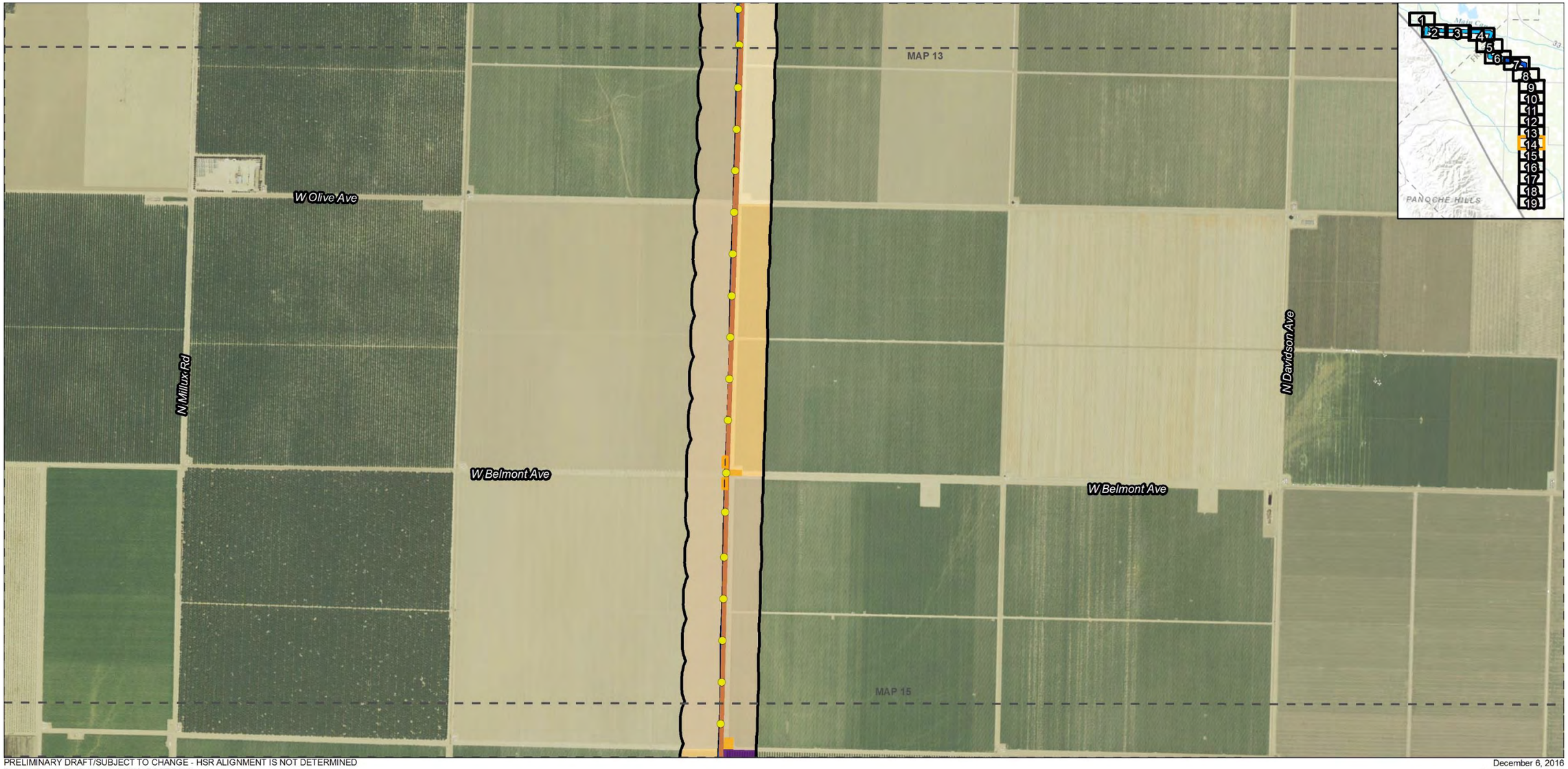
Temporary Features
Pull Tension Site
Access Routes
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Inactive Agriculture
Orchard
Row Crop
Aquatic Habitat
Constructed Basin

Constructed Watercourse
Developed Area
Commercial/Industrial
Transportation Corridor
Natural and Seminatural Area
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 13 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072n

Oro Loma - Panoche Junction 115 kV Line
Survey Area

Existing Structures
Wood Pole

Temporary Features
Pull Tension Site

Access Routes
Existing Dirt/Gravel Road

Agricultural Habitat
Fallow Field
Inactive Agriculture
Orchard

Row Crop

Developed Area
Commercial/Industrial

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 14 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072o

N

0 500 1,000
Feet

0 150 300
Meters

Oro Loma - Panoche Junction 115 kV Line
Survey Area

Existing Structures
Wood Pole

Temporary Features
Staging Area

Access Routes
Existing Paved Road
Existing Dirt/Gravel Road

Agricultural Habitat
Fallow Field
Orchard
Pasture
Row Crop

Vineyard

Aquatic Habitat
Constructed Watercourse

Developed Area
Barren

Commercial/Industrial

Natural and Seminatural Area
Ruderal

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 15 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072p

N
0 500 1,000
Feet
0 150 300
Meters

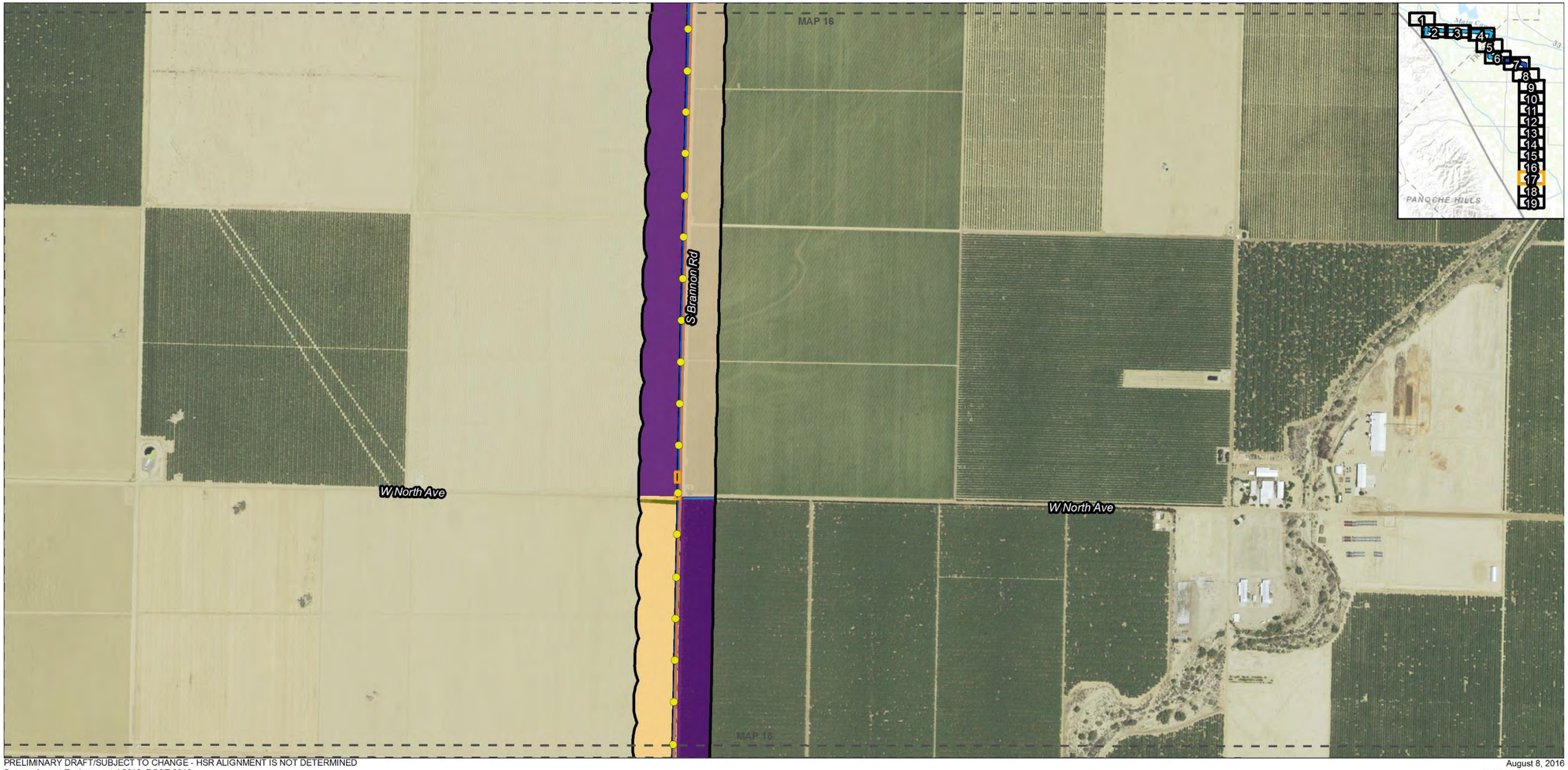
Oro Loma - Panoche Junction 115 kV Line
Survey Area
Existing Structures
Wood Pole

Temporary Features
Pull Tension Site
Staging Area
Access Routes
Existing Dirt/Gravel Road

Agricultural Habitat
Fallow Field
Orchard
Row Crop
Vineyard

Aquatic Habitat
Constructed Basin
Developed Area
Commercial/Industrial
Natural and Seminatural Area
Ruderal

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 16 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

August 8, 2016
G15010064 01 072q

Oro Loma - Panoche Junction 115 kV Line
Survey Area
Existing Structures
Wood Pole

Temporary Features
Pull Tension Site
Access Routes
Existing Dirt/Gravel Road

Agricultural Habitat
Fallow Field
Orchard
Row Crop

Aquatic Habitat
Constructed Basin
Constructed Watercourse

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 17 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 6, 2016
G15010064 01 072r

N
0 500 1,000
Feet
0 150 300
Meters

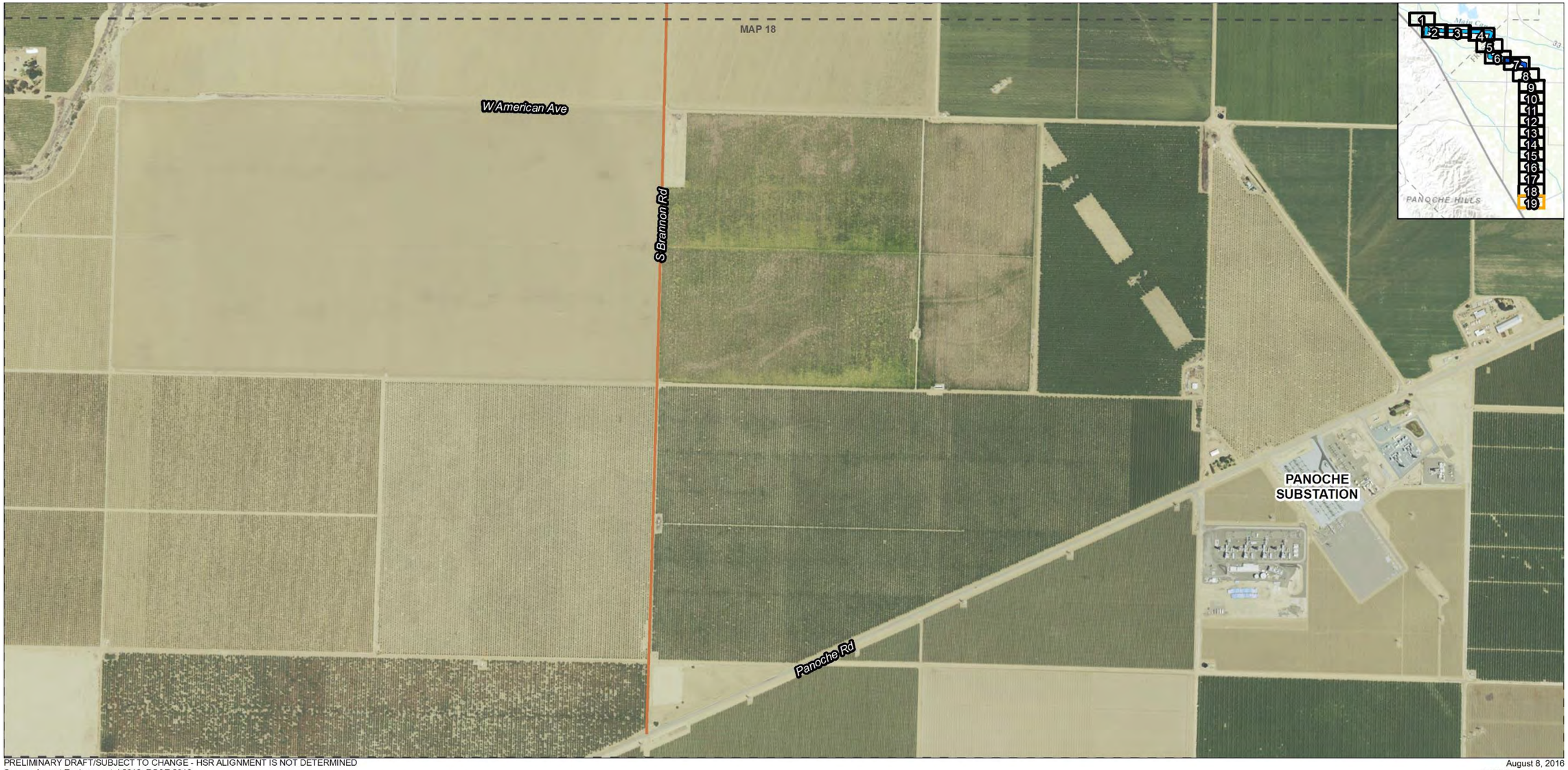
Oro Loma - Panoche Junction 115 kV Line
Survey Area
Existing Structures
Wood Pole

Temporary Features
Pull Tension Site
Staging Area
Access Routes
Existing Dirt/Gravel Road

Agricultural Habitat
Fallow Field
Inactive Agriculture
Orchard

Aquatic Habitat
Coastal and Valley Freshwater Marsh
Natural and Seminatural Area
Other Riparian

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 18 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

August 8, 2016
G15010064 01 072s

Access Routes
Existing Dirt/Gravel Road

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 19 Site 6 – El Nido, Oro Loma – Panoche Junction 115 kV Power Line Land Cover

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SITE 7 – Le Grand Junction/Sandy Mush Road

Warnerville – Wilson 230 kV Transmission Line

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PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075a

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

Temporary Features
Pull Tension Site
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

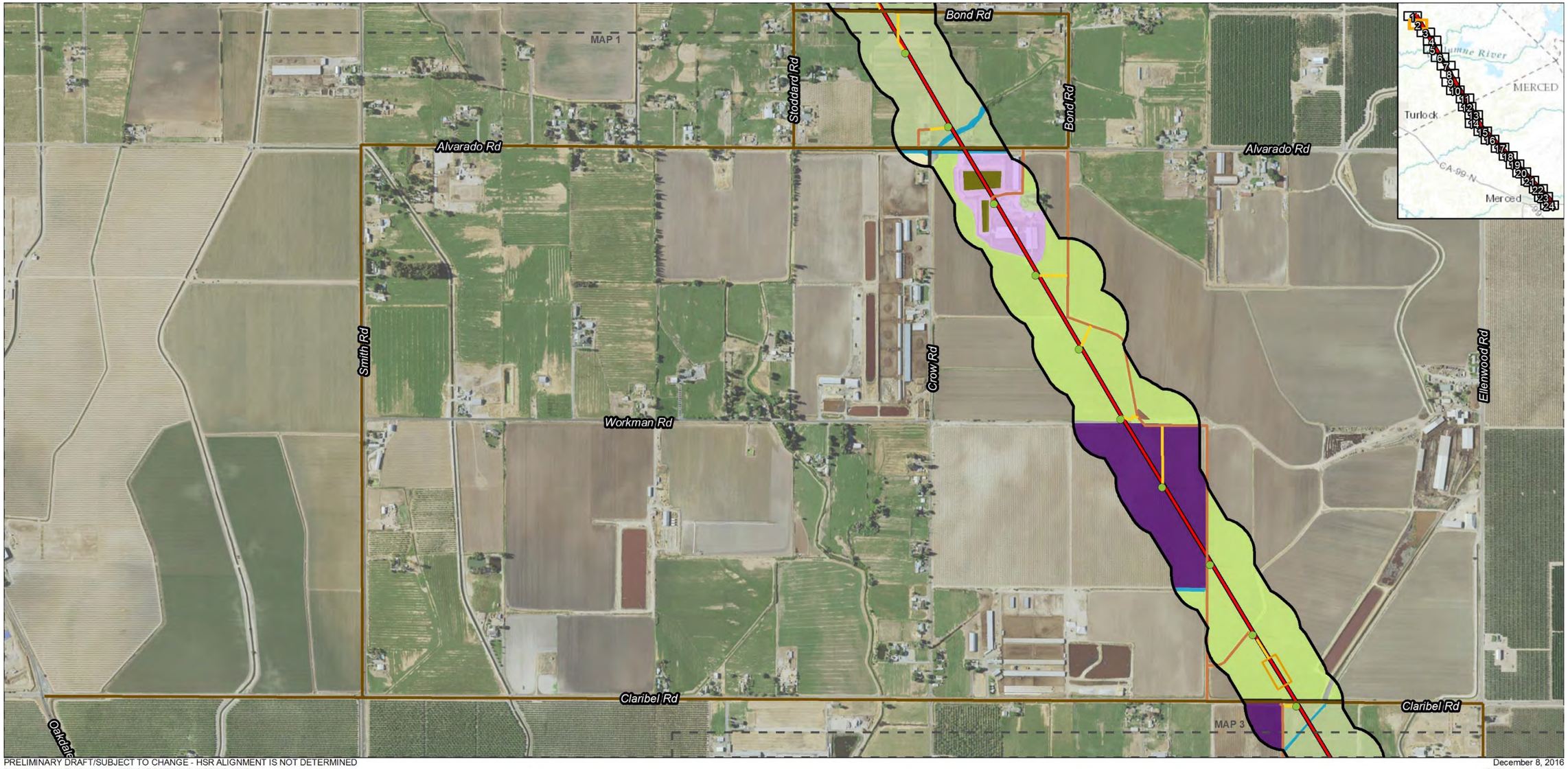
Agricultural Habitat
Orchard
Pasture
Aquatic Habitat
Constructed Watercourse

Developed Area
Commercial/Industrial
Transportation Corridor
Natural and Seminatural Area
California Annual Grassland

Eucalyptus
Other Riparian
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 1 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075b

Warnerville-Wilson 230 kV Transmission Line
Survey Area

Existing Structures
- Lattice Steel Tower

Temporary Features
- Pull Tension Site

Access Routes
- Existing Paved Road
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

Agricultural Habitat
- Dairy
- Field Crop
- Orchard
- Pasture

Aquatic Habitat
- Constructed Basin
- Constructed Watercourse

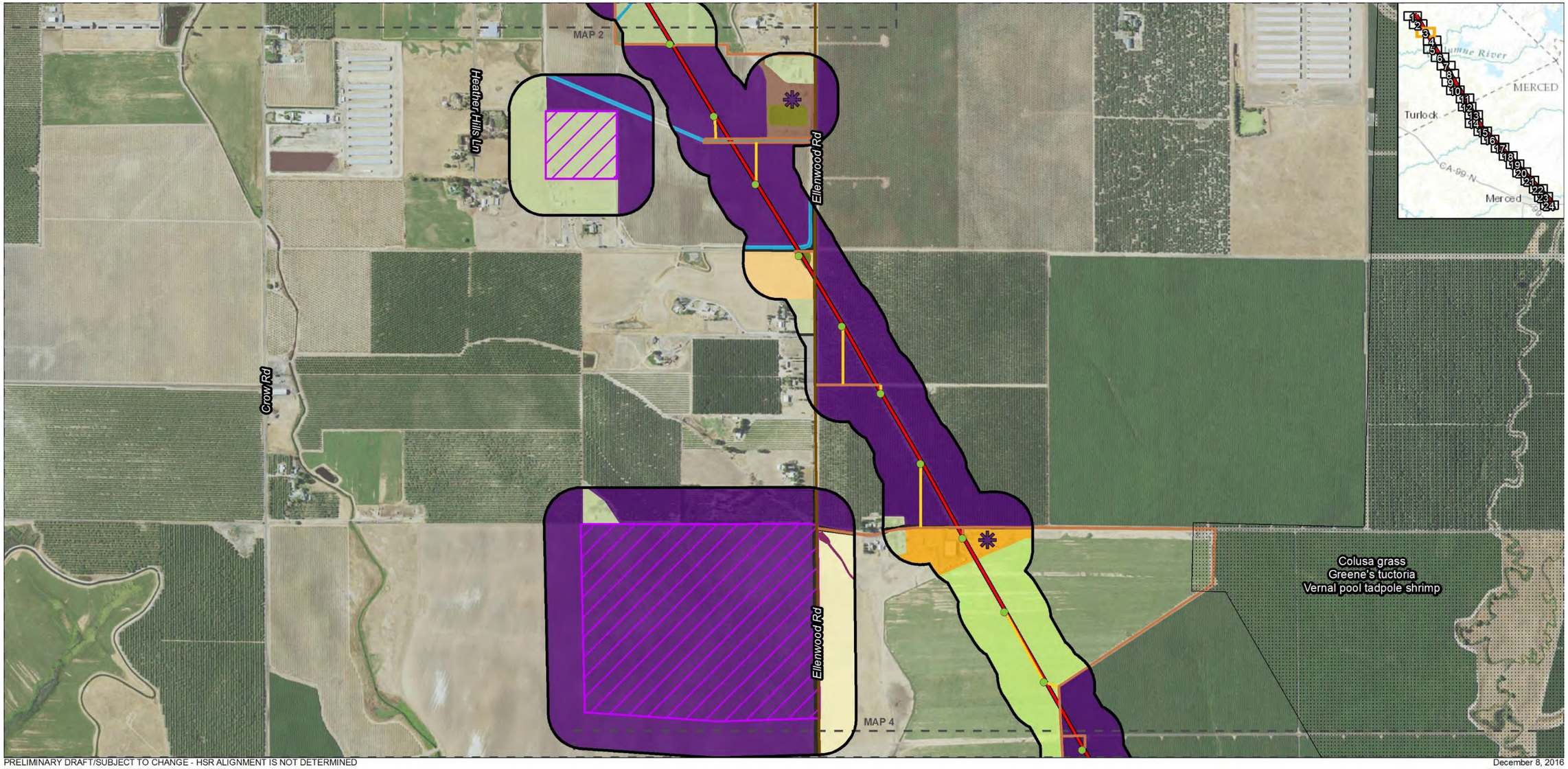
Developed Area
- Barren

Transportation Corridor

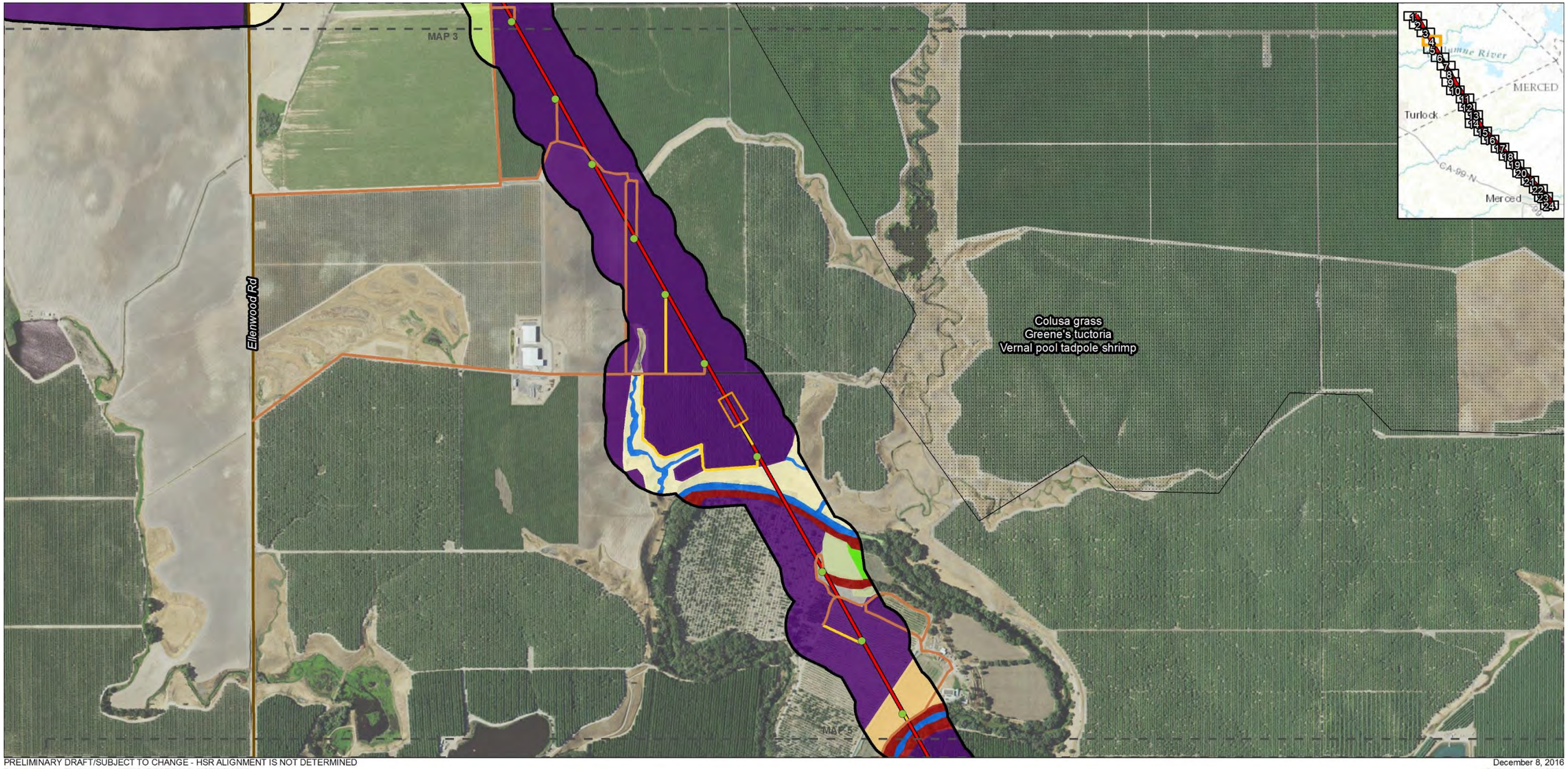
Natural and Seminatural Area
- California Annual Grassland
- Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 2 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 3 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075d

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

Temporary Features
Pull Tension Site
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

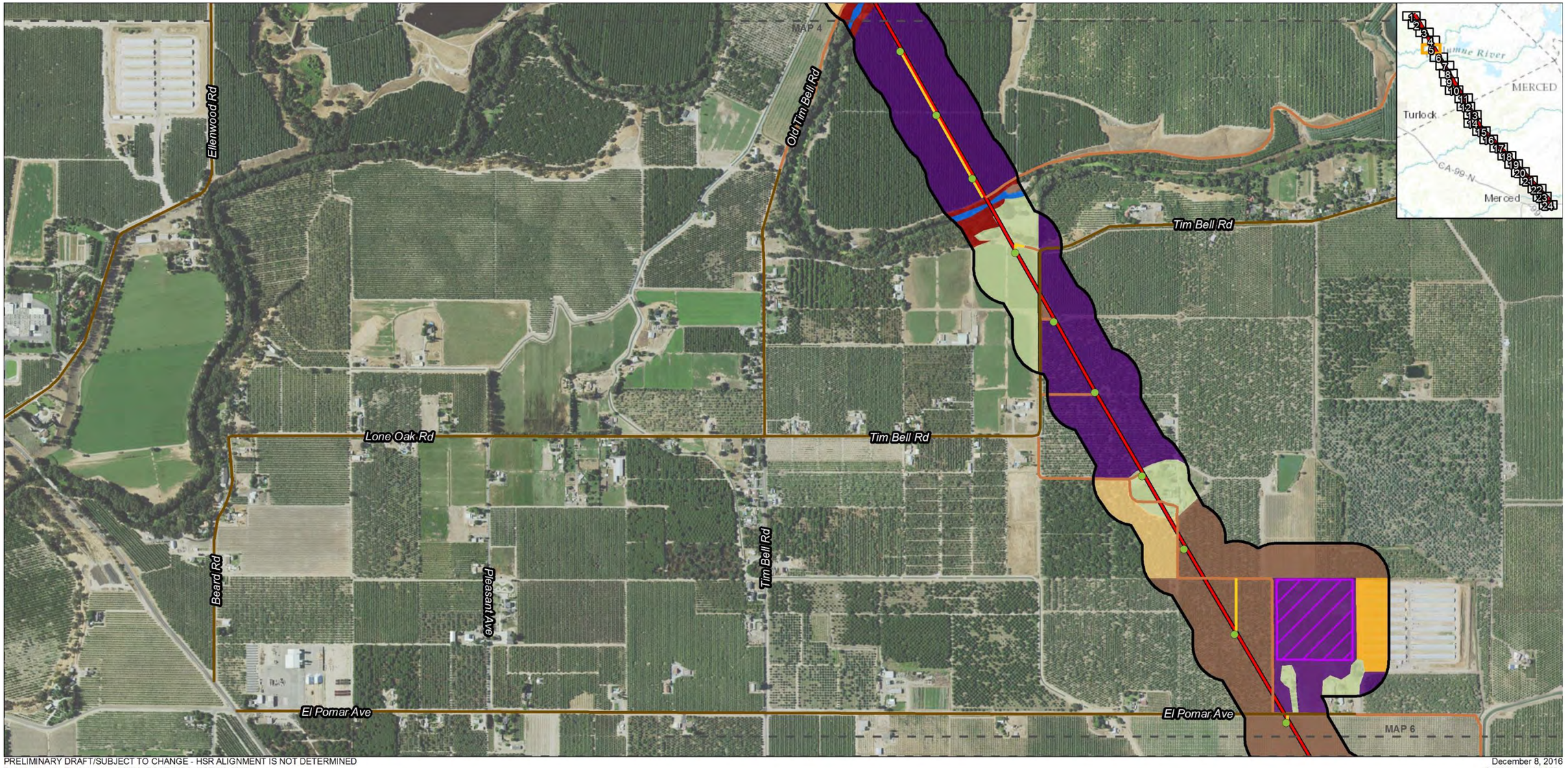
USFWS Critical Habitat
Agricultural Habitat
Fallow Field
Field Crop
Orchard

Pasture
Aquatic Habitat
Natural Watercourse
Seasonal Wetland

Developed Area
Transportation Corridor
Natural and Seminatural Area
California Annual Grassland
Great Valley Mixed Riparian
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 4 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075e

Warnerville-Wilson 230 kV Transmission Line
Survey Area

Existing Structures
- Lattice Steel Tower

Temporary Features
- Staging Area

Access Routes
- Existing Paved Road
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

Agricultural Habitat
- Fallow Field
- Orchard
- Pasture

Aquatic Habitat
- Natural Watercourse

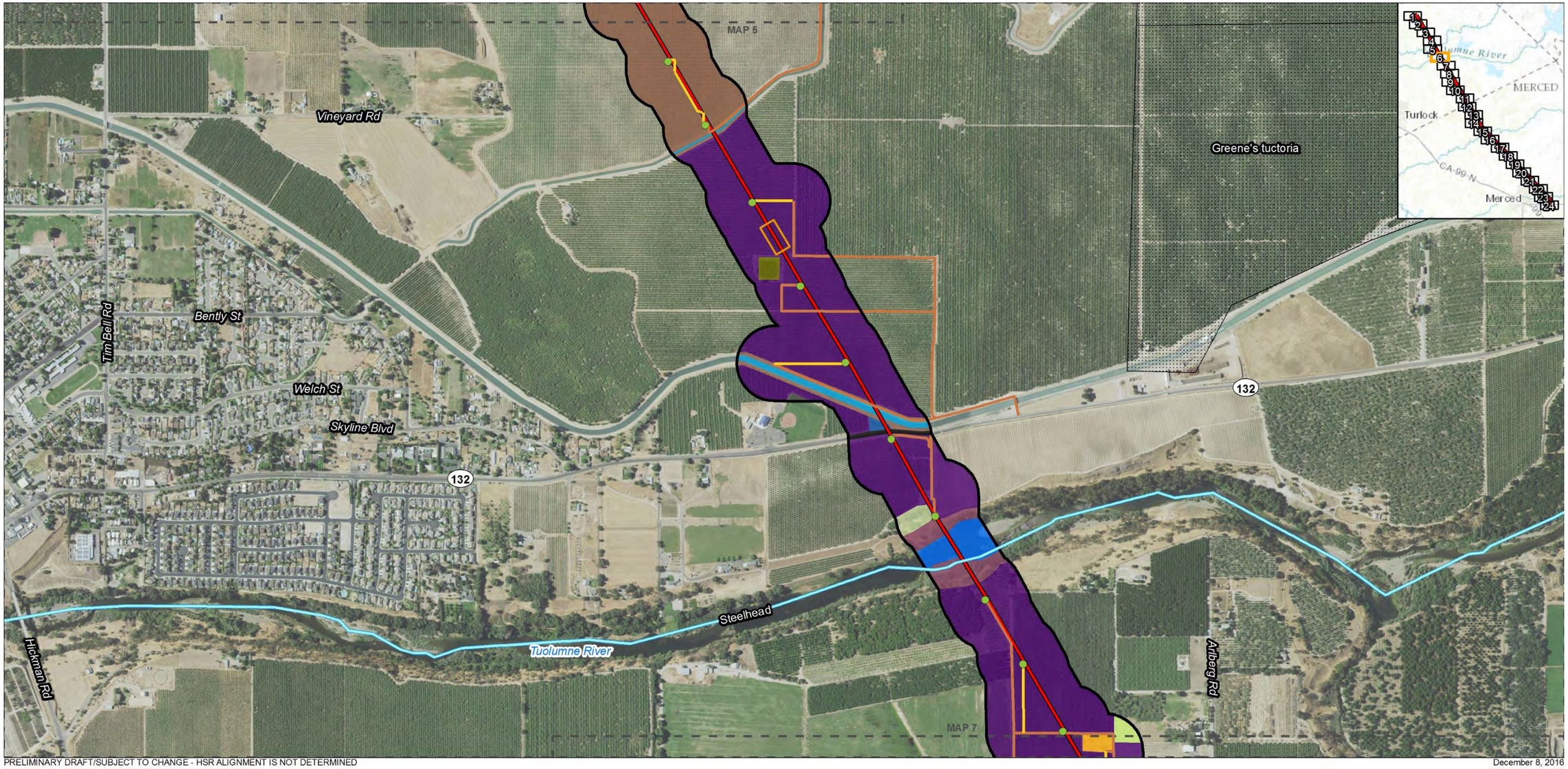
Developed Area
- Barren

Commercial/Industrial
Transportation Corridor

Natural and Seminatural Area
- Great Valley Mixed Riparian

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 5 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075f

- Warnerville-Wilson 230 kV Transmission Line
- Survey Area

Existing Structures
- Lattice Steel Tower

Temporary Features
- Pull Tension Site

Access Routes
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

- USFWS Critcal Habitat (linear)
- USFWS Critical Habitat

Agricultural Habitat
- Field Crop
- Orchard
- Pasture

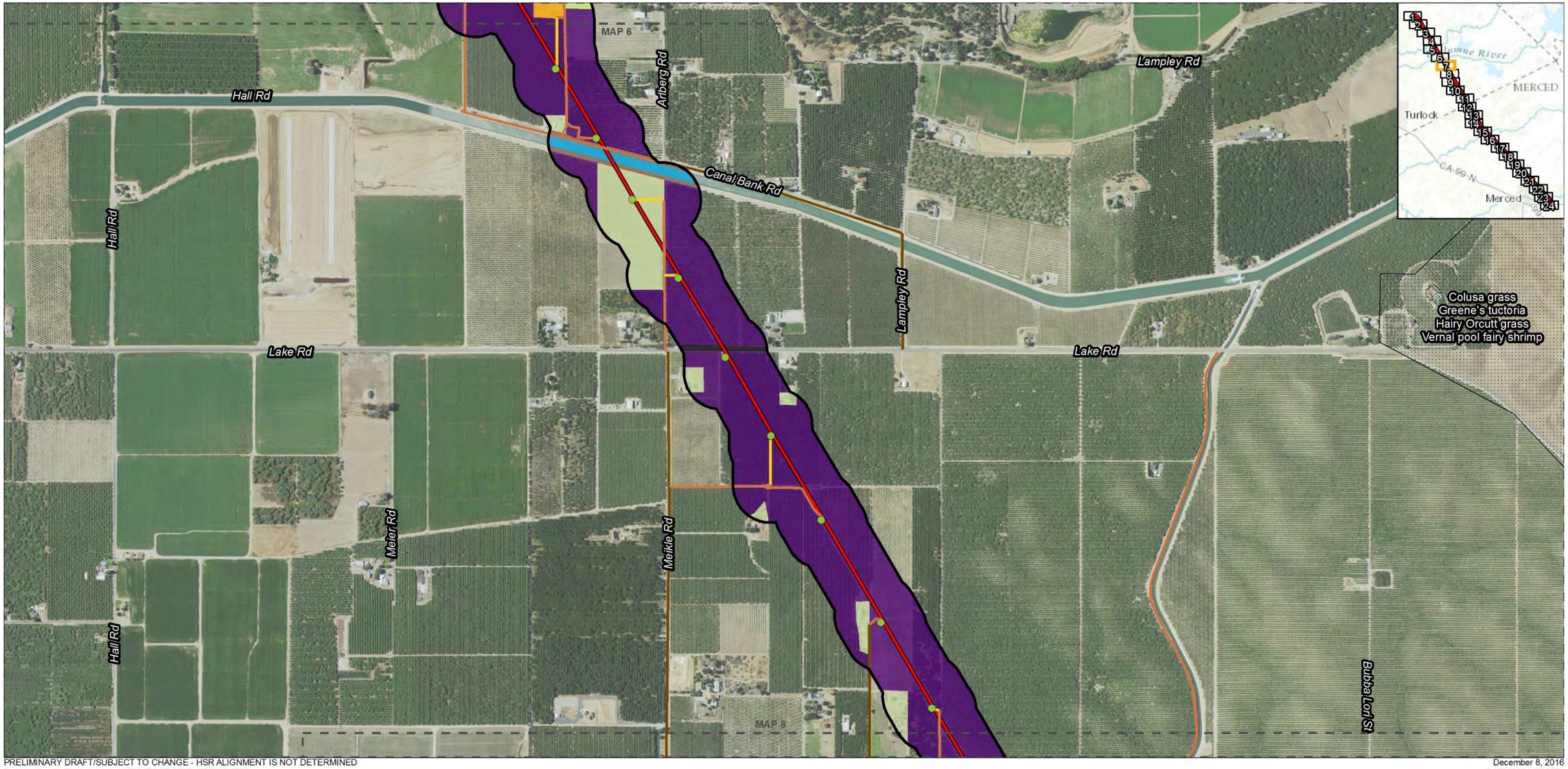
Aquatic Habitat
- Constructed Basin
- Constructed Watercourse
- Natural Watercourse
- Open Water

Developed Area
- Barren
- Commercial/Industrial
- Transportation Corridor
- Urban

Natural and Seminatural Area
- Other Riparian

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 6 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075g

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

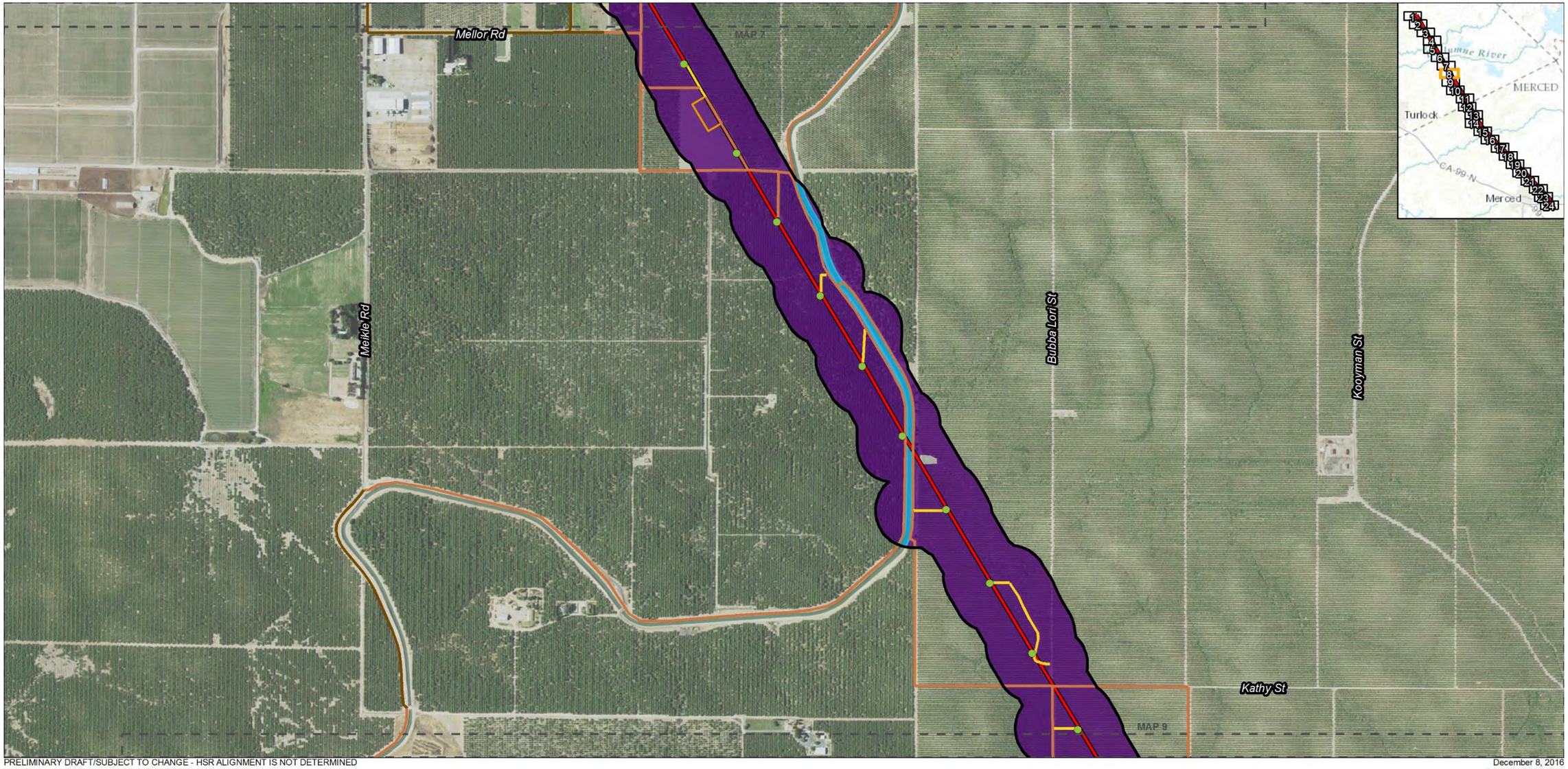
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

USFWS Critical Habitat
Agricultural Habitat
Field Crop
Orchard
Pasture

Aquatic Habitat
Constructed Watercourse
Developed Area
Barren
Commercial/Industrial
Transportation Corridor

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 7 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075h

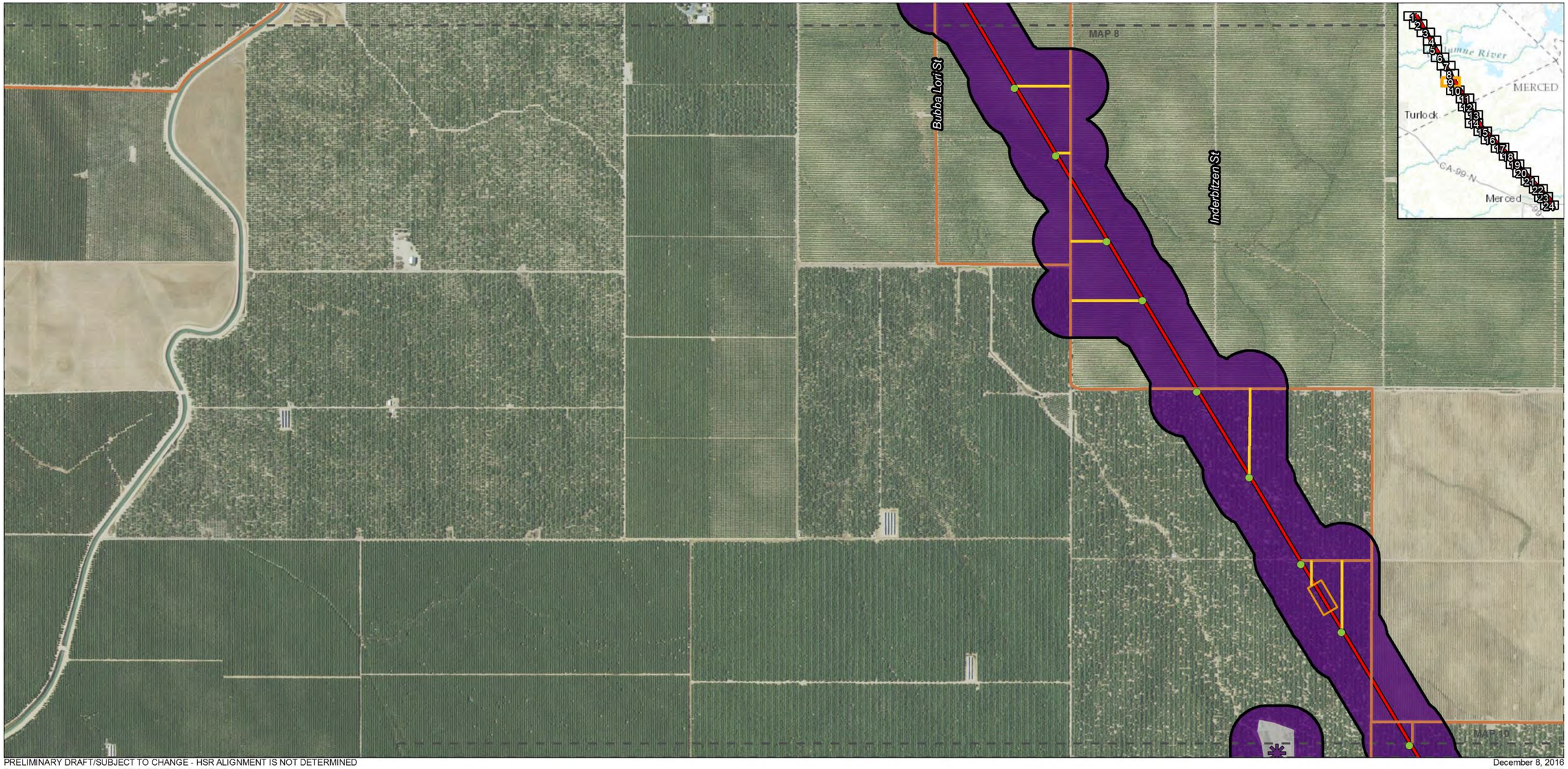
Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

Temporary Features
Pull Tension Site
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Orchard
Pasture
Aquatic Habitat
Constructed Watercourse
Natural and Seminatural Area
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 8 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075i

Warnerville-Wilson 230 kV Transmission Line
Survey Area

Existing Structures
- Lattice Steel Tower

Temporary Features
- Pull Tension Site
- Helicopter Landing Zone

Access Routes
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

Agricultural Habitat
- Orchard

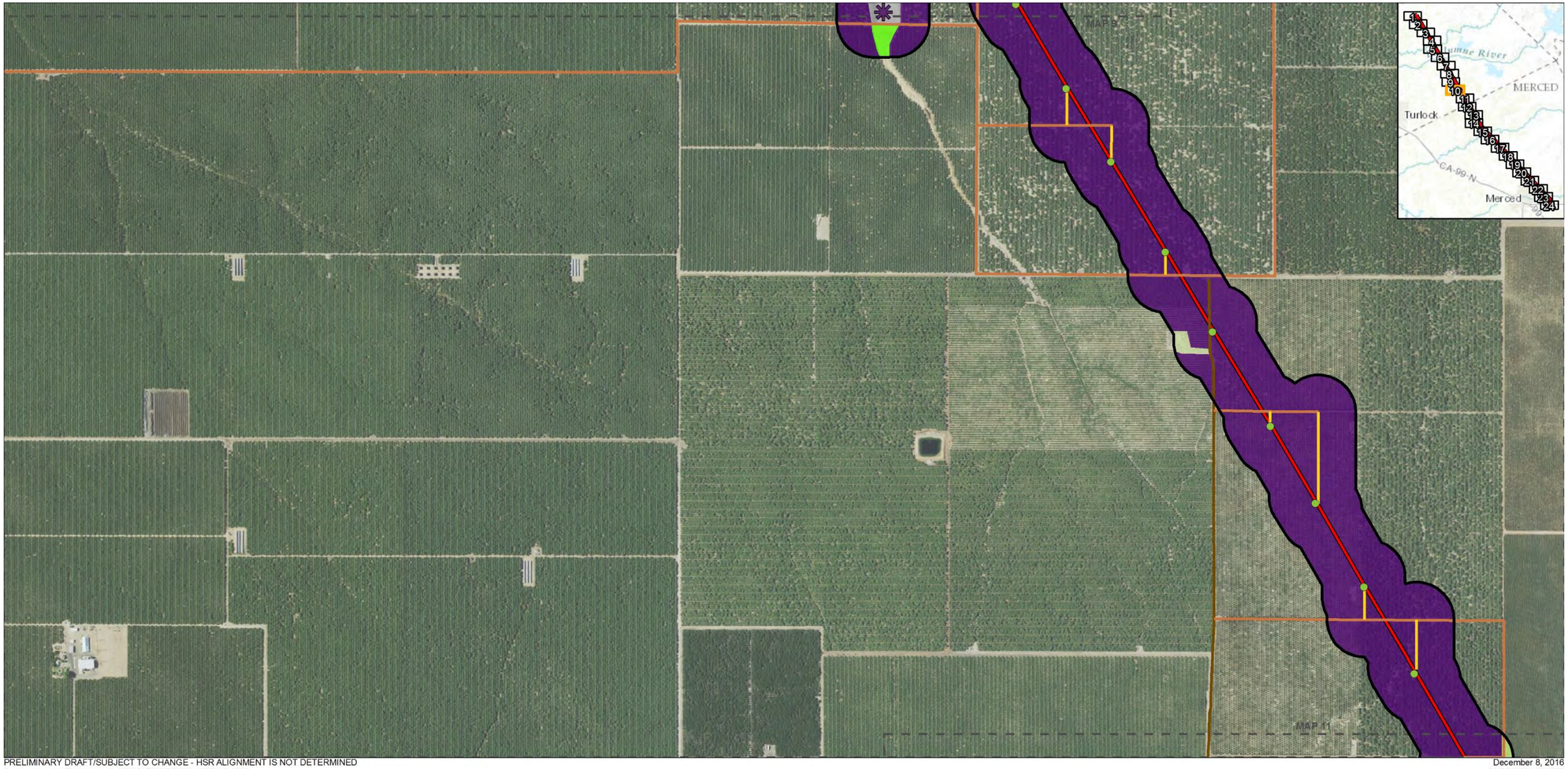
Natural and Seminatural Area
- Ruderal

N

0 500 1,000
Feet

0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 9 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075j

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

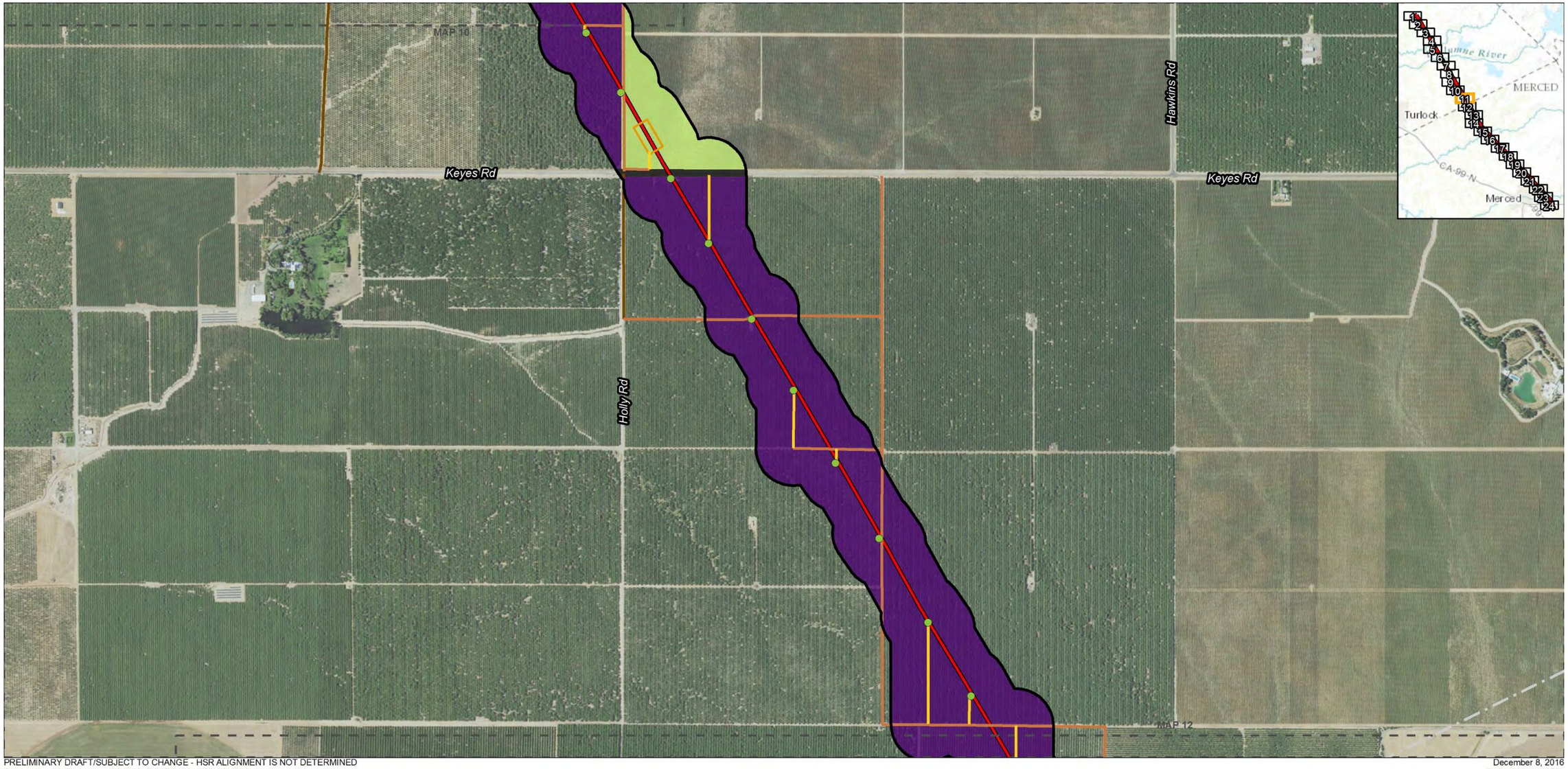
Temporary Features
Helicopter Landing Zone
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Field Crop
Orchard
Pasture

Aquatic Habitat
Seasonal Wetland
Natural and Seminatural Area
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 10 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075k

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

Temporary Features
Pull Tension Site
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Field Crop
Orchard
Developed Area
Transportation Corridor

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 11 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075I

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

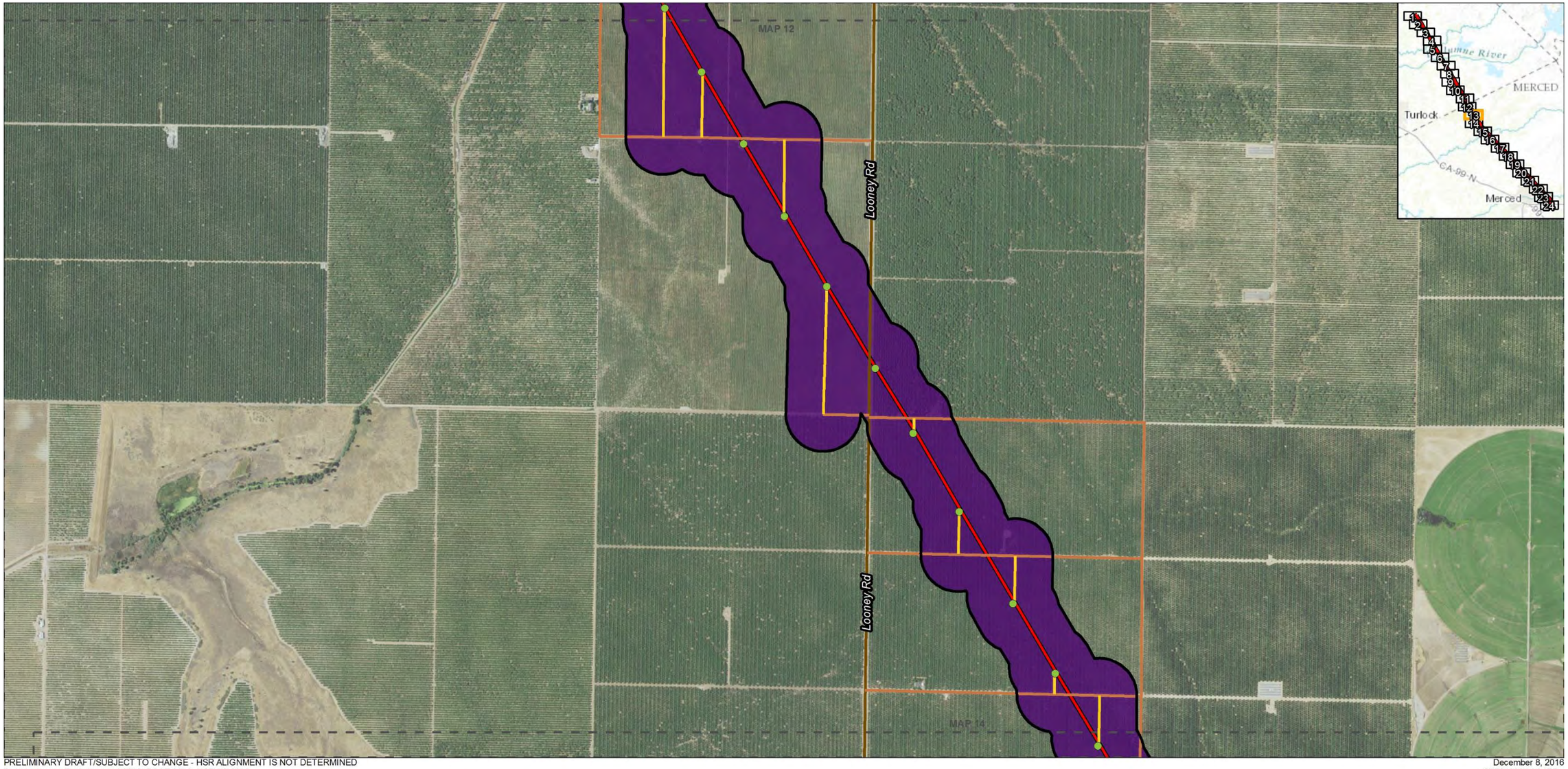
Temporary Features
Pull Tension Site
Helicopter Landing Zone
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Field Crop
Orchard
Aquatic Habitat
Constructed Watercourse

Developed Area
Commercial/Industrial
Transportation Corridor
Natural and Seminatural Area
Other Riparian
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 12 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075m

Warnerville-Wilson 230 kV Transmission Line
Survey Area

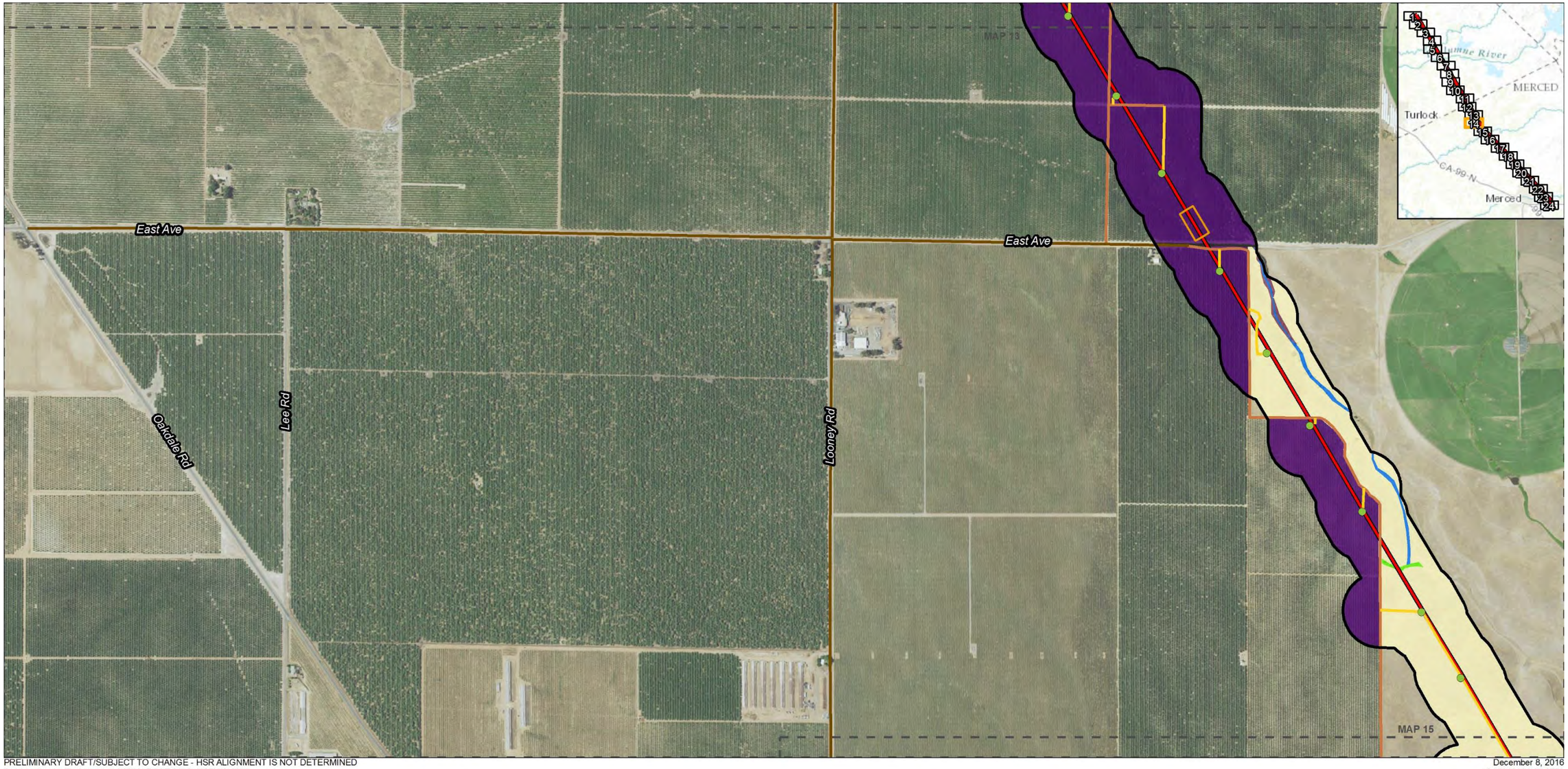
Existing Structures
Lattice Steel Tower

Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Orchard

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 13 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075n

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

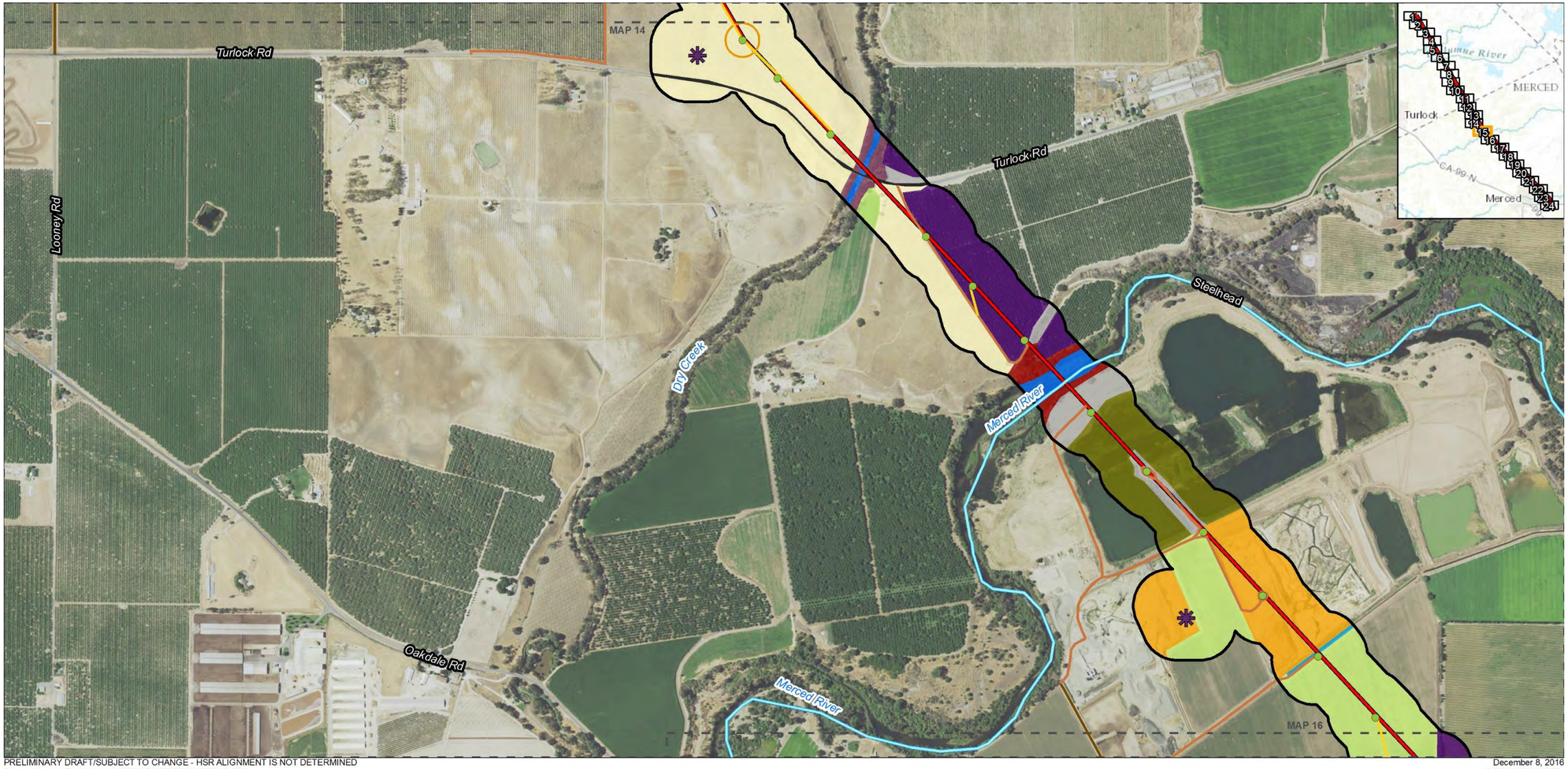
Temporary Features
Pull Tension Site
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Orchard
Aquatic Habitat
Natural Watercourse
Seasonal Wetland

Developed Area
Transportation Corridor
Natural and Seminatural Area
California Annual Grassland
Other Riparian

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 14 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075o

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

Temporary Features
Pull Tension Site
Helicopter Landing Zone
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

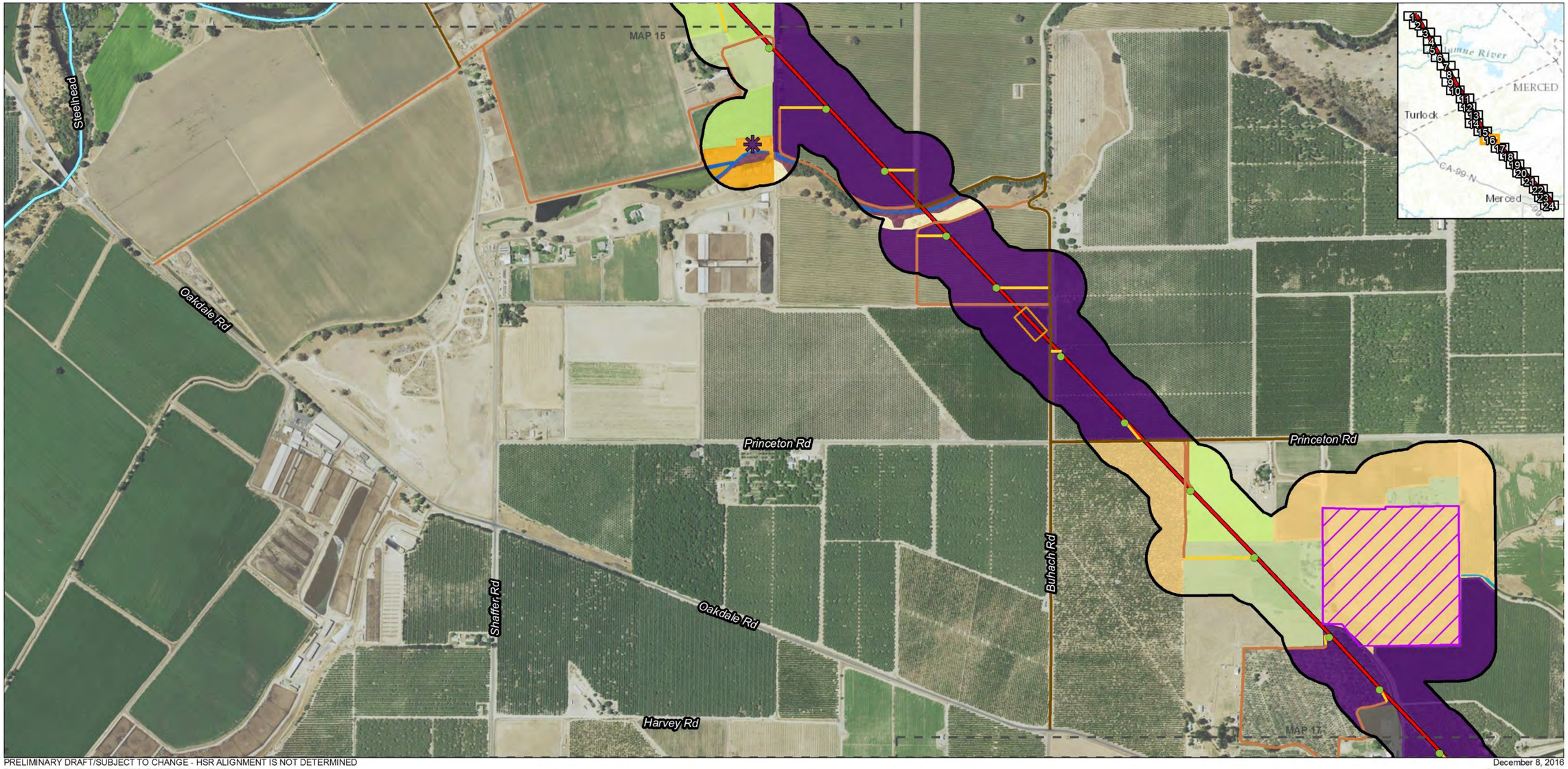
USFWS Critcal Habitat (linear)
Agricultural Habitat
Field Crop
Orchard
Aquatic Habitat
Constructed Basin

Constructed Watercourse
Natural Watercourse
Developed Area
Commercial/Industrial
Transportation Corridor

Natural and Seminatural Area
California Annual Grassland
Great Valley Mixed Riparian
Other Riparian
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 15 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075p

N
0 500 1,000
Feet
0 150 300
Meters

- Warnerville-Wilson 230 kV Transmission Line
- Survey Area

Existing Structures
- Lattice Steel Tower

Temporary Features
- Pull Tension Site
- Staging Area
- Helicopter Landing Zone

Access Routes
- Existing Paved Road
- Existing Dirt/Gravel Road
- Temporary Unpaved Road
- USFWS Critcal Habitat (linear)

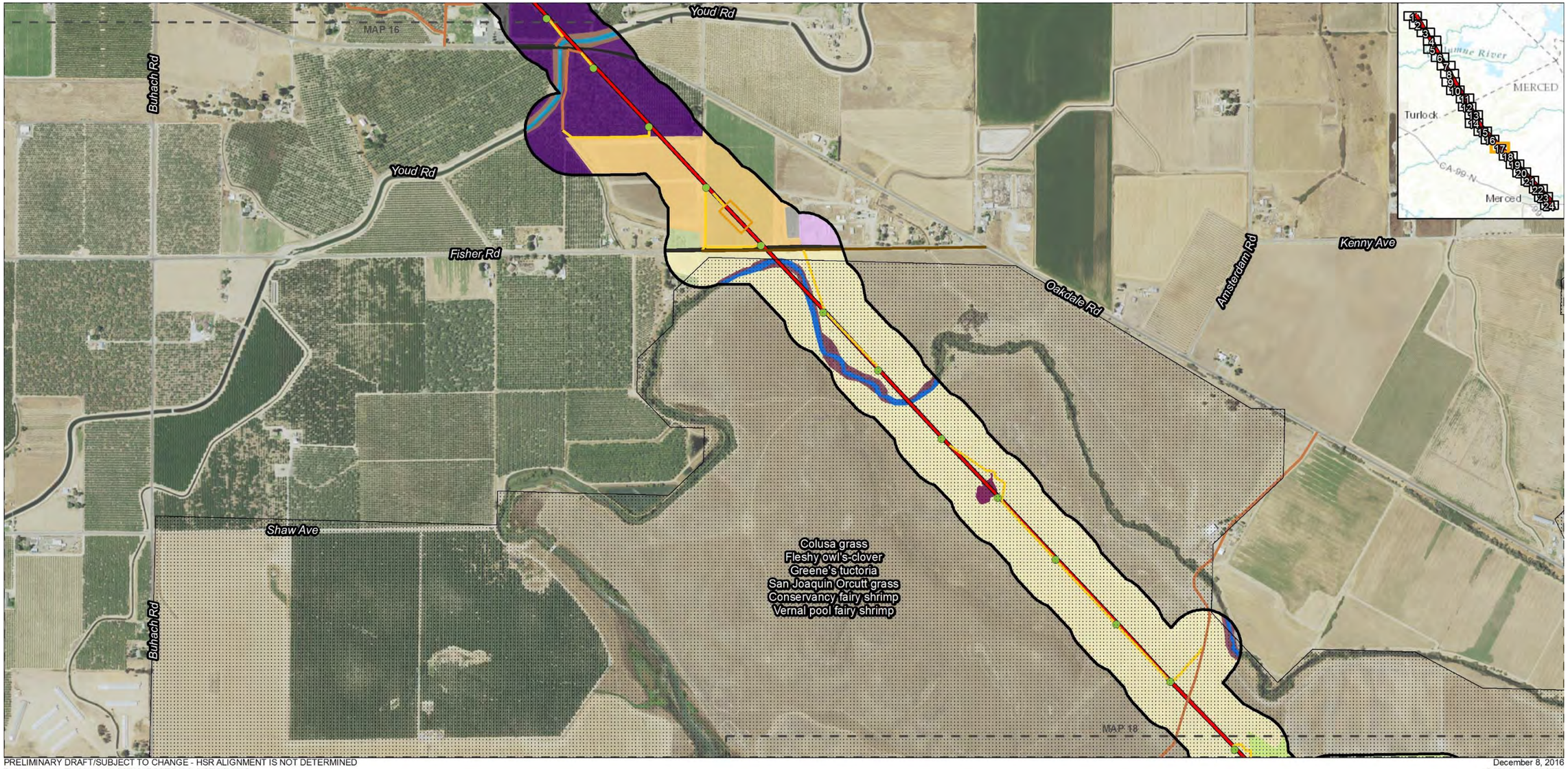
Agricultural Habitat
- Fallow Field
- Field Crop
- Orchard
- Pasture

Aquatic Habitat
- Constructed Watercourse
- Natural Watercourse

Developed Area
- Commercial/Industrial
- Transportation Corridor
- Urban

Natural and Seminatural Area
- California Annual Grassland
- Other Riparian

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 16 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075q

Warnerville-Wilson 230 kV Transmission Line
Survey Area

Existing Structures
- Lattice Steel Tower

Temporary Features
- Pull Tension Site

Access Routes
- Existing Paved Road
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

USFWS Critical Habitat

Agricultural Habitat
- Dairy
- Fallow Field
- Field Crop
- Orchard
- Pasture

Aquatic Habitat
- Constructed Watercourse
- Natural Watercourse
- Vernal Pool

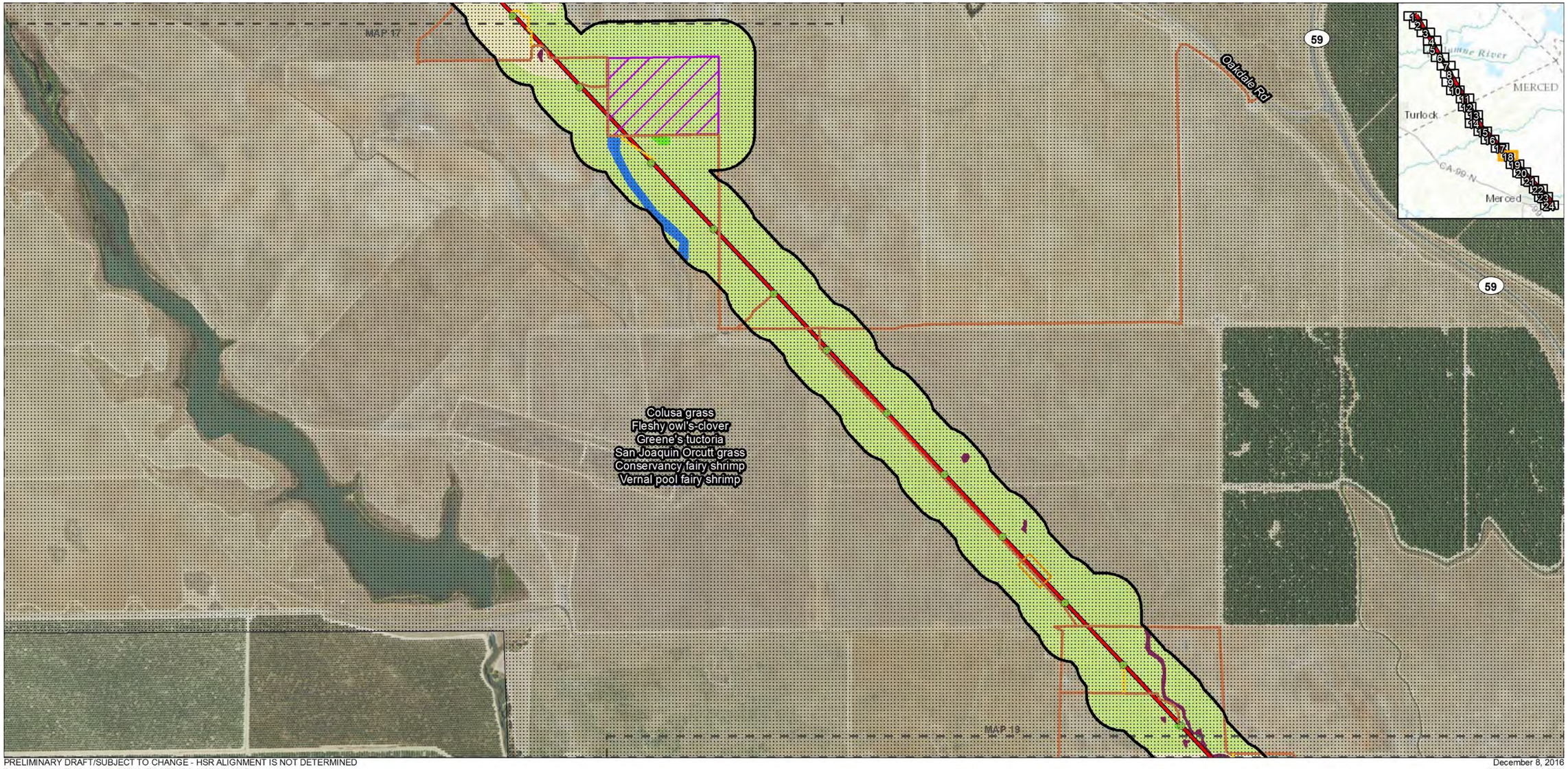
Developed Area
- Barren
- Transportation Corridor

Urban

Natural and Seminatural Area
- California Annual Grassland
- Other Riparian
- Ruderal

N
0 500 1,000 Feet
0 150 300 Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 17 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075r

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

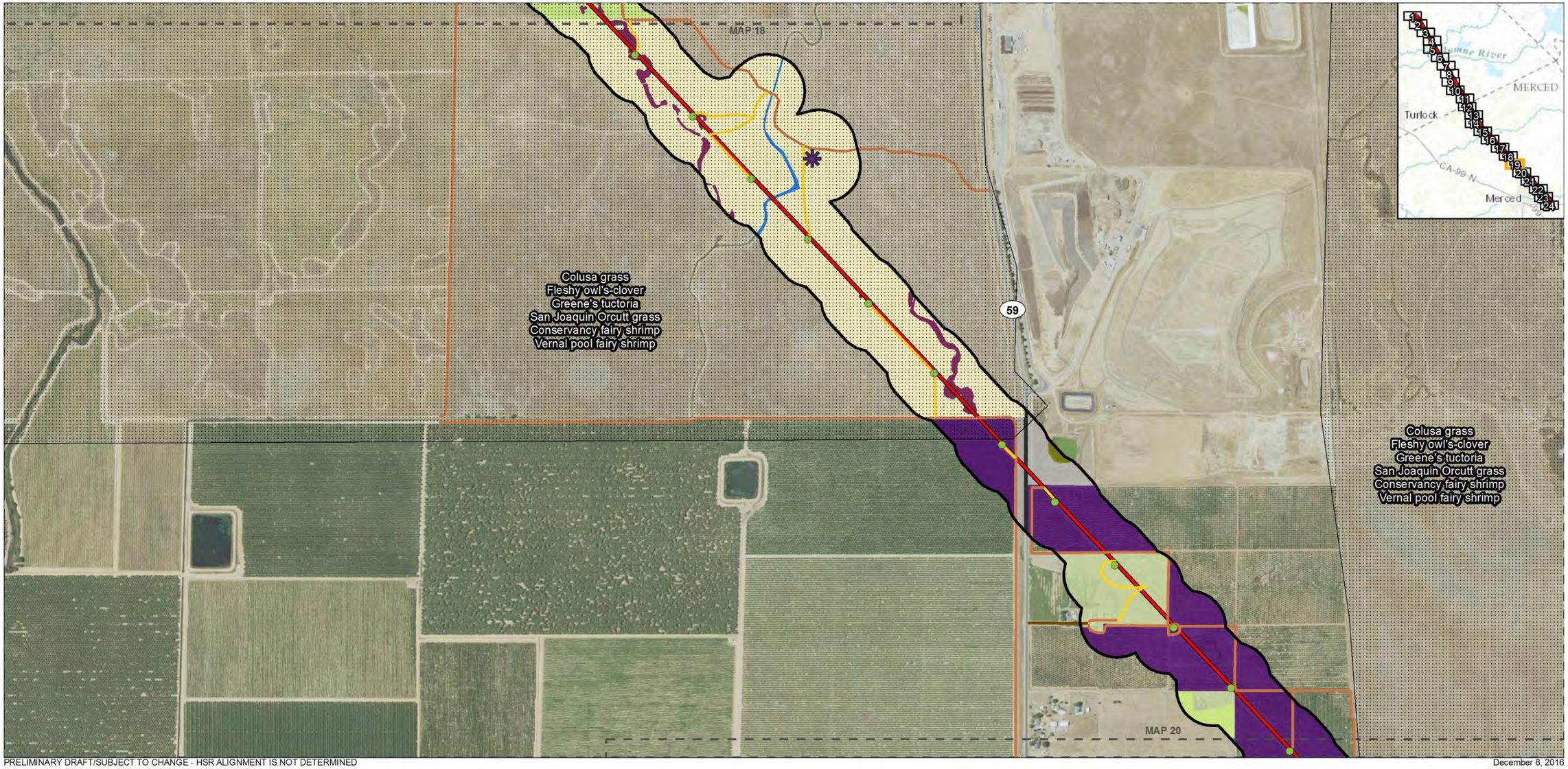
Temporary Features
Pull Tension Site
Staging Area
Access Routes
Existing Dirt/Gravel Road
Temporary Unpaved Road

USFWS Critical Habitat
Agricultural Habitat
Field Crop
Aquatic Habitat
Natural Watercourse

Seasonal Wetland
Vernal Pool
Natural and Seminatural Area
California Annual Grassland

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 18 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075s

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

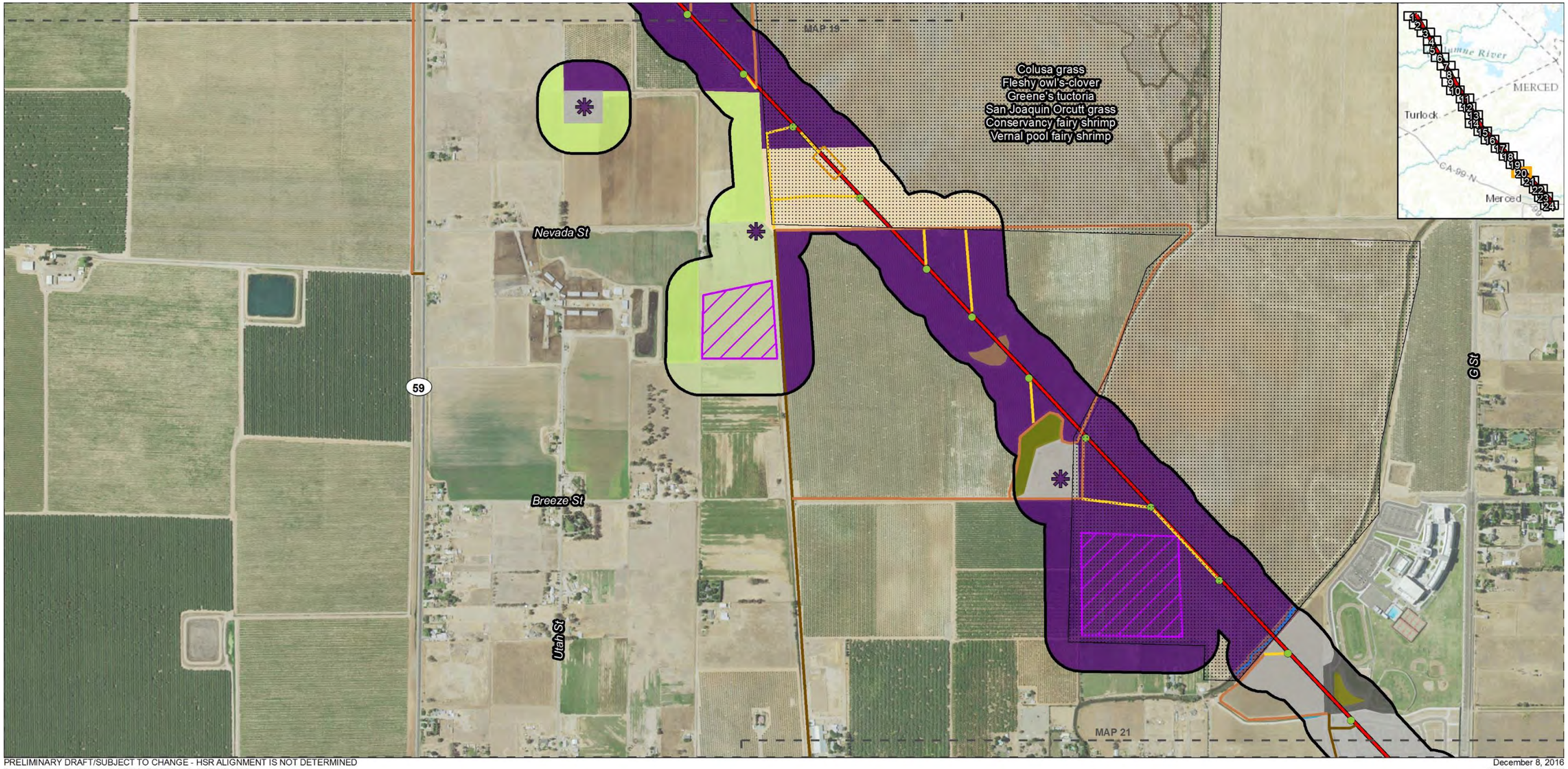
Temporary Features
Helicopter Landing Zone
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

USFWS Critical Habitat
Agricultural Habitat
Field Crop
Orchard
Pasture
Aquatic Habitat
Constructed Basin

Natural Watercourse
Vernal Pool
Developed Area
Transportation Corridor
Natural and Seminatural Area
California Annual Grassland
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 19 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075t

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower
Temporary Features
Pull Tension Site
Staging Area

Helicopter Landing Zone
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

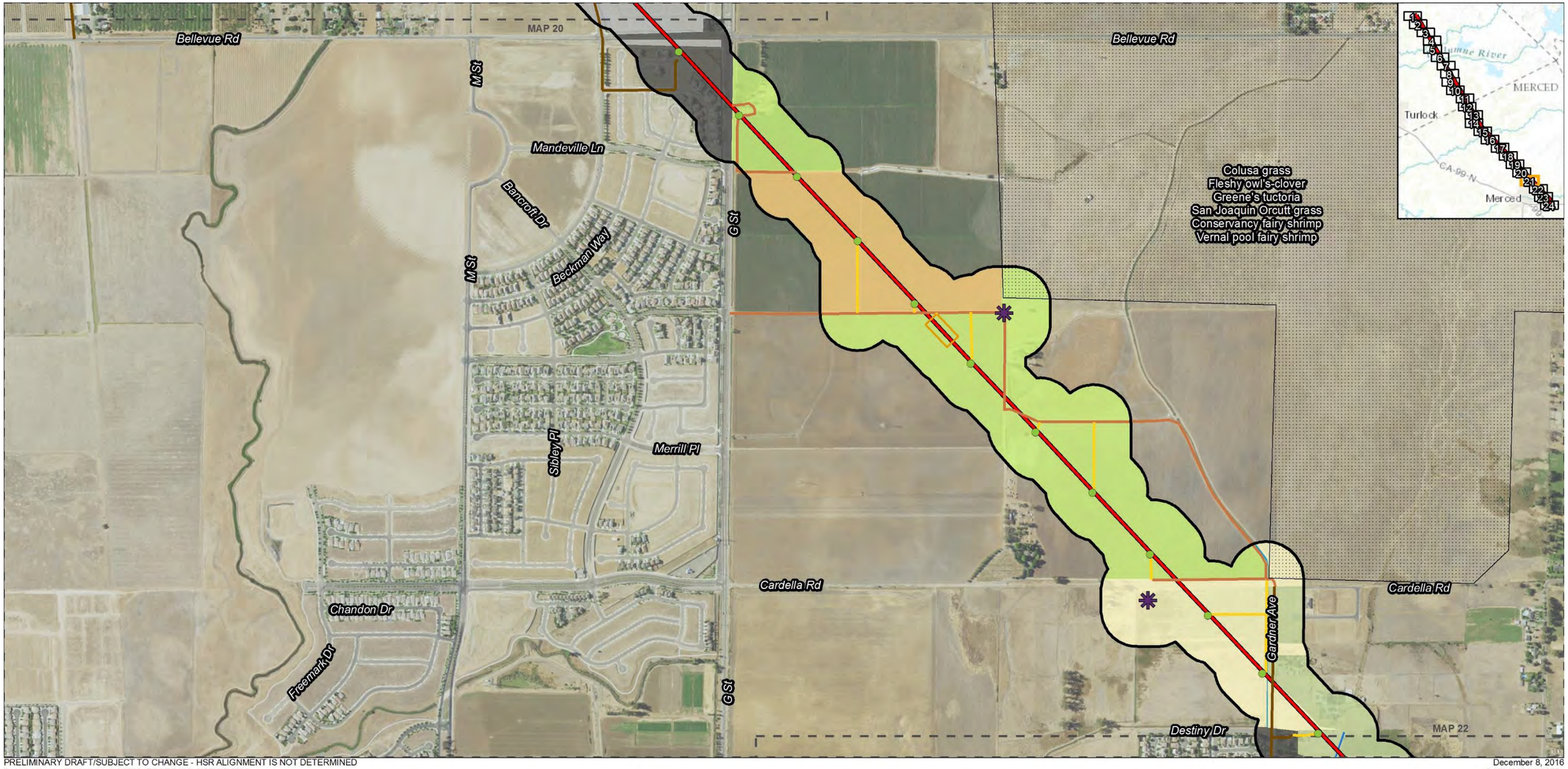
USFWS Critical Habitat
Agricultural Habitat
Field Crop
Inactive Agriculture
Orchard
Pasture

Aquatic Habitat
Constructed Basin
Constructed Watercourse
Natural Watercourse
Developed Area
Barren

Urban
Natural and Seminatural Area
Other Riparian
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 20 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075u

Warnerville-Wilson 230 kV Transmission Line
Survey Area
Existing Structures
Lattice Steel Tower

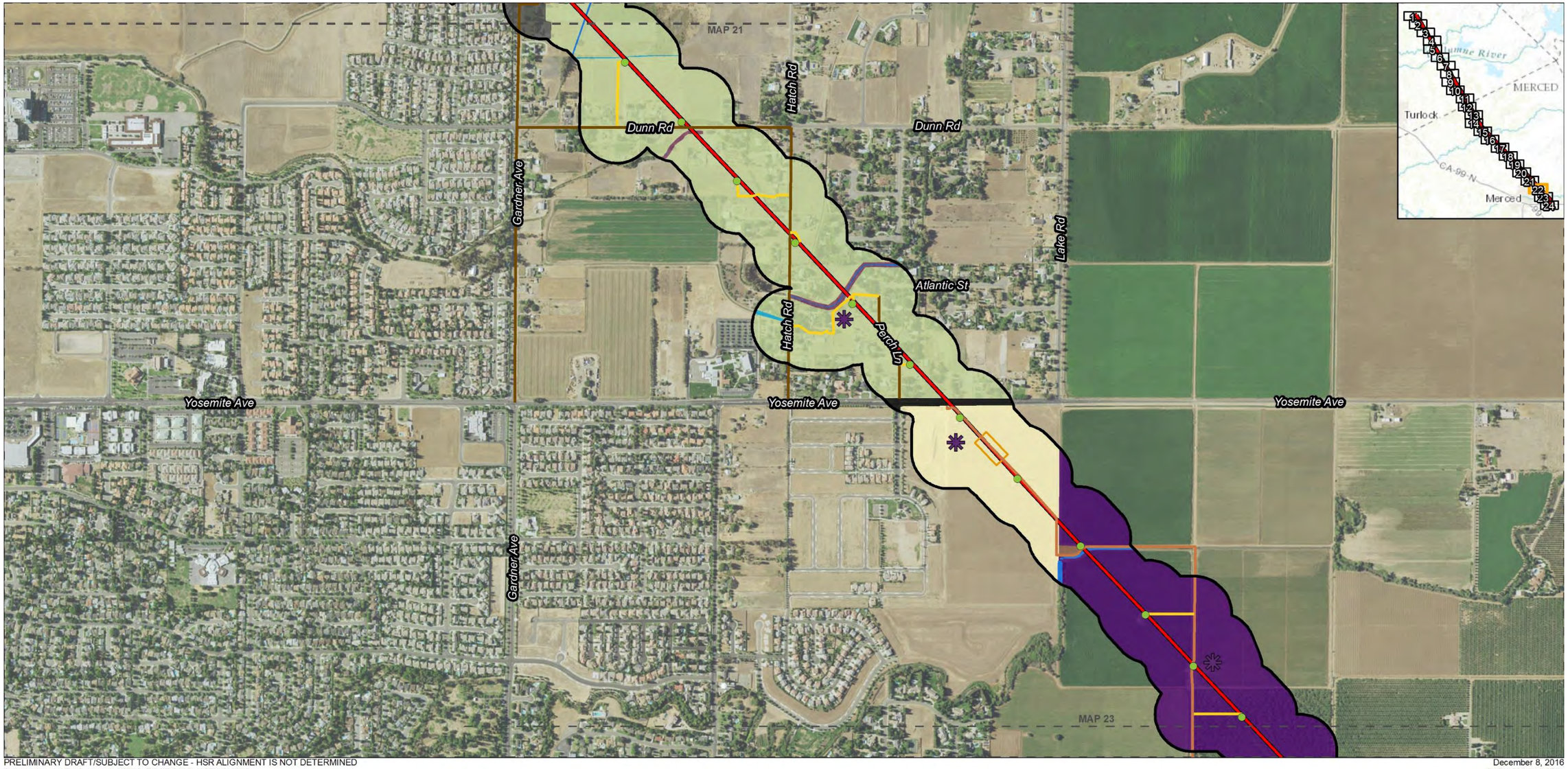
Temporary Features
Pull Tension Site
Helicopter Landing Zone
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

USFWS Critical Habitat
Agricultural Habitat
Fallow Field
Field Crop
Pasture
Aquatic Habitat
Constructed Watercourse

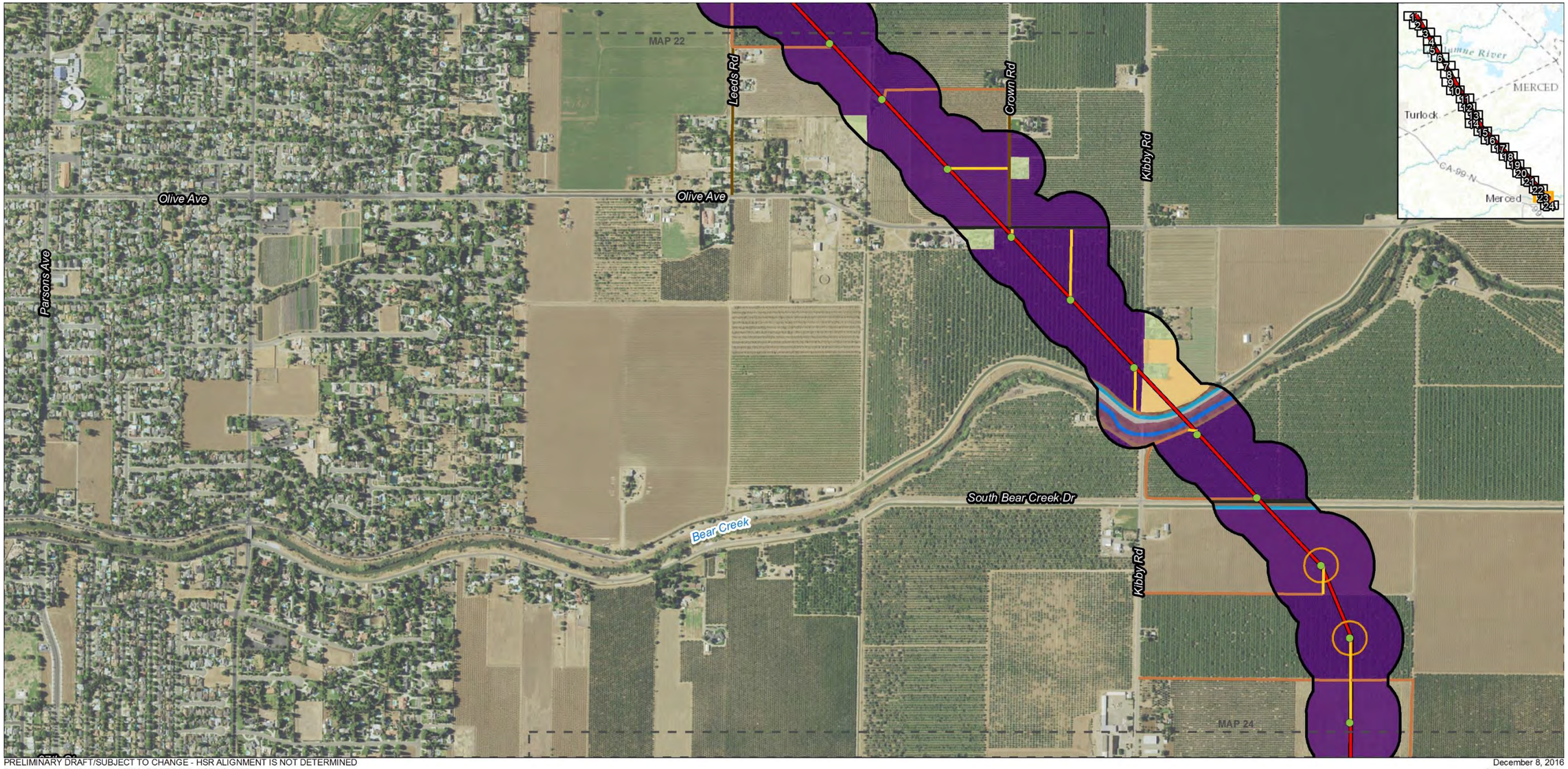
Natural Watercourse
Developed Area
Urban
Natural and Seminatural Area
California Annual Grassland
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 21 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 22 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075w

- Warnerville-Wilson 230 kV Transmission Line
- Survey Area

Existing Structures
- Lattice Steel Tower

Temporary Features
- Pull Tension Site

Access Routes
- Existing Paved Road
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

Agricultural Habitat
- Fallow Field
- Orchard
- Pasture

Aquatic Habitat
- Constructed Watercourse
- Natural Watercourse

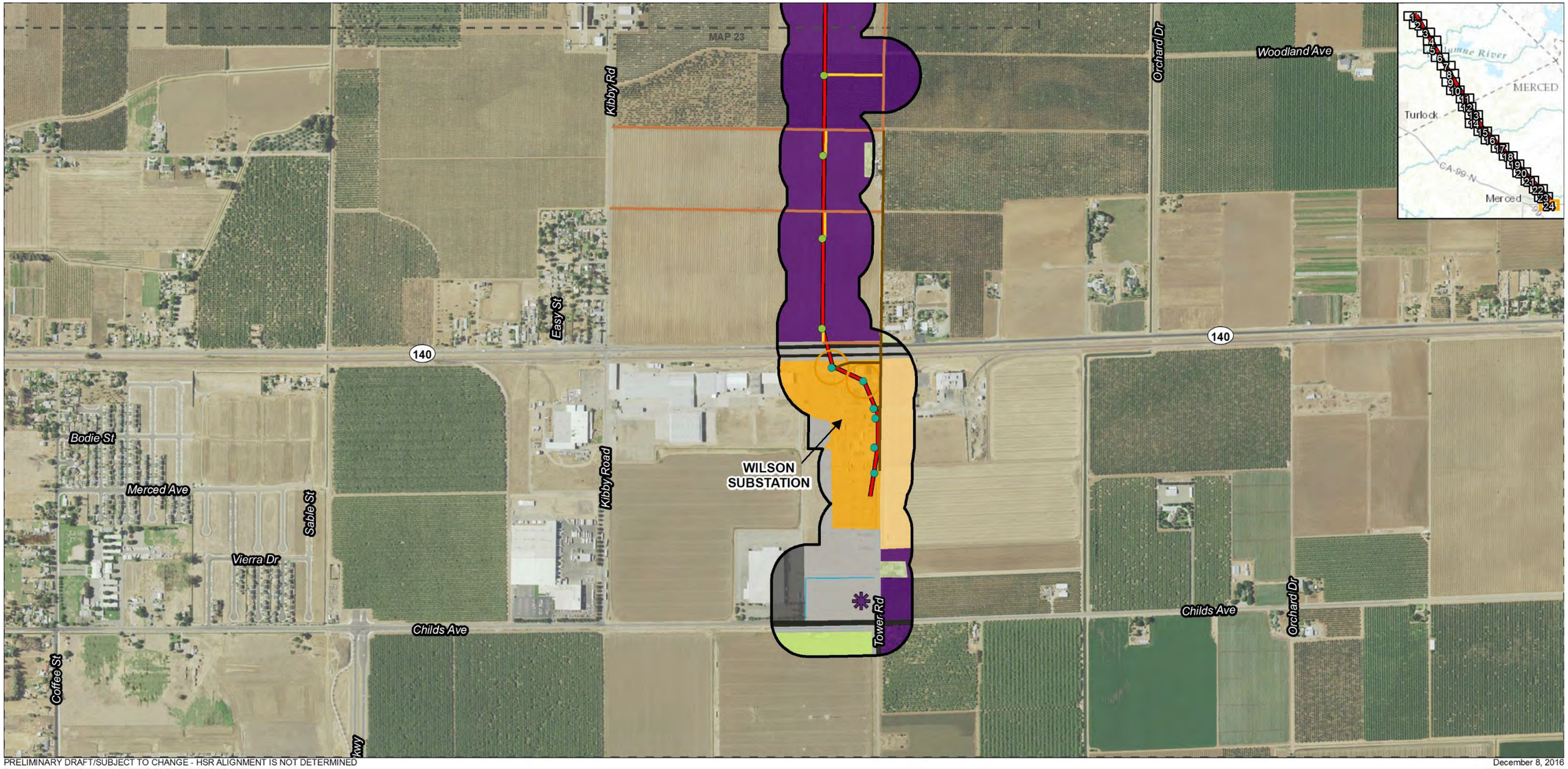
Developed Area
- Barren

Transportation Corridor

Natural and Seminatural Area
- Other Riparian
- Ruderal

N
0 500 1,000 Feet
0 150 300 Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 23 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 075x

Warnerville-Wilson 230 kV Transmission Line
Survey Area

Existing Structures
- Lattice Steel Tower
- Tubular Steel Pole

Temporary Features
- Pull Tension Site
- Helicopter Landing Zone

Access Routes
- Existing Paved Road
- Existing Dirt/Gravel Road
- Temporary Unpaved Road

Agricultural Habitat
- Fallow Field
- Field Crop
- Orchard
- Pasture

Aquatic Habitat
- Constructed Watercourse

Developed Area
- Commercial/Industrial
- Transportation Corridor

Urban

Natural and Seminatural Area
- Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 24 Site 7 – Le Grand Junction/Sandy Mush Road, Warnerville – Wilson 230 kV Transmission Line Land Cover

SITE 7 – Le Grand Junction/Sandy Mush Road

Dutchman Switching Station, 115 kV Tie-Line, and
Wilson – Dairyland (idle) 115 kV Power Line

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PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 071a

Wilson - Dairyland (idle) 115 kV Power Line
Survey Area
Existing Structures
Wood Pole

Dutchman Switching Station and 115 kV Tie-Line
Permanent
Temporary
Wilson - Dairyland Temporary Features
Pull Tension Site

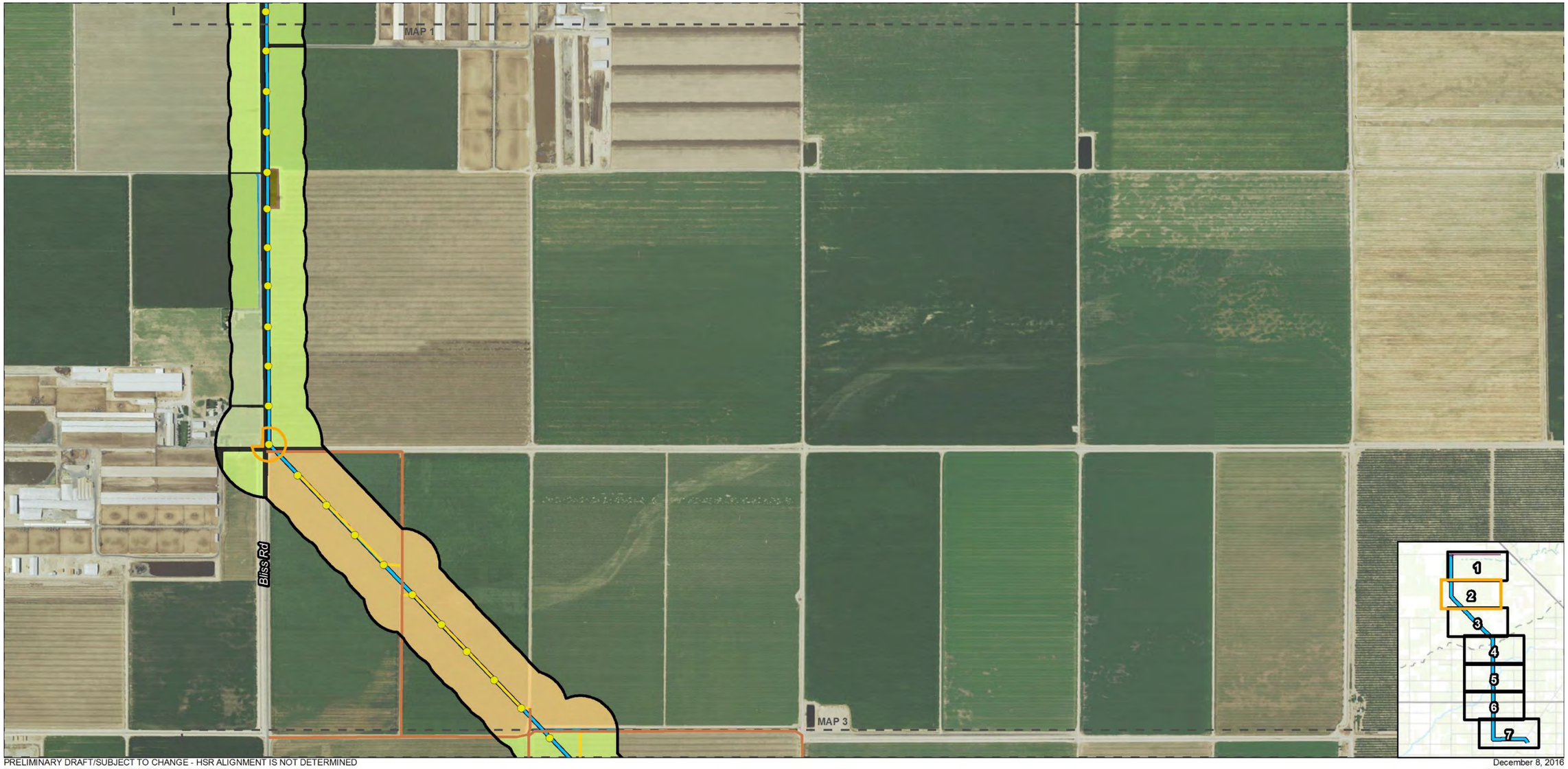
USFWS Critical Habitat
Agricultural Habitat
Fallow Field
Field Crop
Row Crop

Aquatic Habitat
Constructed Basin
Coastal and Valley Freshwater Marsh
Natural Watercourse
Developed Area
Barren

Transportation Corridor
Natural and Seminatural Area
California Annual Grassland
Other Riparian
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 1 Site 7 – Le Grand Junction/Sandy Mush Road, Dutchman Switching Station, 115 kV Tie-Line, and Wilson – Dairyland (idle) 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 071b

Wilson - Dairyland (idle) 115 kV Power Line
Survey Area
Existing Structures
Wood Pole
Wilson - Dairyland Temporary Features
Pull Tension Site

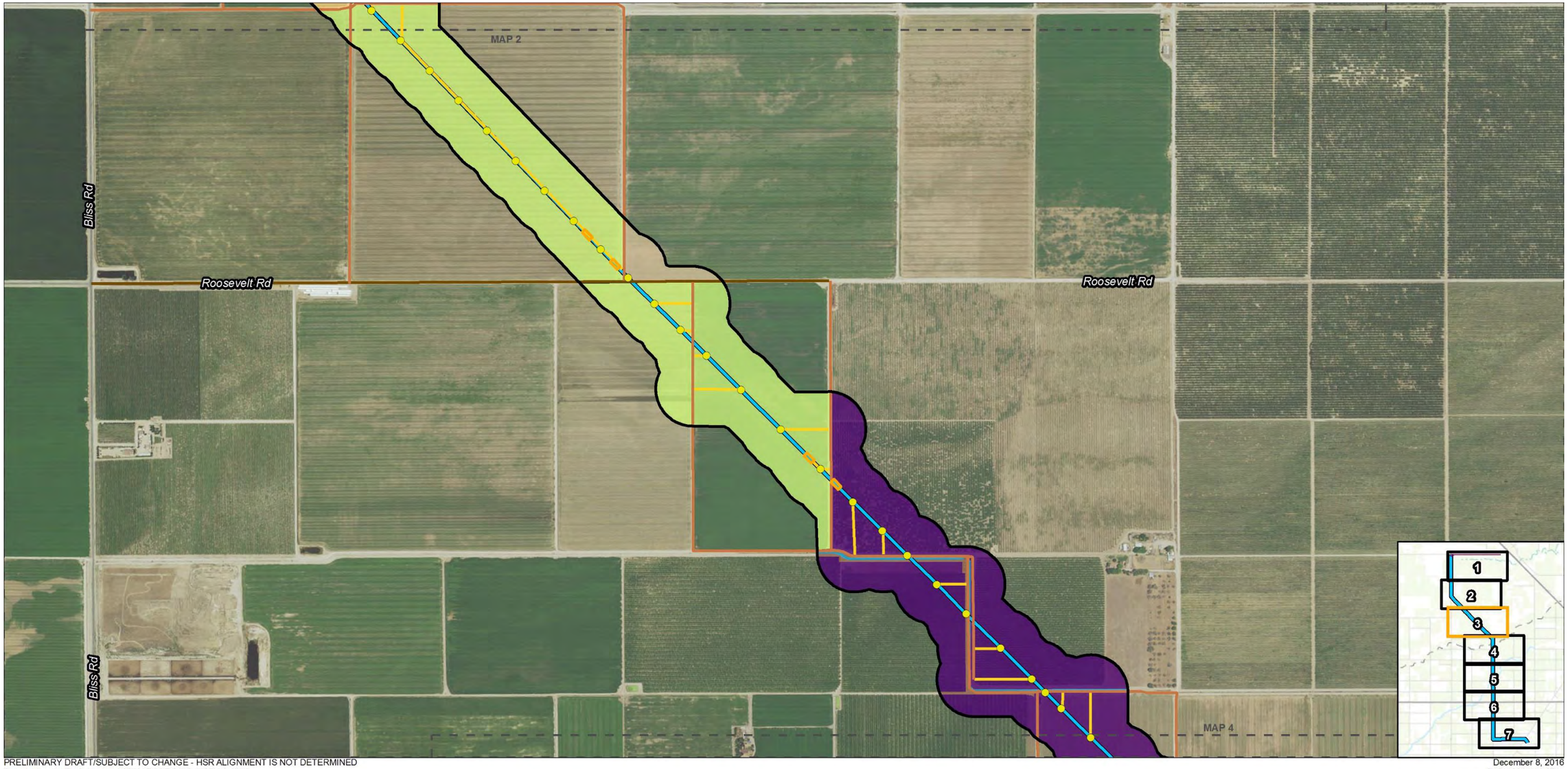
Access Routes
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Fallow Field
Field Crop
Pasture
Aquatic Habitat
Constructed Basin

Constructed Watercourse
Developed Area
Barren
Transportation Corridor
Natural and Seminatural Area
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 2 Site 7 – Le Grand Junction/Sandy Mush Road, Wilson – Dairyland (idle) 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 071c

Wilson - Dairyland (idle) 115 kV Power Line
Survey Area
Existing Structures
Wood Pole
Wilson - Dairyland Temporary Features
Pull Tension Site

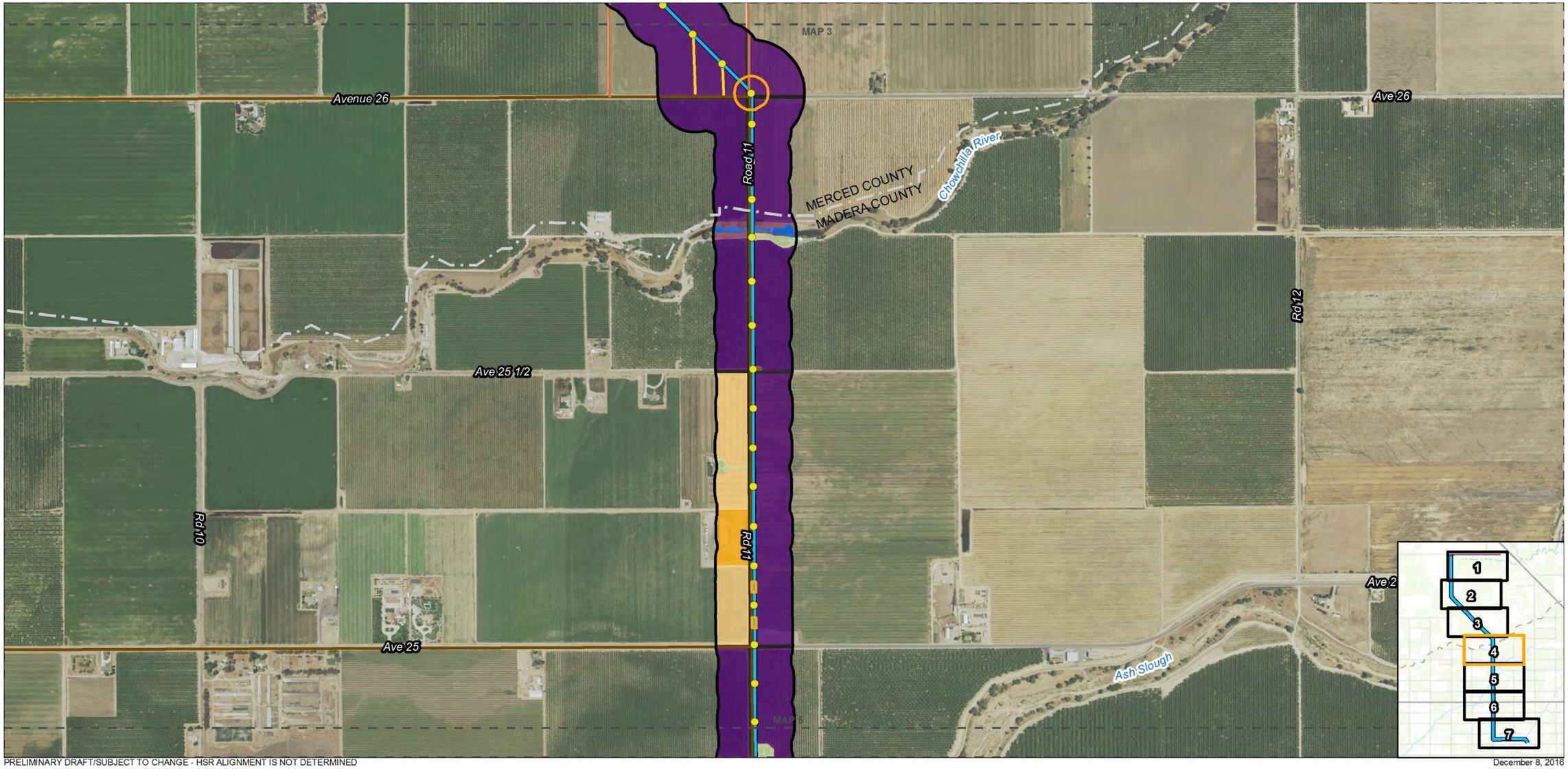
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Fallow Field
Field Crop
Orchard
Row Crop

Aquatic Habitat
Constructed Watercourse
Developed Area
Barren
Transportation Corridor

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 3 Site 7 – Le Grand Junction/Sandy Mush Road, Wilson – Dairyland (idle) 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 071d

Wilson - Dairyland (idle) 115 kV Power Line
Survey Area
Existing Structures
Wood Pole
Wilson - Dairyland Temporary Features
Pull Tension Site

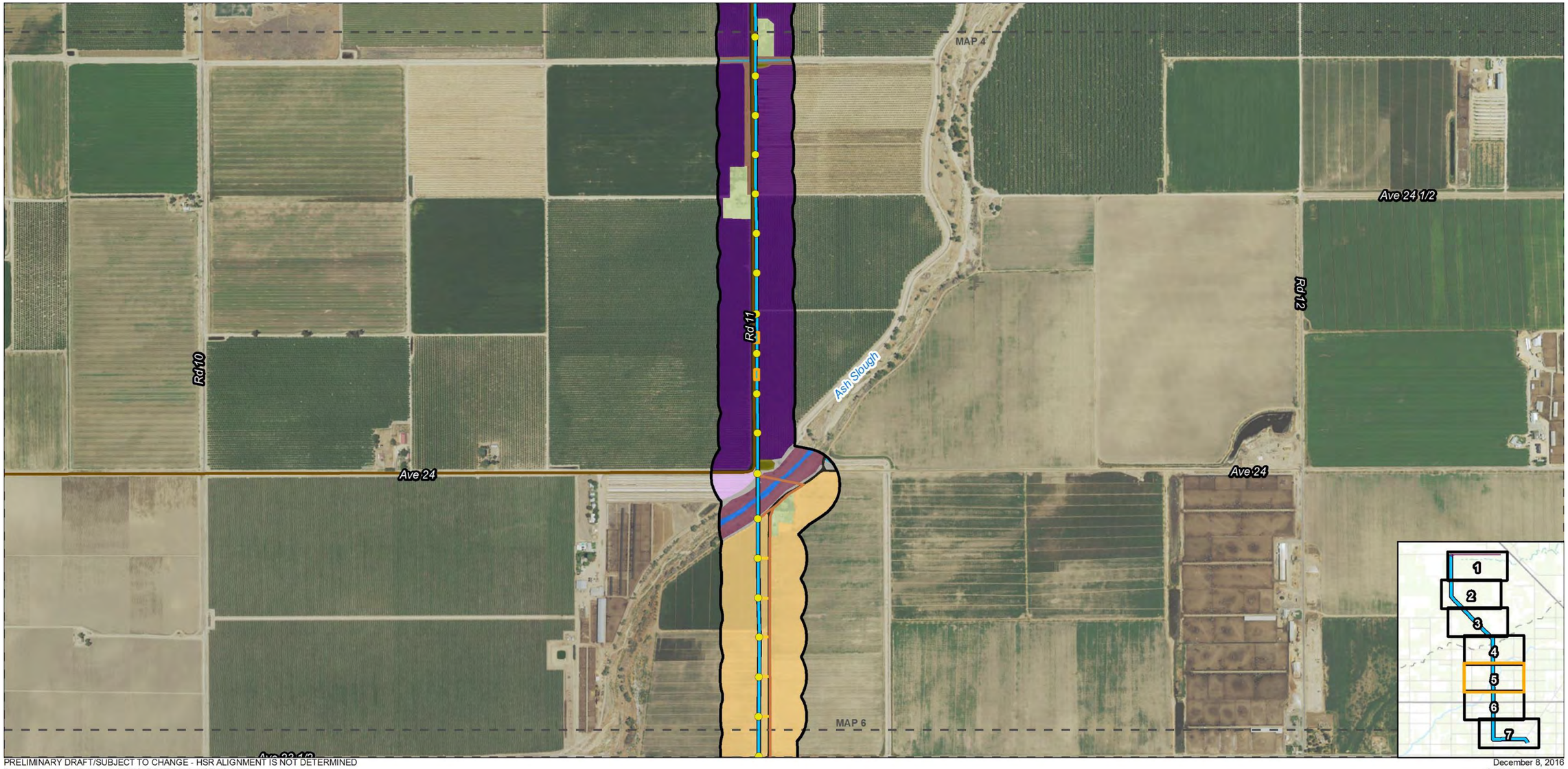
Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Fallow Field
Orchard
Pasture
Aquatic Habitat
Constructed Basin
Natural Watercourse

Developed Area
Barren
Commercial/Industrial
Transportation Corridor
Natural and Seminatural Area
Other Riparian

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 4 Site 7 – Le Grand Junction/Sandy Mush Road, Wilson – Dairyland (idle) 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 071e

Wilson - Dairyland (idle) 115 kV Power Line
Survey Area
Existing Structures
Wood Pole
Wilson - Dairyland Temporary Features
Pull Tension Site

Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Dairy
Fallow Field
Orchard
Pasture

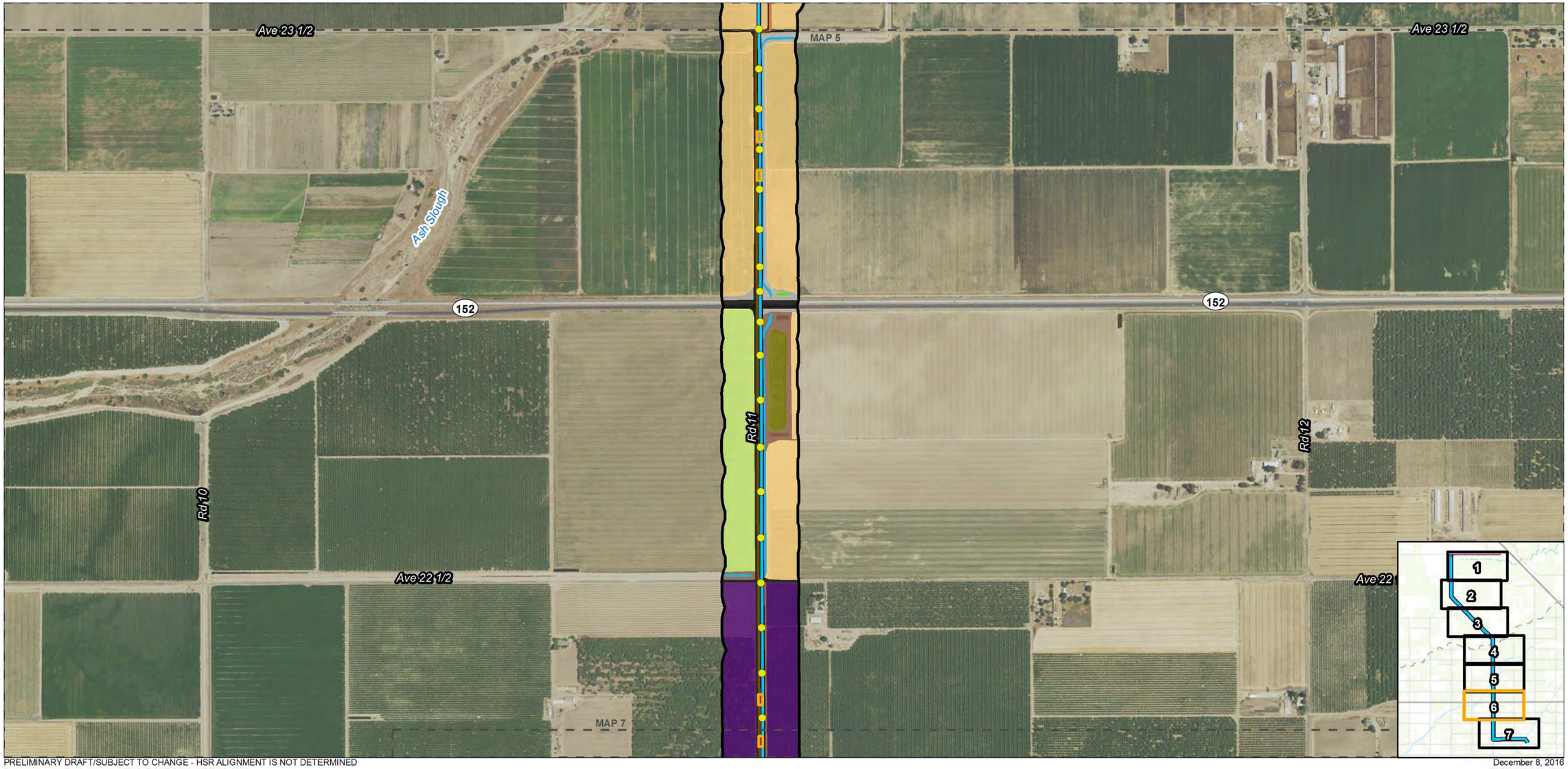
Aquatic Habitat
Constructed Basin
Constructed Watercourse
Natural Watercourse

Developed Area
Barren
Transportation Corridor

Natural and Seminatural Area
Other Riparian
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 5 Site 7 – Le Grand Junction/Sandy Mush Road, Wilson – Dairyland (idle) 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 071f

Wilson - Dairyland (idle) 115 kV Power Line
Survey Area
Existing Structures
Wood Pole
Wilson - Dairyland Temporary Features
Pull Tension Site

Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Fallow Field
Field Crop
Orchard

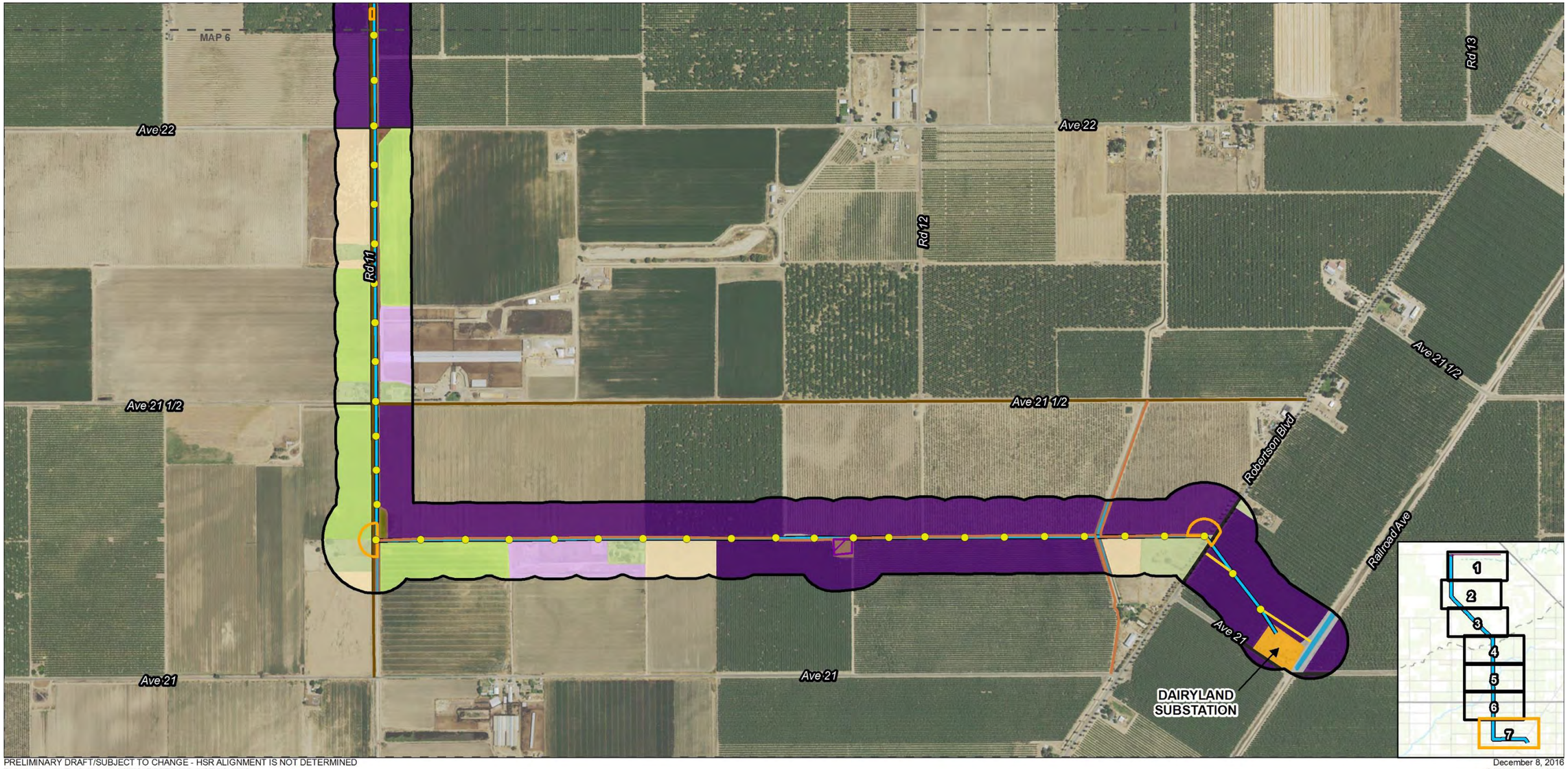
Aquatic Habitat
Constructed Basin
Constructed Watercourse
Seasonal Wetland

Developed Area
Barren
Transportation Corridor

Natural and Seminatural Area
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 6 Site 7 – Le Grand Junction/Sandy Mush Road, Wilson – Dairyland (idle) 115 kV Power Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016; USFWS 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 071g

N

0 500 1,000
Feet

0 150 300
Meters

Wilson - Dairyland (idle) 115 kV Power Line
Survey Area
Existing Structures
Wood Pole
Wilson - Dairyland Temporary Features
Pull Tension Site
Staging Area

Access Routes
Existing Paved Road
Existing Dirt/Gravel Road
Temporary Unpaved Road

Agricultural Habitat
Dairy
Field Crop
Inactive Agriculture
Orchard
Pasture
Aquatic Habitat
Constructed Basin
Constructed Watercourse

Developed Area
Barren
Commercial/Industrial
Transportation Corridor
Natural and Seminatural Area
Ruderal

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 7 Site 7 – Le Grand Junction/Sandy Mush Road, Wilson – Dairyland (idle) 115 kV Power Line Land Cover

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SITE 7 – Wilson

Wilson Substation and 230 kV Tie-Line

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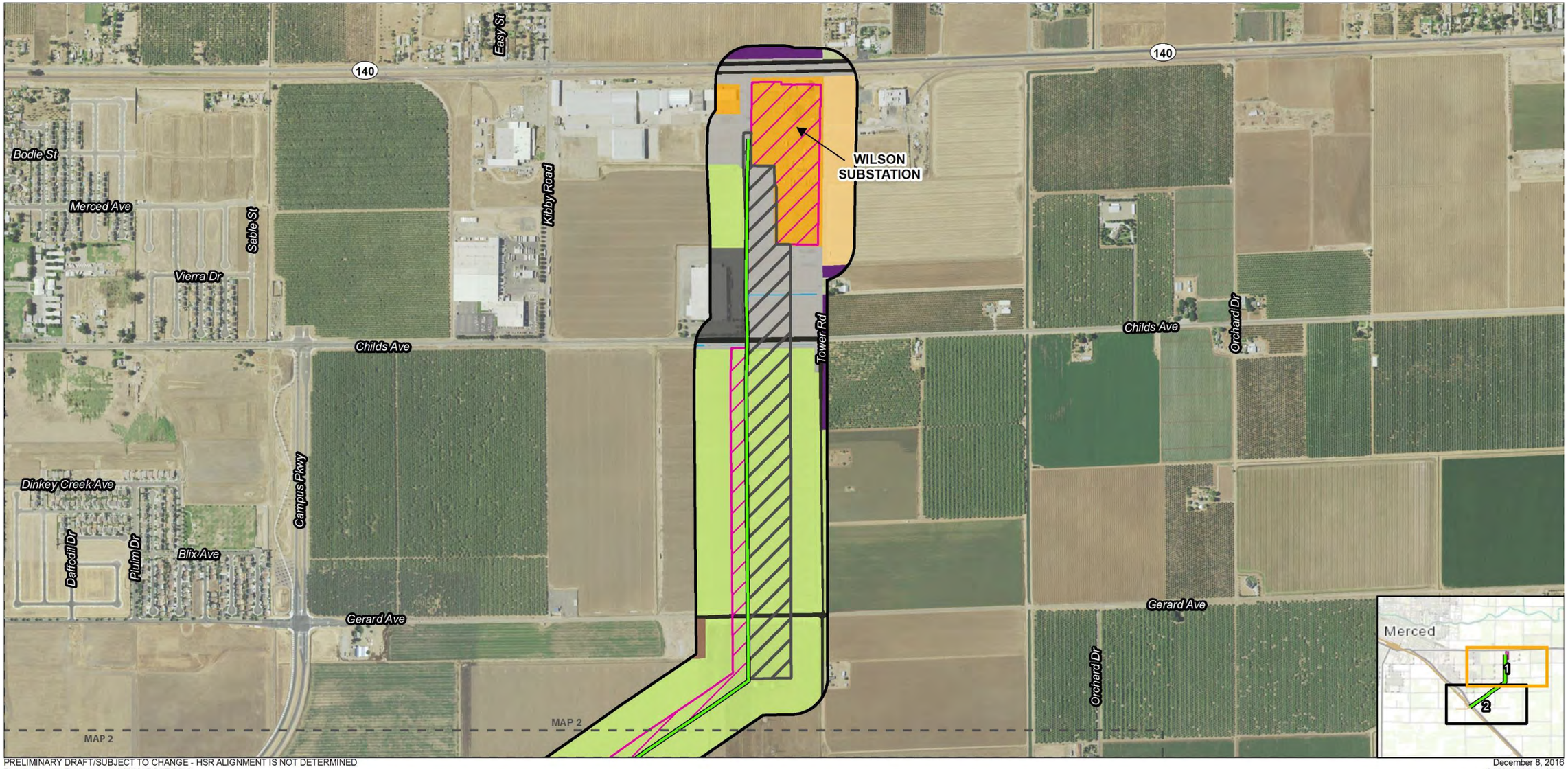


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 074a

230 kV Tie-Line
Permanent Impact
Additional Study Area

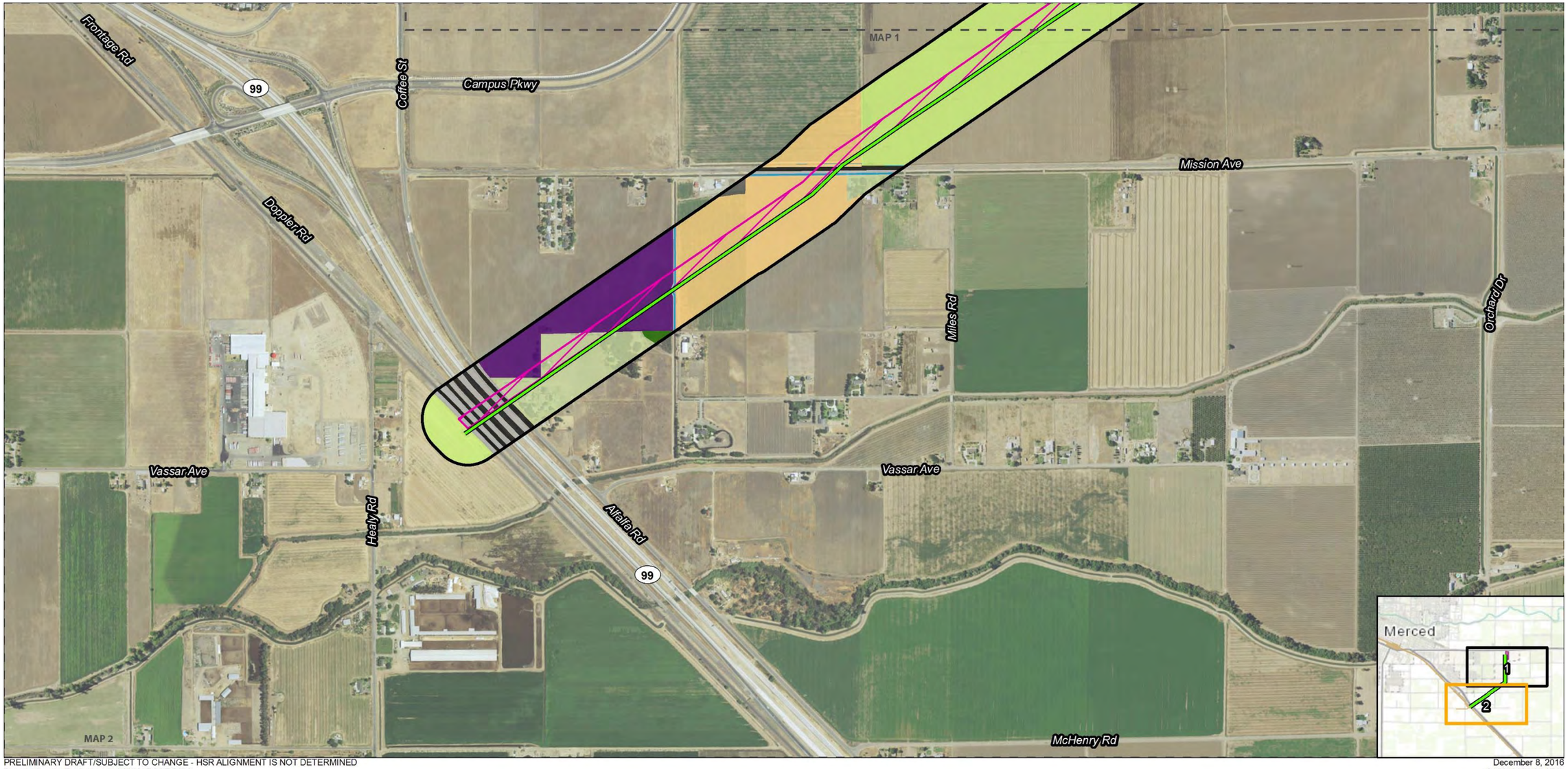
Agricultural Habitat
Fallow Field
Field Crop
Orchard
Pasture

Aquatic Habitat
Constructed Watercourse
Developed Area
Barren
Commercial/Industrial

Transportation Corridor
Urban
Natural and Seminatural Area
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 1 Site 7 – Wilson, Wilson Substation and 230 kV Tie-Line Land Cover



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Ascent Environmental 2016; PG&E 2016
Imagery Source: NAIP 2014

December 8, 2016
G15010064 01 074b

230 kV Tie-Line
Permanent Impact

Agricultural Habitat
Fallow Field
Field Crop
Orchard
Pasture

Aquatic Habitat
Constructed Watercourse

Developed Area
Transportation Corridor
Urban

Natural and Seminatural Area
Eucalyptus
Ruderal

N
0 500 1,000
Feet
0 150 300
Meters

Merced to Fresno Section: Central Valley Wye Electrical Interconnection and Network Upgrades
Figure 2 Site 7 – Wilson, 230 kV Tie-Line Land Cover