Broadband Technology Opportunities Program (BTOP)

Final Environmental Assessment for Eighteen Additional Long-Term Evolution (LTE) Sites

LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM (LA-RICS) LONG-TERM EVOLUTION (LTE) PROJECT

Lead Agency:

National Telecommunications and Information Administration
Broadband Technology Opportunities Program
1401 Constitution Avenue NW
Washington, DC 20230

Prepared for:

LA-RICS Joint Powers Authority
2525 Corporate Place, 2nd Floor
Monterey Park, CA 91754

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EXECUTIVE SUMMARY

Overview

This Supplemental Environmental Assessment, referred to as Supplemental EA-2 (SEA2) provides additional analysis for the *Broadband Technology Opportunities Program (BTOP), Final Environmental Assessment, Los Angeles Regional Interoperable Communications System (LA-RICS) Project* conducted for the LA-RICS Long Term Evolution (LTE) project (Final LA-RICS LTE System EA). The Final LA-RICS LTE System EA (NTIA 2014) analyzed impacts of construction and operation of LTE system facilities for wireless voice and data communications at sites in the Los Angeles County area.

SEA2 analyzes the impacts of construction and operation of the LTE system at 18 new sites that were not included among the original sites analyzed. At two of these sites, construction of new monopoles is proposed. At a third site, collocation on an existing tower is proposed. At 15 sites, proposed site development would involve installing a new Cell-on-Wheels (COW) facility along with minor site improvement made to support the COW facility. A COW site would consist of a flat-bed trailer with the following mounted atop the flat-bed: a monopole tower, up to four weatherproof cabinets containing broadband radio base stations (known as eNodeBs), network and backhaul equipment, antennas and cabling, and an emergency backup power generator with integrated belly fuel tank.

On July 10, 2015, the National Telecommunications and Information Administration (NTIA) issued a revised Finding of No Significant Impact (FONSI) for the LA-RICS LTE System. Since October 15 2014, the LTE project has continued through the permitting process for many of the 231 sites evaluated in the Final LA-RICS LTE System EA, and construction had begun at some sites. Community concerns, triggered in part by outreach activities initiated by the Los Angeles County Firefighters Union (Local 1014), resulted in the passage of a motion on March 24, 2015, by the Los Angeles County Board of Supervisors suspending LA-RICS LTE construction at Los Angeles County Fire Department sites. Following the Board of Supervisors' action, the Los Angeles City Council voted on April 1, 2015, to suspend construction at all Los Angeles Fire Department and Los Angeles Police Department (LAPD) sites. As a result of these actions by the Board of Supervisors and Los Angeles City Council, and out of concern that the project was behind schedule and there was "substantial uncertainty regarding the timeframe created by the County Board and City Council Resolutions," the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, acting on NTIA's notification, suspended the program on April 3, 2015. NTIA also directed the LA-RICS Joint Powers Authority (Authority) to develop a Corrective Action Plan (CAP) detailing the viability of a revised program.

The Authority's initial CAP response was delivered to NTIA on April 13, 2015, and included a redesigned system with fewer LTE sites, most of which were previously analyzed in the Final LA-RICS LTE System EA as well as additional sites to supplement system coverage and capacity. This new plan, coupled with an outreach requirement, was approved by the Board of Supervisors on April 16, 2015. This was followed by a vote by the Los Angeles City Council on April 17, 2015, approving the inclusion of 19 LAPD sites into the LTE system. The CAP response was finalized on April 29, 2015, when the Authority's third addendum

to the CAP response was delivered to NTIA. NTIA notified the Authority that it had lifted its suspension on May 1, 2015.

In July 2015, the *Broadband Technology Opportunities Program (BTOP), Final Supplemental Environmental Assessment for Nine New or Modified Long-Term Evolution (LTE) Sites, Los Angeles Regional Interoperable Communications System (LA-RICS) LTE Project*, (SEA1) was prepared for nine sites (NTIA 2015). Four of the sites analyzed in SEA1 involved new sites not analyzed in the Final LA-RICS LTE System EA. SEA1 also included an analysis of five sites which were addressed in the Final LA-RICS LTE System EA, but where the project plan was changed from that analyzed previously. A revised FONSI was issued for the entire revised project on July 10, 2015.

SEA2 analyzes activities at 18 new sites, not previously studied in the Final LA-RICS LTE System EA or SEA1. Proposed activities involve construction of new monopoles at two sites, collocation to an existing tower at one site, and installation of a COW and construction COW support facilities at 15 sites. The Final LA-RICS LTE System EA and SEA1 are incorporated by reference in this SEA2 in accordance with 40 Code of Federal Regulations (CFR) 1502.21. The FONSI signed July 10, 2015 for the LA-RICS LTE project is included as Appendix A.

The LA-RICS LTE project is being developed under an NTIA-administered BTOP grant funded by the American Recovery and Reinvestment Act. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality (CEQ) regulations implementing NEPA found at 40 CFR 1500-1508, and the *Environmental Assessment Guidance for BTOP Award Recipients* (USDOC 2010). NTIA is the agency responsible for determining whether to issue grant funds and is lead agency for NEPA.

Proposed Action

The Proposed Action would incorporate 18 new LTE sites including 15 new COW LTE sites into the overall LA-RICS LTE Public Safety Broadband Network (PSBN) system. The 18 new sites would supplement the sites considered in the Final LA-RICS LTE System EA and SEA1. Eight of the new sites are located on publicly owned properties, with ten sites (all of them COW sites) located on private property. None of the sites are located on federally administered lands, Tribal lands, or within the coastal zone under any applicable coastal plan.

New monopole construction is proposed at sites ONK and LDWP243. Collocation of equipment on an existing antenna support structure is proposed at Site SDW. Each of these three sites also would receive a broadband radio base station (known as an eNodeB), network and backhaul equipment, antennas and cabling, an emergency backup power generator, utility and fiber interconnection, security improvements (e.g., lighting, fencing, and alarms), and signage. These activities are described in Section 2.1.3 of this SEA2 and are consistent with new monopole design as described for other similar sites in Section 2.1.2 of the Final LA-RICS LTE System EA.

Installation of a COW and development of a COW facility is proposed at sites BLR2DPW, LADPW38, LASDMVS, CHPNWHLL, CHPWVLLY, SCECART, SCELGNBL, SCELONG, SCELNIDO, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, and SCESTUD. These COW sites consist of a trailer that would be towed to the site and placed permanently on paved or previously disturbed areas. Each up to 33-foot long by 22-foot wide COW trailer would include a new monopole tower which when fully extended would not exceed 70 feet above ground level (AGL), or 85 feet AGL with lightning rod; broadband radio base stations (known as an eNodeB); network and backhaul equipment; antennas and cabling; and an emergency backup power generator with integrated belly diesel fuel tank. COW sites would potentially include trenching for power, wall and fencing construction, and placement of grounding equipment. A COW could be fitted with a masthead on the trailer to receive utilities aerially, or power would be brought to the COW by cables placed in underground conduit by trenching; either interconnection method would be conducted in accordance with applicable regulations. All COW sites included in this analysis have been screened to verify that power and fiber interconnection is available within each site.

Construction activities at each COW site are limited to positioning of the COW trailer, and potential shallow (up to 3 feet deep) trenching for power, walls and/or fencing, a grounding ring or rod. Grounding rings are typically directly buried in trenches or placed within rigid conduit. Grounding rods are typically copper conductor that would be pounded into the soil. Once a COW trailer is placed in its final position on site, the wheels may be replaced with support stands. COW sites would not require any road improvements. COW sites would not require creation of impervious surfaces, demolition, materials storage or staging, or substantial use of heavy construction equipment such as the large augers used for drilling new monopole caissons. The COW equipment installations would be permanent.

All 18 new sites would be located within Los Angeles County. All project activities at sites LDWP243, ONK, and SDW would occur at existing publicly owned or administered safety facilities or communications sites currently developed for use in emergency services. Five of the COW sites are on publicly owned sites, with the other ten on private property. Entities with ownership and/or administrative responsibility for each of the sites include Los Angeles County and the cities of Alhambra, Cerritos, Commerce, Hawthorne, Long Beach, Los Angeles, Monrovia, Monterey Park, Torrance, and West Covina. No permanent acquisition or change of ownership would be required at any site. A set of construction management requirements (CMRs) designed to avoid or minimize impacts at LTE sites is provided in Appendix A-1. A detailed description of each of the 18 proposed LTE sites is found in Appendix B.

Alternatives

SEA2 also evaluated the No Action Alternative. Under the No Action Alternative, no additional sites would be constructed. Within local areas that would otherwise be served, first and second responders within Los Angeles County would receive little or no dedicated public safety data communications, capacity and/or coverage would also be significantly less than surrounding areas (i.e., where LTE sites within the LA-RICS LTE PSBN system are currently being constructed). The areas that might be served by

expanded LTE technology would continue to rely upon a variety of existing technologies and radio frequency spectra, limiting their ability to communicate with each other during routine activities or emergency incidents.

The No Action Alternative is analyzed in this EA to comply with NEPA requirements and serve as a baseline for comparison of impacts associated with the Proposed Action.

The Final LA-RICS LTE System EA discussed three alternatives to the Proposed Action that were considered but not analyzed for development and implementation of the LA-RICS LTE PSBN system and evaluated for their ability to meet the Purpose and Need of the project in a feasible manner. No additional alternatives have been considered for SEA2.

Impact Summary

Impact Summary Table

Environmental Topic	Evaluation Summary	
	Proposed Action	**No Action**
Noise	No significant direct and no indirect impacts would occur. No cumulative noise impacts are anticipated.	No direct or indirect impacts noise would occur. No cumulative noise impacts are anticipated.
Air Quality	Construction activities at the sites would be included in weekly forecasting for the overall LTE system site (for sites occurring within the South Coast Air Basin) in accordance with AIR MM 1. No significant direct and no indirect impacts to air quality would occur. No cumulative air quality impacts are anticipated.	No direct or indirect air quality impacts would occur. No cumulative air quality impacts are anticipated.
Geology & Soils	Site LDWP243 is within an Alquist-Priolo Earthquake Fault Zone. Compliance with building codes would ensure that no direct or indirect impacts during construction and operation of the Proposed Action would occur. Compliance with GEO MM 1 and GEO MM 2 would preclude impacts to geology and soils. No other direct or indirect impacts are anticipated. No cumulative impacts to geology and soils are anticipated.	No direct or indirect geology and soils impacts would occur. No cumulative geology and soils impacts are anticipated.
Water Resources	No onsite surface water resources. No offsite runoff anticipated. No significant direct and no indirect impacts would occur. No cumulative water resources impacts are anticipated.	No direct or indirect water resources impacts would occur. No cumulative water resources impacts are anticipated.
Biological Resources	Special status species occur at or near sites LDWP243, ONK and SDW, and at COW sites BLR2DPW, LADPW38 and CHPNWHLL. No significant direct or indirect impacts to species or habitat protected under the Federal Endangered Species Act are anticipated with implementation of the measures identified in the Supplemental Biological Assessment (BA) and discussed in Section 4.5 of SEA2. Informal consultation with the U.S. Fish and Wildlife Service (USFWS) was re-initiated in July 2015. Consultation concluded with USFWS'	No direct or indirect biological resources impacts would occur. No cumulative biological resources impacts are anticipated.

Impact Summary Table

Environmental Topic	Evaluation Summary	
	Proposed Action	**No Action**
	concurrence, in a letter dated August 4 2015, that the proposed project may affect but is not likely to adversely affect the California condor, coastal California gnatcatcher, Mojave desert tortoise, and arroyo toad. No further Section 7 consultation is required. Sensitive habitats (wetlands) occur near sites LDWP243, ONK, SDW, SCECART, SCELONG, SCEMADR, and SCESTUD. Critical habitat does not occur on any of the sites; however, critical habitat for coastal California gnatcatcher is approximately 1,800 feet from Site ONK, 740 feet from Site LDWP243, and 170 feet from Site SDW; least Bell's vireo critical habitat is adjacent to Site CHPNWHLL, which is also about 1,300 feet from arroyo toad and southwestern willow flycatcher critical habitat. No direct or indirect impacts to wetlands are anticipated. No significant impacts to other biological resources are anticipated. No significant cumulative impacts to biological resources are anticipated.	
Historic & Cultural Resources	One historic property (Los Angeles Aqueduct No. 1) was identified within the direct area of potential effects (APE) at LDWP243. Seven additional historic properties were identified within the indirect APEs at SCECART (1), SCEMNRV (1), SCEMRGO (2), and SCESTUD (3). With the exception of Aqueduct No. 1, which would be avoided during construction, all of the properties within the indirect APEs are situated at a distance from the direct APE to preclude any adverse construction or visual effects. No significant direct or indirect impacts on cultural resources are anticipated at any of the LTE project locations. No cumulative impacts to cultural resources are anticipated.	No direct or indirect impacts to cultural resources would occur. No cumulative impacts to cultural resources are anticipated.
Aesthetic and Visual Resources	No significant direct and no indirect impacts to aesthetic and visual resources are anticipated.	No direct or indirect aesthetic and visual resources impacts would occur.

Impact Summary Table

Environmental Topic	Evaluation Summary	
	Proposed Action	**No Action**
	No cumulative impacts to aesthetic and visual resources are anticipated.	No cumulative impacts to aesthetic and visual resources are anticipated.
Land Use	No significant direct or indirect impacts to land use are anticipated. No cumulative impacts to land use are anticipated.	No direct or indirect land use resources impacts would occur. No cumulative impacts to land use are anticipated.
Infrastructure	No significant direct or indirect impacts to infrastructure are anticipated. No cumulative impacts to infrastructure are anticipated. Implementation of TRANS MM 1 is required at all sites considered under the Proposed Action.	No direct or indirect infrastructure resources impacts would occur. No cumulative impacts to infrastructure are anticipated.
Socioeconomic Resources	No significant direct and no indirect impacts to socioeconomic resources are anticipated. No cumulative impacts to socioeconomic resources are anticipated.	No direct or indirect socioeconomic resources impacts would occur. No cumulative impacts to socioeconomic resources are anticipated.
Human Health & Safety	Four LTE sites (CHPNWHLL, LDWP243, ONK, and SDW) are located within a high fire hazard severity zone requiring inclusion within the existing LTE fire management plan, in accordance with HS MM 2. Construction of five COW LTE sites (LASDMVS, SCELNIDO, SCELONG, SCEMADR, and SCEMESA) would place the COW trailer and associated equipment within 200 feet of an existing oil well. The design of the Proposed Action would be subject to state regulations on methane gas collection, ventilation, or other commercially available control measures to avoid hazards, as applicable, to human health associated with wells. Adherence to HS MM 3 would preclude impacts from methane exposures. All sites passed the Federal Communication Commission's (FCC) TOWAIR analysis. All proposed towers would be subject to review based on the FAA	No direct or indirect human health and safety impacts would occur. No cumulative impacts to human health and safety impacts are anticipated.

Impact Summary Table

Environmental Topic	Evaluation Summary	
	Proposed Action	**No Action**
	Part 77 Notification Requirements. Cortese List[1] sites occur near several LTE sites. No exposures to hazardous materials are anticipated. LTE Site SDW is located at the top of a hill, and an NPL site is located approximately 0.5 mile down gradient from Site SDW. Project construction activities would not encounter the NPL site. It is geographically distant and down-gradient from the LTE site. The northern boundary of an NPL site, a closed landfill, is approximately 50 feet southeast of the eastern boundary of Site SCEMESA. The landfill has a remedy in place that controls methane gas leachate and the groundwater is being monitored for natural attenuation. No significant impacts associated with the NPL site are anticipated. All sites would be operated in compliance with FCC regulations regarding public and worker exposures to radio frequency emissions associated with LTE and microwave antennas installed at each site. No exceedance of the FCC's maximum permissible exposures would occur. No direct or indirect impacts to human health and safety are anticipated. No cumulative impacts to human health and safety are anticipated.	

[1] The Cortese list was developed in response to California Government Code Section 65962.5 enacted in 1985. The Cortese list data sources include the following data resources: List of hazardous waste and substance sites from the Department of Toxic Substances Control (DTSC) Envirostar database; list of Leaking Underground Storage Tank (LUST) sites by County and fiscal year from the Water Board GeoTracker database; list of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside of the waste management unit; list of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board (note that many of the sites do not concern the discharge of wastes that are hazardous materials); and a list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Term
AGL	above ground level
ALUP	airport land use plan
AMI	Area Median Household Income
AVAQMD	Antelope Valley Air Quality Management District
APE	area of potential effect
ARI	Air-Conditioning and Refrigeration Institute
ARPA	Archaeological Resources Protection Act of 1979
ASR	antenna structure registration
Authority	Los Angeles Regional Interoperability Communications System Joint Powers Authority
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
BTOP	Broadband Technology Opportunities Program
CalEEMod®	California Emissions Estimator Model
Cal/OSHA	California Office of Occupational Safety and Health Administration
CAP	Corrective Action Plan
CARB	California Air Resources Board
CCR	California Code of Regulations
CDOC	California Department of Conservation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFP	California Fully Protected
CFR	Code of Federal Regulations
CH_4	Methane
CMR	construction management requirement
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
COWs	Cell-on-Wheels
CRM	cultural resource management
CWA	Federal Water Pollution Control Act
dBA	A-weighted frequency-dependent decibel scale
DHS	California Department of Health Services
DOGGR	Division of Oil, Gas, and Geothermal Resources
DTSC	Department of Toxic Substances Control
EFH	essential fish habitat

Acronym/Abbreviation	Term
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
Final LA-RICS LTE System EA	*Broadband Technology Opportunities Program (BTOP), Final Environmental Assessment, Los Angeles Regional Interoperable Communications System (LA-RICS) Project*
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
GHG	greenhouse gas
HCP	habitat conservation plan
HFC	hydrofluorocarbon
HVAC	heating, ventilating, and air conditioning
kW	Kilowatt
LAPD	Los Angeles Police Department
LA-RICS	Los Angeles Regional Interoperable Communications System
L_{dn}	day-night average noise
L_{eq}	equivalent noise level
LMR	land mobile radio
LTE	Long-Term Evolution
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MM	mitigation measure
MMPA	Marine Mammal Protection Act
MPE	maximum permissible exposure
MSA	Magnuson-Stevens Fishery Conservation and Management Act
N_2O	nitrous oxide
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHMLAC	Natural History Museum of Los Angeles County
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPPA	California Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTIA	National Telecommunications and Information Administration

Acronym/Abbreviation	Term
NWI	National Wetland Inventory
O_3	Ozone
OET	Office of Engineering and Technology
OSHA	Occupational Health and Safety Administration
PA	Programmatic Agreement
PFC	perfluorocarbon
PIZ	project impact zone
PM	particulate matter
PPV	peak particle velocity
PSBN	Public Safety Broadband Network
RCRA	Resource Conservation and Recovery Act
RF-EME	radiofrequency electromagnetic
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SEA1	Final Supplemental Environmental Assessment for Nine New or Modified Long-Term Evolution (LTE) Sites
SEA2	Supplemental Environmental Assessment for Eighteen Additional Long-Term Evolution (LTE) Sites
SF_6	sulfur hexafluoride
SEA	Significant Ecological Area
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide
SOP	Species Occurrence Potential
TCNS	Tower Construction Notification System
TOWAIR	FCC Landing Slope Facility Calculator
U.S.	United States
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
VdB	vibration decibel

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1.0 PURPOSE AND NEED

This Supplemental Environmental Assessment, referred to as Supplemental EA-2 (SEA2) addresses the need for inclusion of 18 new Long-Term Evolution (LTE) sites including 15 Cell-on-Wheels (COW) sites that were not analyzed in the Broadband Technology Opportunities Program (BTOP) Los Angeles Regional Interoperable Communications System (LA-RICS) Project Final Environmental Assessment (Final LA-RICS LTE System EA). The Final LA-RICS LTE System EA discussed construction of LTE facilities for wireless voice and data communications at sites in the Los Angeles County area. The U.S. Department of Commerce, National Telecommunications and Information Administration (NTIA) issued a revised Finding of No Significant Impact (FONSI) for the LA-RICS LTE project on July 10, 2015. The LA-RICS LTE project is being developed under an NTIA-administered BTOP grant funded by the American Recovery and Reinvestment Act. The Final LA-RICS LTE System EA is incorporated by reference in SEA2 in accordance with Title 40 Code of Federal Regulations (CFR) Part 1502.21 (40 CFR 1502.21).

SEA2 has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality (CEQ) regulations implementing NEPA found at 40 CFR 1500-1508. The NTIA is the agency responsible for determining whether to issue grant funds and is lead agency for NEPA purposes for SEA2.

1.1 Need for Action

As the LA-RICS LTE Public Safety Broadband Network (PSBN) system design has progressed, new features, including design (e.g., COWs) and geographic changes have been identified to improve upon the original design. Among these changes, some sites in the original design have dropped from the system due to engineering or public policy decisions.

Since the October 2014 FONSI, the LTE project has continued through the permitting process for many of the 231 sites evaluated in the Final LA-RICS LTE System EA, and construction had begun at some sites. Community concerns, triggered in part by outreach activities initiated by the Los Angeles County Firefighters Union (Local 1014), resulted in the passage of a motion on March 24, 2015, by the Los Angeles County Board of Supervisors suspending LA-RICS LTE construction at Los Angeles County Fire Department sites. Following the Board of Supervisors action, the Los Angeles City Council voted on April 1, 2015, to suspend construction at all Los Angeles Fire Department and Los Angeles Police Department (LAPD) sites. As a result of these actions by the Board of Supervisors and Los Angeles City Council, and out of concern that the project was behind schedule and there was "substantial uncertainty regarding the timeframe created by the County Board and City Council Resolutions," the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, acting on a notification by NTIA, suspended the program on April 3, 2015.

NTIA also directed the LA-RICS Joint Powers Authority (Authority) to develop a Corrective Action Plan detailing the viability of a revised program. The resultant redesigned system features a reduced number of sites, most of which were previously analyzed in the Final LA-RICS LTE System EA as well as additional

sites to supplement system coverage and capacity. This new plan, coupled with an outreach requirement, was approved by the Board of Supervisors on April 16, 2015. This was followed by a vote by the Los Angeles City Council approving the inclusion of 19 LAPD sites into the LTE system. NTIA notified the Authority that it had lifted its suspension on May 1, 2015.

In July 2015, the *Broadband Technology Opportunities Program (BTOP), Final Supplemental Environmental Assessment for Nine New or Modified Long-Term Evolution (LTE) Sites, Los Angeles Regional Interoperable Communications System (LA-RICS) LTE Project* (SEA1) was prepared for nine sites (NTIA 2015). Four of the sites analyzed in SEA1 involved new sites not analyzed in the Final LA-RICS LTE System EA. SEA1 also included an analysis of five sites which were addressed in the Final LA-RICS LTE System EA, but where the project plan was changed from that analyzed previously. A revised FONSI was issued for the entire revised project on July 10, 2015.

SEA2 analyzes 18 new LTE sites that were not previously analyzed in the Final LA-RICS LTE System EA. The sites have been identified for inclusion in the system to provide additional geographic coverage and system voice- and data-carrying capacity. SEA2 also includes activities (i.e. construction of a COW site) not previously analyzed in the Final LA-RICS LTE System EA and SEA1.

1.2 Purpose of the Action

The purpose of this action is to improve the design of the existing LA-RICS LTE PSBN system to provide dedicated, interoperable broadband communication capability and capacity to better serve first and second responder public safety services throughout Los Angeles County.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Two alternatives have been identified for evaluation in SEA2: the Proposed Action (described in Section 2.1) and the No Action Alternative (described in Section 2.2).

2.1 Proposed Action

If implemented, the Proposed Action would result in 18 sites being added to the larger LA-RICS LTE PSBN system, already under construction (Figure 2-1). The locations of these 18 sites are described in Table 2-1 and shown on Figure 2-1. Included among the activities described in this section are a series of construction management requirements (CMRs) which can be found in Appendix A-1 of this SEA2.

Table 2-1: New LTE Sites (including COW sites) Included in the Proposed Action

Site Name (Site ID)	Address	Proposed Work
Aqueduct Cascades (LDWP243)[1]	Elsmere Motorway Blvd., Sylmar[1] CA, 91342	Install a new monopole, no more than 85 feet tall (with appurtenances and attachments); install up to 12 panel LTE antennas and up to 8 microwave backhaul antennas or dishes; install LTE communications and auxiliary equipment and appurtenant ground equipment (e.g., emergency generator, fuel tank, fencing, and utility conduits) to support operation of the LTE facility as appropriate. Within the LTE site boundary, up to 3,600 square feet (0.08 acre) of ground disturbance could occur at the site and would be limited only to areas that are extensively man-altered, including those areas that are previously paved, graded, landscaped, or otherwise developed or extensively disturbed within the site boundary. New ground disturbance within the 3,600-square-foot area, including area for any new monopole, new pavements and pads, grading, up to 500 feet of trenching, staging, and access, would occur inside the LTE site boundary. No more than 500 square feet of new impervious surfaces (i.e., new concrete) would be created.
Oat Mountain Nike (ONK)[2]	Palo Sola Truck Road, Chatsworth CA,91311	Same as described for Site LDWP243.
San Dimas (SDW)	310 Via Blanca, San Dimas CA, 1773	Collocate LTE and microwave antennas on an existing 120-foot lattice tower; install up to four new equipment cabinets and an up to 35-kilowatt (kW) generator located on new pads; up to 500 linear feet of trenching on site.

Table 2-1: New LTE Sites (including COW sites) Included in the Proposed Action

Site Name (Site ID)	Address	Proposed Work
Explorers Training Center (LASDMVS)[3]	11515 Colima Rd., Whittier CA, 906041	Transport COW trailer to site. Remove wheels and place on support stands or other as applicable for permanent installation at site on a footprint (with outriggers extended) up to 33 feet long by 22 feet wide. Power and/or fiber would be dropped aerially to a mast on the trailer or potentially require up to 500 linear feet of trenching for power, either connection made in accordance with applicable regulations,. Fence or wall construction, and placement of grounding equipment would also occur at the site.
CHP Woodland Hills (CHPWVLLY)	5828 De Soto Ave., Woodland Hills CA, 91367	Same as described for Site LASDMVS
LA County Department of Public Works -38 (LADPW38)[4]	39699 163rd Street E, Lake Los Angeles, CA 93591	Same as described for Site LASDMVS
LA County DPW - Pump Station (BLR2DPW)[5]	175th Street E, Lancaster, CA 93535	Same as described for Site LASDMVS
CHP Newhall (CHPNWHLL)[6]	28648 The Old Road, Santa Clarita, CA 91355	Same as described for Site LASDMVS
SCE – Caruthers Self-Storage (SCECART)	10753 Artesia Boulevard, Cerritos, CA 90703	Same as described for Site LASDMVS
SCE – Laguna Bell Substation (SCELGNBL)	6420 Gage Avenue, Bell Gardens, CA 90201	Same as described for Site LASDMVS
SCE – El Nido Substation (SCELNIDO)	Marine Avenue/Redondo Beach Avenue, Hawthorne, CA 90260	Same as described for Site LASDMVS
SCE – Long Beach Self-Storage (SCELONG)	E. 208th Street, Long Beach, CA 90810	Same as described for Site LASDMVS
SCE – Madrona Substation (SCEMADR)	21760 Madrona Avenue, Torrance, CA 90503	Same as described for Site LASDMVS
SCE – Merced Substation (SCEMERC)	1347 South Azusa Avenue, West Covina, CA 91791	Same as described for Site LASDMVS
SCE – Mesa Substation (SCEMESA)	700 East Potrero Grande Drive, Monterey Park, CA 91755	Same as described for Site LASDMVS
SCE – Monrovia Service Center (SCEMNRV)	1440 South California Avenue, Monrovia, CA 91016	Same as described for Site LASDMVS
SCE – Marengo Work Center (SCEMRGO)	329 South Raymond Avenue, Alhambra, CA 91803	Same as described for Site LASDMVS
SCE – Studebaker Self-Storage (SCESTUD)	698 Studebaker Road, Long Beach, CA 90803	Same as described for Site LASDMVS

[1]Site LDWP243 is in Sylmar, a neighborhood contained within the City of Los Angeles.

Table 2-1: New LTE Sites (including COW sites) Included in the Proposed Action

Site Name (Site ID)	Address	Proposed Work
[2]Site ONK is in an unincorporated portion of Los Angeles County. The site is adjacent to Chatsworth, a neighborhood contained within the City of Los Angeles. [3] Site LASDMVS is in East Whittier, a Census-designated place in unincorporated Los Angeles County. [4]Site LADPW38 is in Lake Los Angeles, a Census-designated place in unincorporated Los Angeles County. [5]Site BLR2DPW is in an unincorporated portion of Los Angeles County, approximately 15 miles east of the City of Lancaster. [6]Site CHPNWHLL is in an unincorporated portion of Los Angeles County, adjacent to the City of Santa Clarita.		

Figure 2-1: Proposed LA-RICS LTE Site Location Map

All 18 sites are new sites proposed at new locations. A detailed site-specific analysis of the impacts of each of the LTE sites evaluated in SEA2 is provided in Appendix B, and a detailed project description is provided below.

No site analyzed in SEA2 lies on federally administered lands, Tribal lands, or within the coastal zone under any applicable coastal plan.

2.1.1 System Design

The LA-RICS LTE PSBN system has been designed to include redundant, multiple wireless communications paths to provide connectivity between LTE sites and the two geographically redundant evolved packed cores to maintain system resiliency so that, should any one path fail, localized system repair and restoration can be performed without affecting most system users. The sites included in SEA2 analysis help improve on this original system design.

2.1.2 Site Design

SEA2 involves two types of LTE sites: non-COW LTE sites and COW sites, as described in more detail below.

2.1.3 Non-Cell-on-Wheels LTE Sites

Design of all of the proposed non-COW LTE sites is consistent in nearly all aspects with that described in Section 2.1 of the Final LA-RICS LTE System EA and includes: proposed monopoles, equipment cabinets, emergency generators, and other appurtenances, as described below. The LA-RICS LTE PSBN system is designed using performance criteria meeting or exceeding California building codes (which take into consideration seismic probability and severity in the region).

All non-COW sites considered under the Proposed Action would be sited within Los Angeles County. All project activities at the proposed sites would occur at either existing publicly owned or administered facilities or communications sites currently developed for use in emergency services and/or as communications structures. Site design in SEA2 includes immediately adjacent public rights-of-way that are paved or otherwise highly disturbed or developed (e.g., sidewalks, roadways, and road shoulders) to accommodate accessing power or fiber from adjacent sources. The site boundaries, shown in Appendix B for each site, reflect this variance.

Entities with ownership and/or administrative responsibility for the sites include Los Angeles County and the City of Los Angeles. No permanent acquisition or change of ownership would be required at any site. A detailed description of each of the sites potentially affected by implementation of the Proposed Action is found in Appendix B.

Monopoles

One new monopole is proposed for inclusion at both sites LDWP243 and ONK. Site ONK is intended for microwave backhaul use only. If constructed, each proposed new monopole would include:

- A disguised or undisguised monopole up to 70 feet high with an additional up to 15-foot lightning rod, not to exceed a total height up to 85 feet above ground level (AGL)
- Up to 12 panel LTE antennas placed on up to three T-arms installed at 120 degrees apart at the same elevation near the top of the monopole at Site LDWP243 only
- Up to eight microwave backhaul antennas or dishes on each monopole at sites LDWP243 and ONK, each antenna or dish up to 3 feet in diameter

Collocation on Existing Structure

Up to eight microwave antennas would be collocated onto an existing 120-foot guyed lattice tower at Site SDW. Installation of equipment cabinets, emergency generators, and other appurtenances and infrastructure would be as described below.

Equipment Cabinets

Up to four outdoor equipment cabinets would be included at each of the proposed non-COW LTE sites. Standard cabinets would be approximately 3 feet wide by 3 feet deep by up to 7 feet high, generally configured to be mounted on an up to 162-square-foot concrete slab up to 12 inches thick. Cabinets would be used to house broadband radio base stations (known as an eNodeB), backhaul equipment, and backup batteries as described in Section 2.1.2 of the Final LA-RICS LTE System EA. If space is available, the equipment cabinets could be collocated with emergency backup generators (i.e., on a larger pad foundation to combine the two assets). Each cabinet would be equipped with a service light, designed to minimize light exposure to areas not immediately adjacent to each cabinet.

Emergency Generators

Generators would be installed at each non-COW site to provide backup power for up to approximately two weeks in the event of outages. Generators are not expected to exceed 35 kilowatts (kW) and would be enclosed in a noise-reducing structure and supplied with diesel fuel from an integrated double-walled sub-base fuel tank (approximately 300 gallons) meeting or exceeding industry standards. Each generator would be sited on an approximately 72-square-foot by 12-inch-thick pad, (or collocated with equipment cabinets as described above). The generator at each site would be tested once a month for up to one hour.

Other Appurtenances and Infrastructure

Other site improvements at each site could include up to 500 linear feet of trenching for utility and fiber interconnection, security improvements (e.g., lighting, fencing, and alarms), and signage. These activities are primarily as described for other similar sites in Section 2.1.2 of the Final LA-RICS LTE System EA.

Construction Activities

Construction activities at each non-COW site include ground disturbance, creation of impervious surfaces, demolition activities, materials storage and staging, site access, and site cleanup; and each

activity requires the use of construction equipment. All construction activities and equipment usage would be consistent with those described in Section 2.1.3 of the Final LA-RICS LTE System EA.

Operations Activities

Full-time staff would not be required to operate any of the proposed non-COW sites. Operations activities associated with the proposed sites include occasional maintenance, repairs, and emergency procedure testing. Aboveground facilities and system components would be inspected annually, at a minimum, for corrosion, equipment misalignment, loose fittings, and other common mechanical problems. Maintenance activities would be conducted utilizing bucket trucks (man-lifts), standard vans, or utility pickup trucks, depending on the scope of maintenance. These activities would be consistent with those analyzed in Section 2.1.4 of the Final LA-RICS LTE System EA.

2.1.4 Cell-on-Wheels LTE Sites

The equipment to be permanently installed on each of the 15 proposed COW LTE sites is consistent in nearly all aspects with the equipment described in Section 2.1 of the Final LA-RICS LTE System EA, except that equipment would be mounted on a flatbed trailer rather than new concrete pad or caisson foundations. This proposed equipment includes monopoles, equipment cabinets, emergency generators, and other appurtenances as described below.

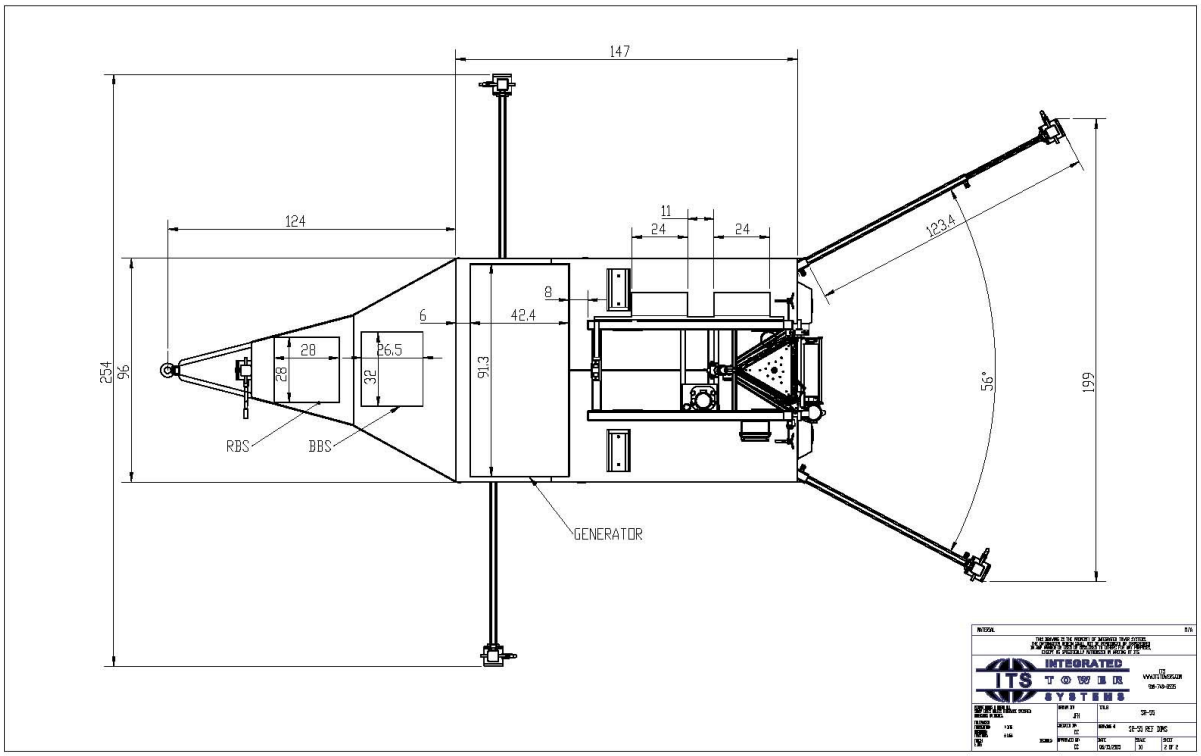
All 15 COW sites considered under the Proposed Action would be sited within Los Angeles County. All project activities at the proposed sites would occur at either existing publicly owned sites, including publicly administered safety facilities or communications sites currently developed for use in emergency services and/or as communications structures, or privately owned parcels. The site boundaries are shown in Appendix B for each site. Power and/or fiber at some sites could be dropped to a mast, fitted on the flatbed trailer, via aerial installation or acquired via trenching and burying in conduit, either in accordance with applicable regulations. Trenching and/or minor auguring would also likely be required for fiber, wall and fencing construction, and placement of grounding equipment.

Entities with ownership and/or administrative responsibility for the sites include Los Angeles County and the cities of Alhambra, Cerritos, Commerce, Hawthorne, Long Beach, Los Angeles, Monrovia, Monterey Park, Torrance, and West Covina. No permanent acquisition or change of ownership would be required at any site. A detailed description of each of the sites potentially affected by implementation of the Proposed Action is found in Appendix B.

Cell-on-Wheels Platforms (Trailers)

All of the equipment associated with each of the COW sites would be fully contained on a trailer platform, which could be up to approximately 25 feet long in transportation mode (i.e., antenna support structure and outriggers not extended). The COW trailer would typically be towed to each site by a semi-truck. The COW, inclusive of extended outriggers, would encompass an area of up to 33 feet long by 22 feet wide when fully deployed (Figure 2-2). A picture of a typical COW with extended monopole is provided at Figure 2-2.

Figure 2-2: Schematic of Typical Installed COW (Top View) With Triangular Stackable Antenna



Antenna Support Structures

The antenna support structures to be mounted on each COW trailer include the following components:

- An undisguised triangular stackable lattice tower or telescoping monopole that reaches up to 70 feet high AGL with an additional up to 15-foot lightning rod, not to exceed a total height up to 85 feet AGL
- Up to 12 panel LTE antennas placed on up to three T-arms installed at 120 degrees apart at the same elevation near the top of each monopole
- Up to eight microwave backhaul antennas or dishes on each monopole, each antenna or dish up to 3 feet in diameter

Figure 2-3: Typical Cell-on-Wheels with Telescoping Monopole Extended

Equipment Cabinets

Each COW trailer would include equipment cabinets. Cabinets would be used to house broadband radio base stations (known as an eNodeB), backhaul equipment, and backup batteries as described in Section 2.1.2 of the Final LA-RICS LTE System EA. Each cabinet would be equipped with a service light, designed to minimize light exposure to areas not immediately adjacent to each cabinet.

Emergency Generators

Generators would be included on each COW trailer to provide backup power for up to approximately two weeks in the event of outages. Generators are not expected to exceed 35 kW and would be enclosed in a noise-reducing structure and supplied with diesel fuel from an integrated double-walled

sub-base fuel tank (approximately 300 gallons) meeting or exceeding industry standards. The generator at each site would be tested once a month for up to one hour.

Other Appurtenances and Infrastructure

Each COW site would require up to 150 feet of new fencing or concrete masonry wall to enclose the equipment. A grounding ring, consisting of a copper metal rod directly buried or placed in conduit within a trench surrounding each COW trailer; or a grounding rod, consisting of copper conductor pounded into the soil; would be installed. Trenching of up to 500 feet for power or fiber acquisition is also anticipated at each site.

Construction activities at each COW site are limited to positioning of the COW trailer, and potential shallow (up to 3 feet deep) trenching for power, walls and/or fencing, and installation of a grounding ring or rod. Grounding rings are typically copper conductor that is directly buried or placed within rigid conduit and buried. Grounding rods are typically copper conductor that would be pounded into the soil.

Construction Activities

Construction activities at each COW site are limited to installation of fencing, trenching and burial of the grounding equipment and power/fiber runs. Once a COW is in its final position on site, the wheels may be replaced with support stands, and on-trailer outriggers would be extended to further support the trailer platform. The COW sites would require no creation of impervious surfaces, demolition, materials storage, or staging or any substantial use of any other construction equipment.

Operations Activities

Operational activities would be very similar to those previously discussed for the non-COW sites. These activities would be consistent with those analyzed in Section 2.1.4 of the Final LA-RICS LTE System EA.

2.2 No Action Alternative

SEA2 also evaluates the No Action Alternative. Under the No Action Alternative, no additional sites would be constructed. In the local areas that would be served by these sites, law enforcement and fire service agencies within Los Angeles County would receive little or no dedicated public safety data communications, and capacity and/or coverage would be substantially less than surrounding areas where LTE sites are currently being constructed. The areas that might be served by expanded LTE technology would continue to rely upon a variety of existing technologies and radio frequency spectra, limiting their ability to communicate with each other during routine activities or emergency incidents. The No Action Alternative is analyzed in SEA2 to comply with NEPA requirements and serve as a baseline for comparison of impacts associated with the Proposed Action.

2.3 Alternatives Considered but Eliminated from Further Discussion

Section 2.3 of the Final LA-RICS LTE System EA discussed three alternatives to the Proposed Action that were considered for development and implementation of the LA-RICS LTE PSBN system and evaluated

for their ability to meet the Purpose and Need of the project in a feasible manner. These alternatives included:

- a Collocation alternative, where PSBN and microwave antenna(s) at each LTE site would be collocated to existing towers
- a Buried Cable alternative, where all backhaul signal would be transported via buried cable
- an Aerial Cable alternative, where all backhaul signal would be transported via aerial cable

The discussion in Section 2.3 of the Final LA-RICS LTE System EA describes these alternatives and explains why none of them sufficiently and feasibly meet the project's purpose and need and were therefore eliminated from further discussion in the EA.

No other new alternatives have been considered for SEA2.

3.0 AFFECTED ENVIRONMENT

This chapter provides a description of the current conditions of environmental resources analyzed in SEA2 and serves as a baseline against which analysis of impacts associated with implementation of the Proposed Action and the No Action Alternative can occur. For consistency of analysis, resources presented in SEA2 are the same as those that were analyzed in the Final LA-RICS LTE System EA and are addressed as applicable based on the resources that exist at the 18 proposed sites considered in this analysis. Each resource described in this chapter has been determined to have some reasonable potential to be impacted by activities associated with the Proposed Action. The geographic extent of this description varies by resource but is generally characterized as that area where direct or indirect impacts associated with implementation of the Proposed Action or the No Action Alternative might reasonably be expected to occur.

Resources analyzed include noise, air quality, geology and soils, water resources, biological resources, historic and cultural resources, aesthetic and visual resources, land use, infrastructure, socioeconomic resources, and human health and safety.

3.1 Noise

This section discusses existing noise conditions in the study area. A discussion of the characteristics of sound, noise metrics, noise attenuation, vibration, sensitive receivers, short-term and long-term noise, and land use compatibility is discussed in Section 3.1 of the Final LA-RICS LTE System EA.

3.1.1 Regulatory Setting

There are no applicable federal or state standards for short-term (i.e., construction) noise. Site-specific information for each site regarding local noise ordinances is provided in Appendix B. Long-term noise guidelines from The California Department of Health Services (DHS) were used in assessing long-term (i.e., operational) noise impacts on specific land uses. A detailed discussion of the DHS guidelines is included in Section 3.1.4 of the Final LA-RICS LTE System EA.

3.1.2 Methodology

The noise and vibration analysis conducted in SEA2 is consistent with that contained in Section 3.1 of the Final LA-RICS LTE System EA. Rating scales used in this noise analysis include equivalent noise level (L_{eq}), the community noise equivalent level (CNEL), and the day-night average noise (L_{dn}). Typical vibration measurements are in peak particle velocity (PPV) in inches per second and are expressed as vibration decibels (VdB). A search was made via Google Earth for sensitive receivers within 1,000 feet of the proposed sites considered in SEA2. These included churches, day care centers, libraries, medical facilities, recreational facilities, residential areas and schools, although not all of these types of facilities were identified. For purposes of analysis it was determined that the threshold of concern for sites with sensitive receptors within 1,000 feet was 55 A-weighted decibel (dBA).

3.1.3 Existing Ambient Noise Levels and Receptors

Ambient noise levels vary depending on a site's setting (e.g., urban, urban fringe, rural). Generally, urban areas such as those containing sites LASDMVS, CHPWVLLY, CHPNWHLL, SCECART, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, and SCESTUD are noisier than urban fringe (e.g., sites LADPW38, LDWP243, and SDW) or rural areas (e.g. sites BLR2DPW and ONK). Ambient noise levels for urban sites typically range from 60 to 70 dBA in urban areas due to vehicles, construction, public transportation, and other human activities to 50 to 60 dBA in quieter rural areas.

Sensitive noise receptors, including residences, schools, a hospital, and a church were identified within 1,000 feet of 13 of the proposed sites. These sensitive receptors are shown in Table 3-1 and in Appendix B.

Table 3-1: Sensitive Noise Receptors near SEA2 LTE Sites

Sites	Types of Sensitive Receptors within 1,000 feet
CHPWVLLY	Multi-family residences, single-family residences, school
LADPW38	Single-family residences
LASDMVS	Single-family residences
SCECART	Single-family residences
SCELGNBL	Single-family residences, school
SCELNIDO	Multi-family residences
SCEMADR	School, multi-family residences
SCEMERC	Single-family residences, multi-family residences, church
SCEMESA	Single-family residences
SCEMNRV	Single-family residences, multi-family residences
SCEMRGO	Single-family residences, hospital, school
SCESTUD	Single-family residences, school
SDW	Single-family residences

3.2 Air Quality and Greenhouse Gases

This section presents information on air pollutants relevant to the Proposed Action. An in-depth discussion of the pollutants of concern, relevant regulations, existing air quality, and sensitive receptors is included in Section 3.2 of the Final LA-RICS LTE System EA.

3.2.1 Regulatory Setting

This evaluation is consistent with the Final LA-RICS LTE System EA in that it addresses criteria pollutants, hazardous air pollutants, and greenhouse gases (GHG). The criteria pollutants of concern to the project are nitrogen oxides (NO_x), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter (PM) less than 10 microns in aerodynamic diameter (PM_{10}) and 2.5 microns in aerodynamic diameter ($PM_{2.5}$), and ozone (O_3). Hydrocarbons, although not criteria pollutants *per se*, react with NO_x and sunlight to form

criteria pollutant O_3. Hazardous air pollutants of concern, also known as toxic air contaminants, include those from combustion of diesel fuel in standby electrical generators and motor vehicle traffic. GHGs relevant to the project are defined as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O, a form of NO_X), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). An in-depth discussion of the above pollutants and their relevant National and California ambient air quality standards can be found in Section 3.2.3 the Final LA-RICS LTE System EA. No additional regulations other than those addressed in the Final LA-RICS LTE System EA were identified as applicable to this supplemental analysis.

Air Quality Attainment Plans and Existing Ambient Air Quality

The sites considered in SEA2 are all located within the South Coast Air Basin (SCAB), which is designated as either "nonattainment" or as "maintenance" areas for O_3, PM_{10}, $PM_{2.5}$, CO, NO_2, and sulfur dioxide (SO_2). The proposed project is considered a federal action since it requires federal approval and will receive federal funding. It is therefore potentially subject to a general conformity analysis. Air quality attainment was examined in this assessment. For an in-depth discussion of the attainment plans and air quality monitoring sites within the SCAB, refer to Section 3.2.3 of the Final LA-RICS LTE System EA.

Off-Road Equipment Requirements

Applicable federal and California off-road equipment regulations will be followed, including the latest 2014 Tier 4 federal standards and the 2014 California Air Resources Board (CARB) standards. The off-road equipment requirements were examined in this analysis. For an in-depth discussion of these standards, refer to Section 3.2.3 of the Final LA-RICS LTE System EA.

Local Air Quality Regulations

Sites considered in SEA2 are located within either the South Coast Air Quality Management District (SCAQMD) or the Antelope Valley Air Quality Management District (AVAQMD), both of which have published thresholds of significance for regional impacts for criteria pollutant emissions during construction and operation. The SCAQMD and AVAQMD thresholds were examined in this analysis. An in-depth discussion of these thresholds is included in Section 3.2.2 of the Final LA-RICS LTE System EA.

Greenhouse Gas Emissions Control Strategies

Several federal and California control strategies are in place to reduce GHG emissions, including federal Executive Order 13514, California Executive Orders S-3-05 and S-01-07, and the California Global Warming Solutions Act of 2006. These regulations were included in this analysis. An in-depth discussion of these control strategies is included in Section 3.2.2 of the Final LA-RICS LTE System EA.

3.2.2 Sensitive Receptors

Sensitive receptors for air pollutants are defined from the SCAQMD's methodology for localized significance analysis (Chico et al. 2003), which was used to evaluate the effects of construction emissions (see Section 4.2.1. of the Final LA-RICS LTE System EA). Sensitive receptor locations within the study area include residential areas, religious institutions, and libraries and any other areas where

persons can be situated for an hour or longer at a time. These other areas include parks, bus stops, and sidewalks but would not include the tops of buildings, roadways, or permanent bodies of water. Locations of sensitive receptors, where these occur within 1,000 feet of a site, are provided in Appendix B, although not all sites are near sensitive receptors. No similar methodology exists for the AVAQMD.

3.3 Geology and Soils

This section provides an overview of seismic hazards, soil erosion potential, and potential impacts to farmlands associated with construction and operation of LTE sites.

3.3.1 Regulatory Setting

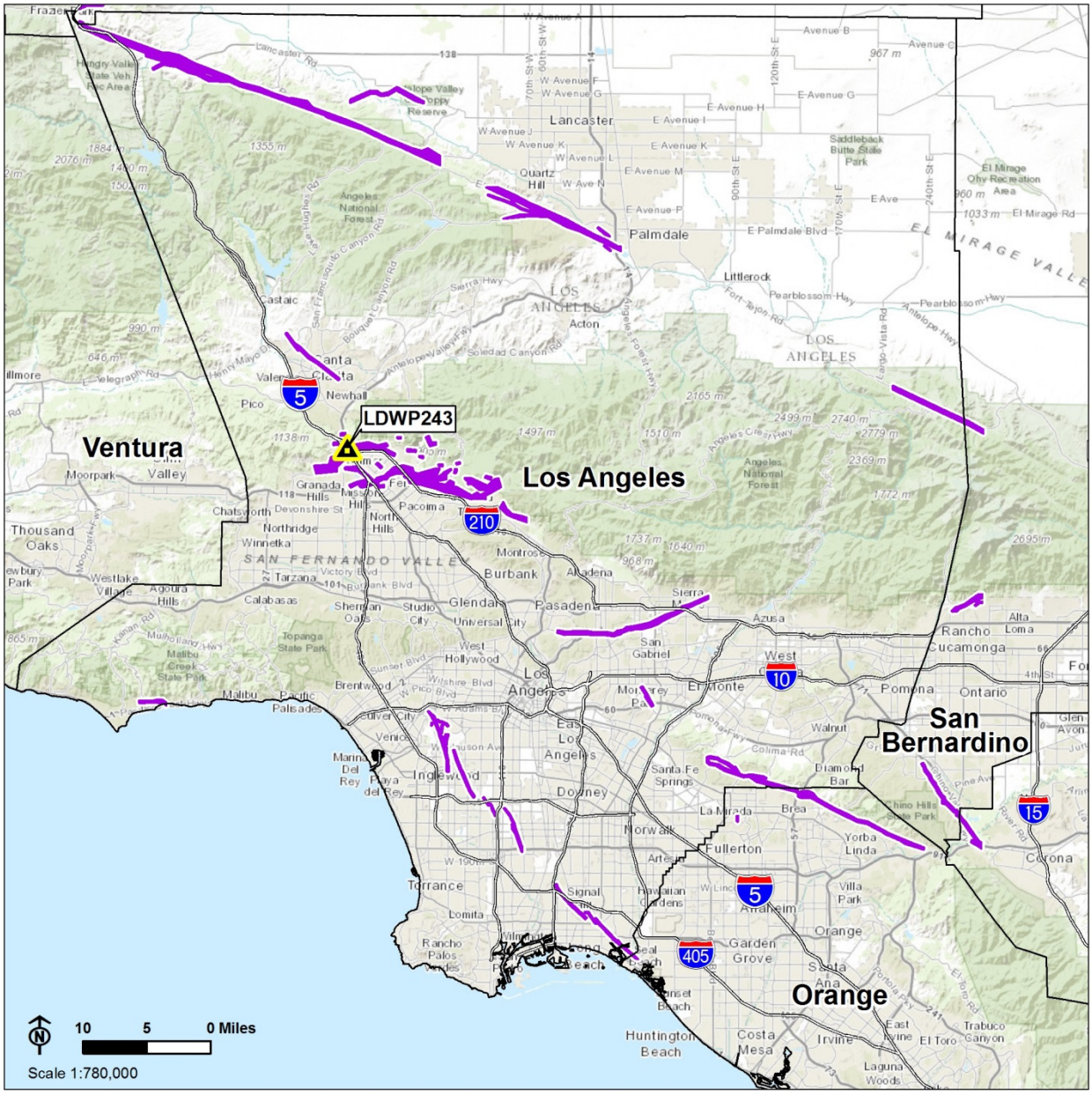
Regulations relevant to geology and soils were assessed in this analysis, including the Alquist-Priolo Earthquake Fault Zoning Act; the Seismic Hazard Mapping Act of 1990; Section 402 of the Federal Water Pollution Control Act (Clean Water Act); Section 1541(b) of the federal Farmland Protection Policy Act; and the Farmland Mapping and Monitoring Program pursuant to Section 65570 of the California Government Code. No additional regulations other than those addressed in the Final LA-RICS LTE System EA were required for this supplemental analysis. Section 3.3.1 of the Final LA-RICS LTE System EA contains a detailed discussion of the above-mentioned regulations.

3.3.2 Existing Resources

Earthquake Fault Zones

Only one of the proposed sites, LDWP243, is located within an Alquist-Priolo Earthquake Fault Zone (see Figure 3-1).

Figure 3-1: LTE Supplemental Sites within an Alquist-Priolo Earthquake Fault Zone



Soil Erosion Potential

The U.S. Department of Agriculture (USDA) National Resources Conservation Service (NRCS) describes soil according to particle makeup (e.g., silt, loam, etc.) and ability to drain water. A summary of USDA soil classifications for each of the proposed LTE sites and potential for soil erodibility is provided in Table 3-2.

Table 3-2: USDA Soil Classifications for SEA2 LTE Sites

Sites	USDA Soil Series Classification	Description	Erodibility
LDWP243	Sobrante-Exchequer-Cieneba loam	Fine loam, excessively drained	Moderate
ONK	Rock outcrop-Lithic Xerorthents-Calleguas-Badland Association	Unweathered bedrock; loam	Low – moderate
SDW	Soper-Fontana-Calleguas-Balcom-Anaheim Association	Colluvium well-drained material ranging from gravelly to clayey loam with rapid runoff and moderately slow permeability.	Low
LASDMVS SCECART SCELONG SCEMESA SCEMNRV SCEMRGO SCESTUD	Zamora-Urban land-Ramona	Alluvium that is well-drained silty and sandy loams with slow to medium runoff and moderately slow permeability.	Low
CHPWVLLY SCELGNBL SCELNIDO SCEMADR	Urban land-Sorrento-Hanford	Alluvium that is well-drained fine sandy loam with negligible to low runoff and moderately rapid permeability.	Low
LADPW38	Wasco-Rosamond-Cajon	Alluvium that is a well-drained sandy loam. This soil type exhibits a very low runoff with moderate permeability equating to moderate erosion resistance.	Moderate
BLR2DPW	Rock outcrop-Hi Vista-Calvista-Cajon	Colluvium that is well-drained sands and gravels.	Low
CHPNWHLL	Xerofluvents-Salinas-Pico-Mocho-Metz-Anacapa	Alluvium, fine to coarse sandy loam, well drained. This soil type exhibits low to moderate runoff with moderate to high permeability equating too low to moderate erosion resistance.	Moderate

Table 3-2: USDA Soil Classifications for SEA2 LTE Sites

Sites	USDA Soil Series Classification	Description	Erodibility
SCEMERC	Urban land-Delhi	Alluvium that is well drained to excessively drained eolian sands with low runoff and moderate to rapid permeability.	Low
Source: NRCS 2015.			

Important Farmlands

Site CHPNWHLL is within areas identified by NRCS or the California Department of Conservation (CDOC) as prime farmland, unique farmland, farmland of statewide importance, and farmland of local importance (CDOC 2014). However, Site CHPNWHLL itself is completely developed/paved and zoned commercial manufacturing. Construction of a COW at Site CHPNWHLL would not result in either temporary or permanent conversion of NRCS or CDOC designated farmland.

3.4 Water Resources

This section discusses surface water and groundwater resources near each of the sites considered in SEA2. The study area for each site was chosen at 500 feet to capture indirect effects associated with the potential for runoff from each site.

3.4.1 Regulatory Setting

The State Water Resources Control Board and the Los Angeles Regional Water Quality Control Board (RWQCB) are the agencies that regulate water resources within the proposed project area. The following federal and state laws were determined applicable for the proposed project: Sections 303, 401, 402, and 404 of the Clean Water Act; Executive Order 11988, as amended by Executive Order 13690 regarding floodplain management, and the state Porter-Cologne Water Quality Control Act. With the exception of Executive Order 13690, each of these was addressed in Section 3.4.1 of the Final LA-RICS LTE System EA. Executive Order 13690 includes consideration of more inclusive definition of floodplains, including the 500 year floodplain, but no new applicable provisions or guidance affecting sites in this SEA2 have been identified.

3.4.2 Existing Resource

Surface Waters

Surface water throughout the study area is typically derived from precipitation and runoff and, to a lesser degree, groundwater. The sites range from relatively undeveloped, where precipitation absorption varies depending on soil moisture, soil type, and terrain; to highly urbanized sites with impervious surfaces where stormwater is directed to storm drains, resulting in very little infiltration to

groundwater aquifers. An in-depth discussion of the average precipitation, climate, and geography of Los Angeles County is provided in Section 3.4.2 of the Final LA-RICS LTE System EA.

Seven proposed sites (LDWP243, ONK, SDW, SCECART, SCELONG, SCEMADR, and SCESTUD) have U.S. Fish and Wildlife Service National Wetland Inventory-mapped wetlands that during or immediately after rains may contain surface water within 500 feet of the site boundaries. Within 500 feet of Site LDWP243, five separate features are identified as temporarily or intermittently flooded riverine drainages and the Los Angeles Aqueduct that is mapped as an artificial riverine, intermittent, streambed, temporarily flooded feature. One feature is mapped within the 500-foot buffers of sites ONK and SDW, and each of these is classified as a temporarily flooded riverine feature. The site boundary of Site SCECART is within 500 feet of the channelized San Gabriel River, which is mapped as an artificial riverine, intermittent, streambed, temporarily flooded feature. Site SCELONG is adjacent to a retention basin and is 0.13 miles from the Los Angeles Aqueduct. The site boundary for Site SCEMADR is within 500 feet of Riverine, Freshwater Forested/Shrub Wetland, Freshwater Emergent Wetland, and Freshwater Pond. The site is across the street from the Madrona Marsh, which is a vernal marsh, a low spot that collects rainwater in the winter. Site SCESTUD is within 500 feet of Estuarine and Marine Deepwater. The northern and southern boundaries are adjacent to concrete lined channels, and the south side contains the San Gabriel River. With the exception of the Los Angeles Aqueduct, no surface water was observed within 500 feet of any of the sites during field surveys that occurred in August and December 2014 and January and May 2015.

Groundwater

The proposed LTE sites and the groundwater basins in which they are located are shown in Table 3-3 and Figure 3-2. A description of the groundwater basins is provided in Section 3.4.2 of the Final LA-RICS LTE System EA.

Table 3-3: LTE Site Distribution by Groundwater Basin

Sites	Groundwater Basin	Description
LDWP243 ONK SDW LADPW38	Unnamed	Isolated aquifers in these mountainous and hilly areas may occur in unconsolidated alluvial sediments at the base of valleys and in porous or fractured bedrock.
LASDMVS SCELGNBL SCELONG SCEMESA SCEMNRV SCEMRGO	Coastal Plain of Los Angeles	Aquifers in this basin are composed of unconsolidated alluvial sediments. Aquifer thickness typically ranges from 30 to 500 feet, and groundwater elevations typically range from approximately 110 to 230 feet below mean sea level due to extensive overdraft. Perched groundwater or nonproducing aquifers may occur at shallow depths of 20 feet or more.
CHPWVLLY	San Fernando Valley	Aquifers in this basin are composed of unconsolidated alluvial sediments. Depth to groundwater typical ranges from 24 to 400 feet below ground surface.

Table 3-3: LTE Site Distribution by Groundwater Basin

Sites	Groundwater Basin	Description
BLR2DPW	Antelope Valley	Aquifers in this basin are composed of unconsolidated alluvial and lacustrine deposits. Depth to groundwater typically ranges from 50 to 350 feet below ground surface.
CHPNWHLL	Santa Clara River Valley	Aquifers in this basin are composed of unconsolidated alluvial sediments, terrace deposits, and stream deposits of the Saugus Formation. Depth to groundwater typically ranges from 10 and 100 feet below ground surface.
SCECART SCELNIDO SCEMADR SCELMERC SCESTUD	San Gabriel River Valley	Aquifers in this basin are composed of unconsolidated alluvial sediments. Aquifer thickness typically ranges from approximately 300 to more than 3,000 feet, and groundwater elevations typically range from 110 to 1,200 feet above mean sea level.

Floodplains

None of the sites considered in SEA2 are located within a 100-year floodplain or other known flood-prone areas.

3.5 Biological Resources

Biological resources, including general wildlife and plants, vegetation, special status wildlife and plants, and sensitive habitats, were evaluated at each supplemental site.

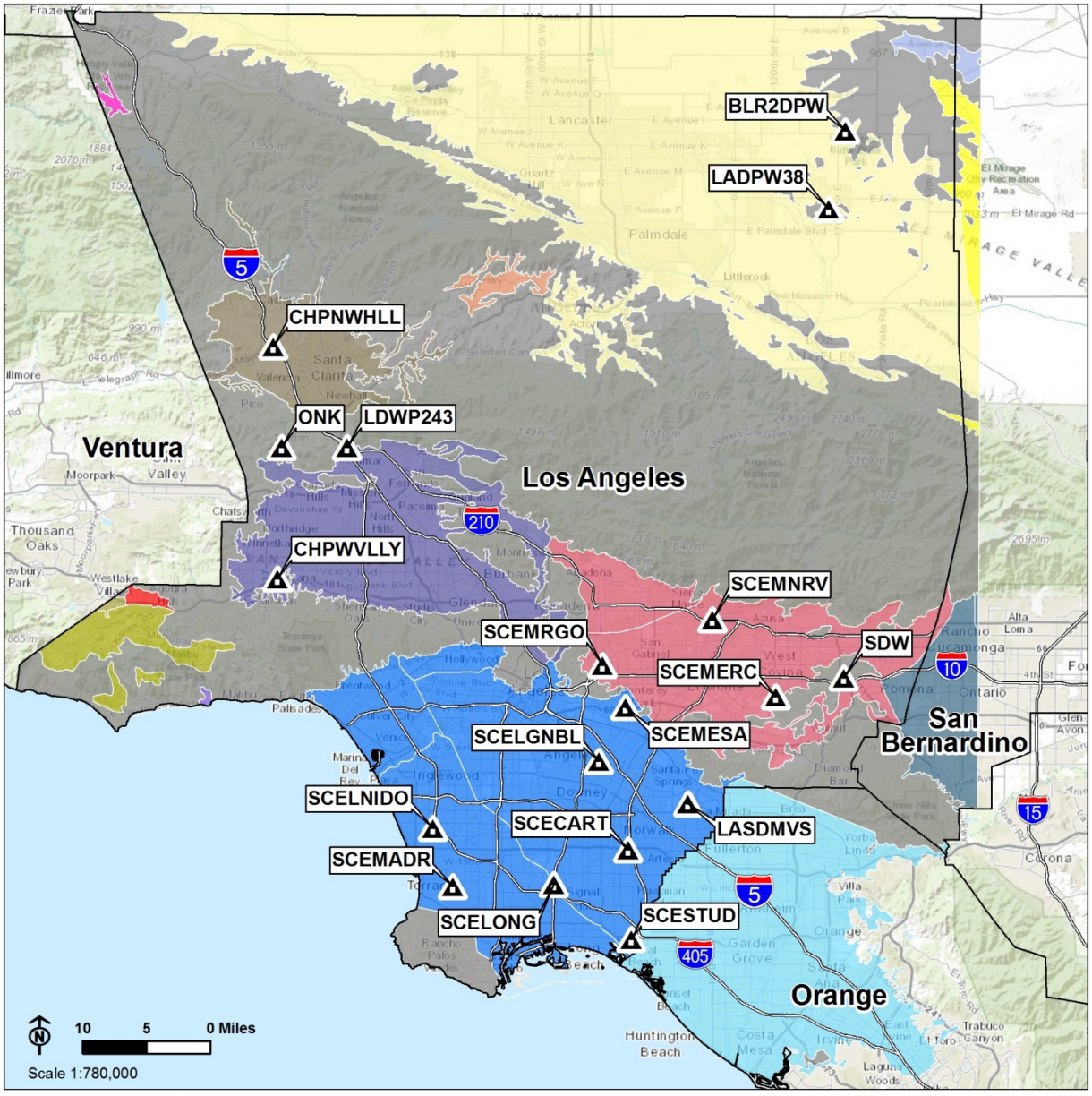
3.5.1 Regulatory Setting

Several federal and state regulations were considered for this analysis, including:

- Federal Endangered Species Act (ESA)
- Bald and Golden Eagle Protection Act (BGEPA)
- Migratory Bird Treaty Act (MBTA)
- Marine Mammal Protection Act (MMPA)
- Magnuson-Stevens Fishery Conservation and Management Act (MSA)
- Federal Water Pollution Control Act (CWA)
- Rivers and Harbors Act of 1899 Section 10
- Federal Executive Order 13112
- California Endangered Species Act (CESA)
- California Fish and Game Code Sections 3511, 4700, 5050, and 5515 (California Fully Protected [CFP] Species)
- California Native Plant Protection Act (NPPA)

These are consistent with those addressed in the Final LA-RICS LTE System EA, which contains a synopsis on each regulation.

Figure 3-2: LTE Sites and Groundwater Basins



3.5.2 Methodologies and Resource Overview

Resources considered for SEA2 include vegetation, wildlife, special status species, and sensitive habitats. The potential for biological resources, specifically special status species, to occur was determined by literature and database review, and by examining biological resources within a boundary established for field surveys encompassing a 500-foot buffer around each project site. For potentially impacted wildlife with larger ranges than those represented by a 500-foot buffer, a more expansive area was analyzed, the size of which was dependent on species under consideration. Each site was visited by Senior Botanist David Charlton either in the months of August or December 2014, or January and June 2015.

Vegetation

All of the proposed LTE sites are located within the Southern California/Northern Baja Coast and Mojave Basin and Range Level III Ecoregion, which is made up of coastal and alluvial plains the Mojave Desert. The Southern California/Northern Baja ecoregion is described as historically dominated by coastal sage scrub and chaparral vegetation communities, with oak and walnut woodlands dispersed throughout. The Mojave Basin and Range is described historically as dominated by creosote bush, white bursage and Joshua tree; other yuccas and Mormon tea are common (USEPA 2014). In modern times the region has experienced large-scale human development. Land cover types were identified using the classification system in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). This differs from the Final LA-RICS LTE System EA, which used the older, less specific, Holland classification system. Regardless, the predominant land cover types within the sites are not dominated by naturalized vegetation and are typically not identified in Sawyer et al. or in the Holland classification system, including urban or built-up land, ruderal, and ornamental. The following land cover types, in order of dominance, were identified within the study areas: urban or built-up land, ruderal, ornamental, and minimal amounts of California sagebrush-California buckwheat scrub (*Artemisia californica-Eriogonum fasciculatum*) Shrubland Alliance, Chaparral/Laurel Sumac Scrub – (*Malosma laurina*) Shrubland Alliance, coast live oak (*Quercus agrifolia*) woodland, creosote bush (*Larrea tridentata*) scrub, Joshua tree (*Yucca brevifolia*) woodland.

Urban or Built-Up Land

Urban or Built-up Land includes areas where humans have drastically altered the landscape through activities such as grading and construction, such that all naturally occurring plant species are absent. Urban or Built-up Land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident due to a large amount of debris or other materials being placed upon it may also be considered Urban or Built-up (e.g., car recycling plant, quarry). This cover type occurs on or near 17 sites: LDWP243, ONK, SDW, LADPW38, LASDMVS, CHPNWHLL, CHPWVLLY, SCECART, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, and SCESTUD.

Ruderal

Ruderal habitat occurs as a result of anthropogenic disturbance of natural habitat. Disturbance is an event or condition that causes an interruption or loss of ecosystem structure or function (Walker 2011). Anthropogenic forms of disturbance include off-road vehicle use, construction staging and activities, trampling, and others. In the case of ruderal habitat, anthropogenic disturbance is sustained, but no intentional substitution of vegetation follows disturbance (Frenkel 1970). Without intervention, ruderal habitat is colonized by pioneer species, which typically are invasive annual species. Ruderal habitat has less biodiversity than natural habitat (McKinney 2002). A vegetation community was assigned "Ruderal Habitat" as a vegetation cover type if natural or anthropogenic disturbance is extreme (generally greater than 70 percent) in an area. This cover type occurs on or near nine sites: LDWP243, ONK, SDW, BLR2DPW, CHPNWHLL, LADPW38, SCECART, SCEMERC, and SCESTUD.

Ornamental

Ornamental areas are portions of land adjacent to urban structures that are landscaped, maintained, and irrigated or which have remnant native vegetation that receives some degree of maintenance or pruning, usually in the form of clearing for wildfire prevention. In densely urbanized areas, ornamental vegetation is typically dominated by nonnative species which may or may not be invasive. Canopy structure, density, and the presence of understory and tree canopy layers are variable throughout ornamental areas (Mayer and Laudenslayer 1988). For some sites, ornamental areas are of concern because they can provide substrate for host plants for special status wildlife. This cover type occurs on or near 14 sites: LASDMVS, CHPNWHLL, CHPWVLLY, SDW, SCECART, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, and SCESTUD.

California Sagebrush-California Buckwheat *Artemisia californica – Eriogonum fasciculatum* Shrubland Alliance

This community type falls under the more general coastal sage scrub communities described in the Final LA-RICS LTE System EA. It is an inland community of dense shrub cover found on the lower alluvial fans and washes in the San Gabriel and other inland valleys. California buckwheat is an early pioneering species that dominates after disturbance. It also is a common element on steep, south-facing slopes and nutrient-poor, well-drained soils. Dominant plants may include California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), and monkey flower (*Diplacus aurantiacus*) (Sawyer et al. 2009). This community type was identified at, and adjacent to, sites LDWP243 and SDW. California buckwheat is the dominant species on the steep, south-facing slopes near Site LDWP243.

Chaparral/Laurel Sumac Scrub – *Malosma laurina* Shrubland Alliance

Specifically, the *Malosma laurina-Eriogonum fasciculatum* alliance is on north-facing slopes dominated by mountain mahogany (*Cercocarpus montanus*), chamise (*Adenostoma fasciculatum*), scrub oak (*Quercus berberidifolia*), toyon (*Heteromeles arbutifolia*), and laurel sumac. The herbaceous layer is made up primarily of nonnative grasses, wild oats (*Avena fatua*), and red brome (*Bromus madritensis*

ssp. *rubens*). This cover type occurs with elements of this vegetation community in the vicinity of Site SDW.

Coast Live Oak Woodland – *Quercus agrifolia* Woodland

This community is dominated by coast live oak (*Quercus agrifolia*), a tree that reaches 30 to 80 feet in height. Canopy cover is intermittent and results in a poorly developed understory layer; but shrubs, including toyon, currant (*Ribes* spp.), laurel sumac, or Mexican elderberry (*Sambucus mexicana*) may be present. The herbaceous layer is continuous and is often dominated by cheatgrass (*Bromus tectorum*) and other nonnative species. It is found especially on north-facing slopes and shaded canyon ravines (Holland 1986). This cover type occurs within 500 feet of Site LDWP243.

Wild Oats Grassland – *Avena* (*barbata, fatua*) Semi-Natural Herbaceous Stands

This community type is similar to the nonnative grassland type described in Holland and typically occurs as a dense to sparse cover of annual grasses dominated by nonnative wild oat (*Avena barbata* or *A. fatua*). Less dominant species may include nonnative bromes (*Bromus* sp.), filaree (*Erodium* spp.), and rye grass (*Festuca* sp.) and native California poppy (*Eschscholzia californica*) and lupine (*Lupinus* sp.). It is found in waste places, rangelands, and openings in woodlands. A shrub or tree layer may be present, but at low cover (Sawyer et al. 2009). This cover type occurs in the 500-foot buffer around Site ONK but does not occur within the site boundary of any sites.

Valley Oak Woodland – *Quercus lobata* Woodland

This specific community was not identified in the Final LA-RICS LTE System EA at any sites. It is typically found in valley bottoms, intermittently flooded lower slopes, and summit valleys. Dominant species may include valley oak (*Quercus lobata*), box-elder (*Acer negundo*), white alder (*Alnus rhombifolia*), and Oregon ash (*Fraxinus latifolia*) as well as many others. Trees are no greater than 30 meters tall and provide an open or continuous canopy (Sawyer et al. 2009). This type was identified within the 500-foot buffer of one supplemental LTE site, ONK, but was not within the site boundary. This community transitions with chaparral on north-facing slopes and in canyons and nonnative grasslands on south-facing slopes surrounding, but not on, Site ONK.

Creosote Bush Scrub – *Larrea tridentata* Scrub

There are two types of creosote bush scrub: low diversity and high diversity. Low diversity occurs on lower alluvial fans and consists primarily of creosote bush and bursage. High diversity creosote bush scrub occurs in deep sandy soils and rocky outcrops. It includes boxthorn (*Lycium andersonii*), Mormon tea (*Ephedra nevadensis*), spiny hopsage (*Grayia spinosa*), Cooper's goldenbush (*Ericameria cooperi*), and round-leaf rabbitbrush (*Ericameria teretifolia*). Low density rabbitbrush occurs adjacent to Site BLR2DPW, which is surrounded by high diversity creosote bush scrub. Creosote bush scrub also occurs at Site LADPW38.

Joshua Tree Woodland -*Yucca brevifolia Woodland*

Joshua tree woodland occurs on upper alluvial fans and rocky ridges from as low as 2,400 feet in elevation but is more common above 3,000 feet. It has an understory of creosote bush scrub but has Joshua trees in enough abundance to appear to form an enclosure, as in a woodland. Most of the Joshua trees adjacent to Site BLR2DPW are low or occur in such a low density as to barely form a woodland. This community surrounds, but is not on, Site BLR2DPW.

Wildlife

A detailed discussion of wildlife common to Los Angeles County is available in Section 3.5.2 of the Final LA-RICS LTE System EA. No additional species of wildlife were observed for any of the proposed LTE sites.

Special Status Species

Special status species considered in this EA include:

- Species listed as endangered, threatened, proposed for listing, or having candidate status under the federal ESA. U.S. Fish and Wildlife Service (USFWS) provided a list of such species with potential to occur in the Action Area[2], as part of the informal consultation process under Section 7 of the federal ESA, which was concluded in 2014. USFWS-designated and proposed critical habitat is discussed separately in Section 3.5.2 D, Sensitive Habitats, of the Final LA-RICS LTE System EA.
- Bald and golden eagles, due to their inclusion in the BGEPA
- Species protected under the MBTA
- Species identified under the CESA as Threatened, Endangered, or Rare
- Species identified in the California Fish and Game Code as CFP species
- Species identified under the California NPPA

Species identified under the purview of the MMPA and MSA were not considered due to lack of riverine or marine environments necessary to support species protected under these acts.

All sites analyzed in SEA2 are located within Los Angeles County. No additional species were identified for analysis. Refer to the Final LA-RICS LTE System EA for the detailed table of special status species with potential to occur in the project area.

[2] For purposes of the federal ESA, "action area" is not limited to the immediate area involved in the action (50 CFR § 402.02). As part of the informal consultation process, USFWS has identified an "action area" that covers all of Los Angeles County.

Federal ESA-Listed Species

Informal consultation with the USFWS was initiated and has been concluded by letter dated August 4 2015 (see Appendix C) for six sites (LDWP243, ONK, SDW, BLR2DPW, LADPW38, and CHPNWHLL) that were determined to have the potential to contain suitable habitat for special status wildlife species. Five federally listed species and/or critical habitat that have been determined to have a potential to occur within the vicinity of the project sites are listed in Table 3-4. These species were analyzed in detail in the Supplemental Biological Assessment (BA) (Appendix D). Potential effects to these species and their habitats are discussed in Section 4.5.

Table 3-4: ESA Designated Species and Critical Habitat Identified Near Proposed LTE Sites

Common Name	Scientific Name	ESA Status	Site
arroyo toad	*Anaxyrus californicus*	Endangered Critical Habitat	CHPNWHLL
California condor	*Gymnogyps californianus*	Endangered	ONK LDWP243 BLR2DPW LADPW38 CHPNWHLL
coastal California gnatcatcher	*Polioptila californica californica*	Threatened Critical Habitat	ONK LDWP243 SDW
least Bell's vireo	*Vireo bellii pusillus*	Endangered Critical Habitat	CHPNWHLL
Mojave desert tortoise	*Gopherus agassizii*	Threatened	LADPW38 BLR2DPW
Source: LA-RICS 2015			

Bald and Golden Eagles

Bald and golden eagles are protected under the BGEPA. State law protecting golden eagles is discussed below. The general vicinity of two sites, LDWP243 and ONK, were identified as having low potential to support nesting habitat for the golden eagle.

At Site LDWP243, eagles may pass by the site while foraging, but the area around the site offers few potential prey items for the eagle. Within 0.25 mile of the project site are residential and recreational developments and the interchange for Interstate 5 and State Route 14 (both major freeways). In addition to the water transfer facilities, several electrical transmission towers are adjacent to the project site, and others are located along the ridgeline. Eagles are sensitive to disturbance from human activities, and therefore the vicinity of Site LDWP243 is considered marginal for nesting and foraging habitat.

Eagles may pass by sites ONK, BLR2DPW, and LADPW38 while foraging. Below Site ONK and the Oat Mountain ridgeline, steep slopes and narrow canyons may provide cliffs or rocky crags suitable as nest sites for golden eagles; but the areas around sites BLR2DPW and LADPW38 do not provide suitable eagle nesting habitat. Site ONK is part of a larger complex of communication facilities with several communication towers at the project site and others along the ridgeline. Monopole towers do not offer perching opportunities for bird species considered in SEA2.

Migratory Bird Treaty Act

Migratory birds are protected under the MBTA, which makes it unlawful to pursue, take, kill, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The vast majority of native birds are protected under the MBTA. Under Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy their nests or eggs. Section 3513 of the California Fish and Game Code provides for consistency with the MBTA's provisions such that it is unlawful under state regulations to take or possess any migratory non-game bird as designated in the MBTA.

State Regulated Special Status Species

This section addresses species protected under California laws and regulations. Those species under consideration in SEA2 include those listed under the CESA, CFP species, and species protected under the NPPA. Eight state listed species have been identified as having low to high potential to occur within or near five sites, as shown in Table 3-5.

Table 3-5: Species Occurrence Potential for State-Regulated Species*

Applicable Site	Taxa	Common Name	Scientific Name	Status	SOP
LDWP243	Plant	Santa Susana tarplant	*Deinandra minthornii*	SR, NPPA	low
	Bird	California condor**	*Gymnopyps californicus*	SE, CFP	low
	Bird	American peregrine falcon	*Falco peregrinus*	CFP	moderate
	Bird	golden eagle	*Aquila chrysaetos*	CFP	low (nesting)
ONK	Plant	thread-leaved brodiaea	*Brodiaea filifolia*	SE	low
	Bird	California condor	*Gymnopyps californicus*	SE, CFP	moderate
	Bird	American peregrine falcon	*Falco peregrinus*	CFP	moderate
	Bird	golden eagle	*Aquila chrysaetos*	CFP	low (nesting)

Table 3-5: Species Occurrence Potential for State-Regulated Species*

Applicable Site	Taxa	Common Name	Scientific Name	Status	SOP
BLR2DPW LADPW38	Mammal	Mohave ground squirrel	*Ammospermophilus mohavensis*	ST	Low
	Reptile	Mojave desert tortoise	*Gopherus agassizii*	SE	Moderate
	Bird	golden eagle	*Aquila chrysaetos*	CFP	low (nesting)
CHPNWHLL	Bird	least Bell's vireo	*Vireo bellii pusillus*	SE	low
	Bird	California condor	*Gymnopyps californicus*	SE, CFP	moderate

Species in this table represent those determined to have a low, moderate, or high potential of occurrence at the sites considered in SEA2. Sites not shown were found not to support these species. The preferred habitats and rationale for species occurrence shown in this table are provided in Appendix E-2 of the Final LA-RICS LTE System EA, which also provides a complete inventory of special status species considered for the EA, including those not anticipated to occur.

* State-regulated for purposes of this EA includes species regulated under the California Endangered Species Act; California Fish and Game Code Sections 3511, 4700, 5050, and 5515 (California Fully Protected [CFP] Species); and the California Native Plant Protection Act (NPPA)

KEY
SE = State listed Endangered
SR = State listed Rare
CFP = California Fully Protected
NPPA = Native Plant Protection Act
*SOP = species occurrence potential. The SOP is determined by analyzing the site's surrounding habitat. Species may have potential to occur in the surrounding habitat but may not have potential to occur within the site itself.

Sensitive Habitats

Sensitive habitats reviewed included Critical Habitat designated under the federal ESA, wetlands, essential fish habitat (EFH), and habitat conservation plans (HCPs). No EFH, or lands administered under HCPs were identified within 500 feet of any of the sites considered in SEA2. Wetlands were identified within 500 feet of three sites, LDWP243, ONK, and SDW but not on site at any site. Critical Habitat was identified within 500 feet of, but not on, sites SDW and CHPNWHLL. Table 3-6 presents sensitive habitats located within 500 feet of each site.

Table 3-6: Sensitive Habitats within 500 Feet of LTE Sites

Site	National Wetlands Inventory Designations for Nearby Wetlands	On Site?	Within 500 Feet of Site
LDWP243	R4SBA – Riverine (Intermittent, streambed, temporarily flooded) R4SBJ – Riverine (Intermittent, streambed, intermittently flooded) R4SBAr -Los Angeles Aqueduct– Artificial Riverine (Intermittent, streambed, temporarily flooded)]	No	Yes
ONK	R4SBA – Riverine (Intermittent, streambed, temporarily flooded)	No	Yes
SDW	R4SBA – Riverine (Intermittent, streambed, temporarily flooded) Critical habitat for: coastal California gnatcatcher	No	Yes
CHPNWHLL	Critical habitat for: least Bell's vireo	No	Yes
SCECART	R4SBCx – San Gabriel River – Riverine	No	Yes
SCELONG	R4SBAx – Los Angeles River – Riverine PUBHh – Freshwater pond	No	Yes
SCEMADR	PABFx – Freshwater pond associated with the Madrona Marsh PEMAs – Emergent wetland feature associated with the Madrona Marsh PEMCs – Emergent wetland feature associated with the Madrona Marsh PEMCx – Emergent wetland feature associated with the Madrona Marsh PFOCx – Freshwater forested/shrub and freshwater pond wetland feature associated with the Madrona Marsh PSSAx – Freshwater forested/shrub wetland and freshwater pond feature associated with the Madrona Marsh PSSCx – Freshwater forested/shrub wetland feature associated with the Madrona Marsh	No	Yes
SCESTUD	R4SBAx – San Gabriel River – Riverine R4SBCx – Alamitos back bay – Riverine	No	Yes
Source: NWI 2015, LA-RICS Authority 2015 (Appendix D)			

3.6 Historic and Cultural Resources

The broad, often-used term for the physical remains and sites associated with humans and their environment is cultural resources. This includes, but is not limited to, prehistoric and ethnohistoric archaeological sites (Native American or other cultures); historical archaeological sites; historic buildings, structures, objects, or other features or items; and elements or areas of the natural landscape that have cultural character and significance to a culture, subculture, or community. Section 3.6 of the LA-RICS LTE System Final EA describes the cultural and paleontological resources and the history of human habitation within Los Angeles County. Pursuant to 36 Code of Federal Regulations (CFR), Part 800.16(l), whether archaeological, architectural, or ethnic in nature, cultural resources that are included in, or eligible for inclusion in, the National Register of Historic Places (NRHP), are called "historic properties."

3.6.1 Regulatory Setting

The assessment of effects on cultural and paleontological resources requires compliance with federal statutes, regulations, and Executive Orders, as well as two negotiated agreement documents (i.e., Programmatic Agreements [PAs]). The most applicable of these mandates are listed below and Section 3.6.1 of the LA-RICS LTE System Final EA contains a discussion of the various compliance requirements:

- National Historic Preservation Act (NHPA) (Section 106)
- *Nationwide Programmatic Agreement* [PA] *for Review of Effects on Historic Properties for Certain Undertakings Approved by the Federal Communications Commission* (FCC) (FCC 2004)
- *Nationwide Programmatic Agreement for the Collocation of Wireless Antennas* (FCC 2001)
- *Programmatic Agreement Between the National Telecommunications and Information Administration and the California State Historic Preservation Officer, Regarding the Los Angeles Regional Interoperable Communications System Authority Under the Broadband Technology Opportunities Program* (Appendix E)
- *Program Comment for the Rural Utilities Service, the National Telecommunications and Information Administration, and the Federal Emergency Management Agency to Avoid Duplicative Section 106 Reviews for Wireless Communication Facilities Construction and Modification* (FR 2009)
- American Antiquities Act of 1906
- Archaeological Resources Protection Act of 1979 (ARPA)
- Native American Graves Protection and Repatriation Act of 1990 (NAGPRA)
- Executive Orders #11593, #13007 and #13175
- 36 Code of Federal Regulations Part 800
- Paleontological Resources Preservation Act of 2009 (PRPA).

To comply with the above-mentioned PAs, a New Tower Submission packet (FCC Form 620) or a Collocation Submission packet (FCC Form 621), is being prepared for each project site. Each FCC form will be submitted to the California State Historic Preservation Officer (SHPO) for review and approval prior to construction.

3.6.2 Area of Potential Effects

Pursuant to FCC's Nationwide PA (FCC 2004) Section VI.C.2 and correspondence from the SHPO for the LTE project dated October 13, 2014 (Appendix C), the direct APE is the area of potential ground disturbance at each proposed LTE project site. This includes the area needed for the antenna installation or collocation, equipment cabinet, and generator installation; utility trenching (on and adjacent to the LTE site); and any needed construction staging areas.

Pursuant to FCC's Nationwide PA Section VI.C.4.a., the indirect APE for archaeological and architectural resources is 0.5 mile from the proposed construction location.

3.6.3 Methodology

The methods used to identify and evaluate previously and newly identified historic properties (as defined in 36 CFR 800.16) and paleontological resources are equivalent to those described in Section 3.6.3 of the LA-RICS LTE System Final EA, as further described below.

Archaeological Resources

Records searches were conducted for all 18 project locations at the South Central Coastal Information Center (SCCIC) at California State University Fullerton. A review of the NRHP website and spatial databases was also undertaken to identify all previously recorded archaeological resources within 0.5 mile of each proposed project area. To complement the records search, pedestrian field surveys were conducted by a Secretary of the Interior (SOI)-qualified archaeologist that included inspection of the entire construction area plus, as accessible, a minimum 50-foot buffer around each site. Areas visible within adjacent public rights-of-way were also inspected.

Public outreach efforts included the upload of tower information into the Tower Construction Notification System (TCNS) in order to afford federally-recognized Native American Tribes the opportunity to evaluate the proposed project. TCNS information for LDWP243 and ONK was uploaded in February 2015 and upload of TCNS information for the 15 COW sites was uploaded in June 2015.

Outreach also included letters to the California Native American Heritage Commission (NAHC) in February and June of 2015 to identify non-federally-recognized Tribes, groups, and other stakeholders potentially interested in the proposed LTE sites. As part of local government outreach, various municipalities were also contacted in February 2015.

Outreach efforts are documented in Appendix C of this Supplemental EA and in Attachments 3 and 4 of each FCC 620/621 form.

Architectural Resources

A records search for architectural resources was also performed at the SCCIC and additional records were obtained through the NRHP databases. The City of Los Angeles' SurveyLA project data were also reviewed, and previously recorded resources associated with the built environment (e.g., buildings, structures, districts) more than 45 years old were identified within 0.5 mile of each proposed LTE site. A virtual (desktop) survey was undertaken during project planning and a pedestrian survey was conducted at each location to identify any previously unidentified resources within the viewshed of the direct APE (or within a reasonable distance from the tower location). All of these efforts were performed by an SOI-qualified architectural historian.

Paleontological Resources

A records search for paleontological resources was conducted by the Natural History Museum of Los Angeles County (NHMLAC) in November 2014, February 2015, and June 2015, to identify the rock units and the potential for paleontological specimens to be present within the rock units associated with each of the LTE sites.

3.6.4 Resource Overview

This section describes the cultural and paleontological resources identified at each of the proposed LTE sites assessed in this Supplemental EA.

SDW Exemption

In accordance with the terms and conditions of FCC's 2001 Collocation PA, one site–SDW–was exempted from SHPO review by NTIA on February 19, 2015; therefore, cultural resources at this project location are not described further within this Supplemental EA. The remaining 17 project locations are discussed in the following sections and assessed for any potential effects in Section 4.6.

The potential for paleontological resources is present at project site SDW; therefore this resource will be further described within this section and assessed for any potential effects in Section 4.6.

Archaeological Resources

Direct APEs. Based on the records searches and field surveys, no NRHP-listed or -eligible archaeological resources were identified within the direct APE at any of the proposed LTE project locations.

Indirect APEs. One NRHP-listed prehistoric archaeological site, which is also considered a Native American resource, was identified within the indirect APE at SCESTUD. A small portion of the site encroaches on the boundary of the indirect APE, approximately .45 miles from the direct APE. However, in the 1960s, artifacts from this site were salvaged prior to the construction and recontouring of the area for a modern housing development and evidence of the site is now beneath houses and paved surfaces.

Architectural Resources

There were no NRHP-listed or -eligible architectural resources identified within the direct or indirect APEs of 12 project locations. The 12 project locations are BLR2DPW, CHPNWHLL, CHPWVLLY, LADPW38, LASDMVS, ONK, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, and SCEMESA. The remaining project locations are described in the following sections.

LDWP243

Direct APE. One historic property (architectural/engineering) is situated within the direct APE at LDWP243. The resource is a segment of Los Angeles Aqueduct No. 1, which was built between 1907 and

1913. The resource runs underground beneath the westernmost edge of the direct APE and is eligible for inclusion in the NRHP.

Indirect APE. There are two identified historic properties within the LDWP243 indirect APE. The segment of Aqueduct No. 1 (described above) that crosses the direct APE also extends north/south across the indirect APE both above and below ground. The segment runs essentially parallel to the second, more modern Los Angeles Aqueduct, which was built in the 1970s and is not a historic property. A second historic property is situated along the western boundary of the LDWP243 indirect APE. This resource is a segment of the Old San Fernando Road, which is also eligible for inclusion in the NRHP. At its closest point, the road is approximately 0.30 mile to the west of the project area. The proposed monopole at LDWP243 would be visible in the distance from both of the identified historic properties.

SCECART

Direct APE. There were no historic properties of any type identified within the direct APE at LTE project site SCECART.

Indirect APE. One historic property (architectural/engineering) was identified within the indirect APE at SCECART. The NRHP-eligible resource is a segment of the historic Union Pacific Railroad, Upper Railroad Route. It is part of a much longer and larger resource that represents the first transcontinental railroad, which was completed through California in the 1870s. The railroad crosses the indirect APE northwest/southeast approximately 100 feet north of the direct APE and adjacent to an industrial area and transportation corridor that includes the intersection of two major interstate freeways and the concrete channelized San Gabriel River. The proposed COW at this location would be adjacent to an existing communications lattice tower and would be visible to a section of the historic railroad track.

SCEMNRV

Direct APE. There were no historic properties of any type identified within the direct APE at LTE project site SCEMNRV.

Indirect APE. One historic property (architectural) was identified within the indirect APE at LTE project site SCEMNRV. The NRHP-eligible resource is the Uriah Zimmerman House, which is located at 823 South Shamrock Avenue and was built in 1887 as one of Monrovia's earliest dwellings. The single-family Victorian-style residence is situated approximately .49 miles northeast of the direct APE. The proposed COW would not be visible to this historic property due to the intervening distance and dense urban environment.

SCEMRGO

Direct APE. There were no historic properties of any type identified within the direct APE at LTE project site SCEMRGO.

Indirect APE. Two historic properties (one architectural, one engineering) were identified within the indirect APE at LTE project site SCEMRGO. The first of the two resources is an NRHP-eligible segment of the Union Pacific Railroad which runs through Los Angeles County and is part of the original transcontinental railroad system. This segment is part of the Southern Pacific Los Angeles Division and a feature of a much larger resource that includes stations, siding, spurs, and railyards that were built at different times between the 1870s and the present. The resource crosses the entire indirect APE northeast/southwest approximately .31 miles south of the direct APE. The proposed COW at this project is situated in a heavily urban and industrial landscape that includes lattice towers, monopoles, electrical transmission elements, and numerous other tall vertical features. From certain vantage points, the COW may be visible along portions of the railroad segment.

The second of the two NRHP-eligible historic properties at this project location is the former C. F. Braun Company, a post-World War I petrochemical company that encompasses a single large property with six individual resources, segments of towering brick wall, and a large landscaped plaza. The buildings were constructed between 1922 and 1949 (a total of 20 originally) and the grouping of six is located at 1000 South Fremont Avenue, approximately .43 miles southwest of the direct APE. Given the intervening distance and heavily urbanized landscape, the proposed COW would not be visible to this historic property.

SCESTUD

Direct APE. There were no historic properties of any type identified within the direct APE at LTE project site SCESTUD.

Indirect APE. Two historic properties (architectural) were identified within the indirect APE at LTE project site SCESTUD. The first of the two resources is the NRHP-listed Rancho Los Alamitos, which was established in 1806. This resource is situated at 6400 Bixby Hill Road and intersects with the northwestern-most boundary of the indirect APE, approximately .38 miles from the direct APE. The 7.5-acre complex of buildings and gardens is currently owned and operated by the city of Long Beach. The proposed COW at this project location is situated adjacent to a row of multi-unit storage buildings and within a heavily industrial area that encompasses numerous transmission features and lattice towers, a power plant, and a former tank farm. Given the intervening distance and urban environment, the COW at this proposed location will not be visible to this historic property.

The second historic property at the SCESTUD project location is a single-family residence located at 1040 Foxburg Road and approximately .49 miles east of the direct APE. The property is a contributing element of the Leisure World NRHP Historic District and is also eligible for listing in the California Register. Given the intervening distance, industrial environment, and mature vegetation, the COW at this proposed location will not be visible to this historic property.

Native American Resources

Direct APEs. Based on the records searches and field surveys, no NRHP-listed or -eligible Native American resources were identified within the direct APE at any of the proposed LTE project locations.

Indirect APEs. As also described under archaeological resources, one NRHP-listed Native American resource was identified within the indirect APE at SCESTUD. As noted above, a small portion of the site encroaches on the boundary of the indirect APE, approximately .45 miles from the direct APE. However, in the 1960s, artifacts from this site were salvaged prior to the construction and recontouring of the area for a modern housing development and evidence of the site is now beneath houses and paved surfaces.

Native American Outreach. Searches of the NAHC's Sacred Lands File requested in February and June 2015 identified no Native American resources within the APEs for any of the project locations. The NAHC provided a list of additional local Tribes to contact, which included nine Gabrielino-Tongva groups and individuals. These identified Tribes were contacted in March and July 2015 and their input solicited regarding proposed activities at 17 of the project locations.

As part of the FCC Form 620/621 process, responses to the TCNS system from Tribes interested in additional information about specific project sites was compiled and provided as requested. Data packages, including topographic maps, aerial photographs, project descriptions, and resource information, as well as Tribal review fees were provided to the Soboba Band of Luiseno Indians and Eastern Shoshone Tribe in July 2015.

Paleontological Resources

There have been no paleontological resources identified within the boundary of any of the proposed project locations; however, fossils have been found nearby at 15 of the project sites. The 15 project sites are CHPNWHLL, CHPWVLLY, LASDMVS, LDWP243, SCECART, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, SCESTUD, and SDW.

Surface and/or subsurface strata have been determined to have moderate to high sensitivity for paleontological resources at all of the project locations (including SDW) except BLR2DPW and LADPW38 (see Appendix B).

3.7 Aesthetic and Visual Resources

This section addresses existing aesthetic and visual resources in the Los Angeles County region. Refer to Section 3.7 of the Final LA-RICS LTE System EA for a detailed discussion on the importance and classification of aesthetic and visual resources.

3.7.1 Regulatory Setting

None of the sites considered in SEA2 is on federally administered lands or within specially designated areas (i.e., the coastal zone); therefore, no specific regulations are applicable to this analysis.

3.7.2 Existing Aesthetic and Visual Character

Detailed descriptions of the visual character associated with each site can be found in Appendix B. In general, the visual character of each site was categorized based on its location; 13 urban sites (LASDMVS, CHPWVLLY, CHPNWHLL, SCECART, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, and SCESTUD), three urban fringe sites (LADPW38, LDWP243, and SDW) and two rural sites (BLR2DPW and ONK). Section 3.7.2 of the Final LA-RICS LTE System EA contains a general description of these classifications and of the region.

3.8 Land Use

This section presents an overview of the physical and regulatory environment related to land use and planning resources. None of the sites considered in SEA2 falls within federally administered lands, on Tribal lands, in the coastal zone, or within an Airport Land Use Plan (ALUP). Local community jurisdictions are discussed below, and local land use policies for sites in Los Angeles County are discussed in Section 3.8.4 of the Final LA-RICS LTE System EA. The Authority is not subject to certain local land use plans, policies, and regulations under the doctrine of intergovernmental immunity [California Government Code § 53090(a) and 53091(a)]. Nevertheless, SEA2 considers local land use plans, policies, and regulations to identify if relevant policies may apply to the Proposed Action. The jurisdictions underlying each of the sites, including unincorporated Los Angeles County, are shown in Table 3-7.

Table 3-7: Sites by City and County Jurisdiction and Zoning

Sites	Local Jurisdiction	Zoning
LDWP243	City of Los Angeles	Agricultural
ONK	Chatsworth (Area) (County of Los Angeles)	Heavy Agriculture
SDW	City of San Dimas	Specific Plan 5
LASDMVS	Whittier (Area) (County of Los Angeles)	Residential Agriculture and Unlimited Commercial
CHPWVLLY	City of Los Angeles	Warner Center Specific Plan Zone
CHPNWHLL	Santa Clarita (Area) (County of Los Angeles)	Commercial Manufacturing
LADPW38	Lake Los Angeles (County of Los Angeles)	Residential Agriculture 20,000
BLR2DPW	Lancaster (Area) (County of Los Angeles)	Light Agriculture
SCECART	City of Cerritos	Open Space – Overlay
SCELGNBL	City of Commerce	Public Facilities
SCELNIDO	City of Hawthorne	Freeway Commercial Mixed Use – Mixed Use Overlay
SCELONG	City of Long Beach	Public Right-of-Way
SCEMADR	City of Torrance	General Commercial

Table 3-7: Sites by City and County Jurisdiction and Zoning

Sites	Local Jurisdiction	Zoning
SCEMERC	City of West Covina	Residential Single-Family
SCEMESA	City of Monterey Park	Regional Specialty Center with Planned Development Overlay
SCEMNRV	City of Monrovia	Manufacturing
SCEMRGO	City of Alhambra	Industrial Planned Development
SCESTUD	City of Long Beach	Planned Development

No LTE site is located within a Significant Ecological Area (SEA), as designated by the County of Los Angeles; and SEAs are not considered further in SEA2.

3.9 Infrastructure

This section describes infrastructure needed to support construction and operation of the Proposed Action. A discussion of regional public safety Telecommunications is provided in section 3.9 of the Final LA-RICS LTE System EA.

3.9.1 Utilities

All sites receive electrical service from Southern California Edison, with the exception of sites CHPWVLLY and LDWP243 which are served by the Los Angeles Department of Water and Power.

3.9.2 Solid Waste Disposal

Solid waste disposal at the proposed sites are provided by permitted waste haulers that include the Sanitation Districts of Los Angeles County and Santa Clarita Valley, Republic Services, Waste Management, Burrtec Waste Industries, CalMet Services, Athens Services, the City of Long Beach, the City of Torrance Sanitation Division, and the City of Los Angeles Bureau of Sanitation. A combination of Class III and unclassified public and private facilities are available to serve all sites.

3.9.3 Domestic Water

Domestic water supplies are served by City of Los Angeles, City of Cerritos, City of Monrovia, City of Alhambra, City of Monterey Park Water Utility Division, Long Beach Water Department, Torrance Municipal Water Department, Los Angeles County Water Works, California Water Service Company, Suburban Water Systems, Golden State Water Company, Newhall County Water District, Valencia Water Company, and Orchard Dale Water District. All sites are located on facilities that are served by a domestic water system.

3.9.4 Transportation

An extensive network of freeways, highways, roadways, and surface streets provides access to every portion of the service area. All supplemental sites have adequate direct vehicular access from existing paved or dirt roadways.

3.10 Socioeconomic Resources

This section contains a demographic profile of Los Angeles County, where the proposed LTE sites are located. The presence of low-income and minority populations is identified within each of the proposed LTE sites so that impacts under Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) are addressed in Section 4.10.

Since environmental justice analysis has no established unit of geographic analysis to determine the area potentially impacted by a proposed action, the geographic scale of the affected area varies depending on the nature of the proposed action. For this analysis, the APE is defined as an area within a one-mile radius around each site. Due to the urban nature of Los Angeles County and the small area size of each project site boundary, the 1-mile APE was chosen as a reasonable unit of geographic analysis. This 1-mile radius is also the most conservative geographic unit of analysis which generally covers the affected areas of the resources analyzed in SEA2. This is the extent of the area where the Proposed Action is most likely to result in physical changes that could impact socioeconomic conditions, and it also provides wide enough coverage that avoids artificially diluting the affected minority population and/or low-income population.

Data used to determine population demographic and socioeconomic conditions were derived from the American Community Survey 2009-2013 data from the Bureau of the Census. These data included income and race information. The data compiled included any census block group that was touched or encompassed by a 1-mile radius surrounding each proposed LTE site. The compiled data was then compared against applicable Los Angeles County data to determine the relative income and race percentages for population within the APE.

3.10.1 Minority Populations

NEPA guidance recommends that minority populations be identified in a NEPA analysis when such populations in the affected area exceed 50 percent or when the minority population percentage of the affected area is meaningfully greater (i.e., 10 percent greater) than the minority population in the general population or other appropriate unit of geographic analysis. Sites SCELGNBL, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, and SCEMRGO were identified with Minority populations exceeding these metrics.

3.10.2 Low Income Population

For the purpose of this analysis, a population within the study area is considered low income if the study area population has:

1. a percentage of families below poverty level meaningfully greater (i.e., 10 percent) than the reference county's percentage of families below poverty level; or
2. a median household income less than 80 percent of the Area Median Household Income (AMI). The reference county's 2012 median household income is used as the AMI.

For Los Angeles County, 80 percent of the AMI is approximately $41,709; and the threshold for percentage of families below poverty level is 22.6 percent.

Sites LADPW38 and BLR2DPW have populations within the APE exceeding these metrics and are therefore considered low income. The remaining sites did not have low income populations that exceeded these metrics.

3.11 Human Health and Safety

This section describes aspects of human health and safety at the proposed LTE sites including presence of existing hazardous waste sites, airport runway zones, fire hazard safety zones, methane hazard potential, and radiofrequency emissions.

3.11.1 Regulatory Setting

Several regulations and oversight agencies are in effect to address human health and safety. The project, as described, is in compliance with the regulations listed below. For a detailed description of each, refer to Section 3.11 of the Final LA-RICS LTE System EA.

- Resource Conservation and Recovery Act (RCRA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Occupational Health and Safety Administration's (OSHA) Standard 1910.120
- Federal Aviation Administration (FAA) Advisory Circular [AC 70/74600 1]
- California Public Resources Code Sections 4201-4204
- Government Code Sections 51175-51189
- State Division of Oil, Gas, and Geothermal Resources' (DOGGR) state Public Resources Code, Division 3, Chapters 1-4
- City of Los Angeles Municipal Code Section 91.106.4.1

3.11.2 Resource Overview

Existing Hazardous Waste Sites

Sites SDW and SCEMESA are the only sites identified as being less than 0.5 mile from a site being investigated as part of an existing National Priorities List (NPL) site. The NPL site near Site SDW is located approximately 0.5 mile northwest of and downgradient from the site. The NPL site near Site SCEMESA is

located approximately 50 feet southeast of the eastern boundary of the site. It consists of a closed landfill that has a remedy in place that controls methane gas leachate and the groundwater is being monitored for natural attenuation. The NPL site information is characterized in Appendix B. Eleven COW sites are located within 0.25 mile of a Cortese List[3] site. These sites are shown in Table 3-8.

Table 3-8: Sites by City and County Jurisdiction and Zoning

Site	Hazardous Waste Site
LASDMVS	Four permitted UST sites, one open cleanup program site, and one closed cleanup program site are located with 0.25 mile of the LTE site
CHPNWHLL	Two permitted UST sites and two closed cleanup program sites are located within 0.25 mile of the LTE site
CHPWVLLY	One permitted UST site and four closed cleanup program site are located with 0.25 mile of the LTE site
SCECART	One permitted UST site located within 0.25 mile of the LTE site
SCELGNBL	Four closed Leaking Underground Storage Tanks (LUST) cleanup sites and one opened LUST cleanup site are located within 0.25 mile of the LTE site
SCELNIDO	Two permitted UST sites and two closed LUST cleanup sites are located within 0.25 mile of the LTE site
SCEMADR	One permitted UST site located within 0.25 mile of the LTE site
SCEMERC	One closed LUST cleanup site is located within 0.25 mile of the LTE site
SCEMESA	Three permitted UST sites, four closed LUST cleanup sites, and one open LUST cleanup site are located within 0.25 mile of the LTE site
SCEMNRV	Two permitted UST sites and three closed LUST cleanup sites are located within 0.25 mile of the LTE site
SCEMRGO	Four permitted UST sites and five closed LUST cleanup sites are located within 0.25 mile of the LTE site

Airspace and Airport Runway Zones

The FAA regulates obstructions in navigable airspace, administers notice requirements that apply to certain construction activities, provides for aeronautical studies to determine a potential project's effect on the safe and efficient use of airspace, and conducts public hearings on the hazardous effect of proposed construction or alteration. A notice of proposed construction activity or alteration to an existing tower provides a basis for the FAA to evaluate the effect on operational procedures. The emphasis is on determining whether the construction activity poses a hazard to air navigation and to

[3] The Cortese list was developed in response to California Government Code Section 65962.5 enacted in 1985. The Cortese list data sources include the following data resources: List of hazardous waste and substance sites from the Department of Toxic Substances Control (DTSC) Envirostar database; list of Leaking Underground Storage Tank (LUST) sites by County and fiscal year from the Water Board GeoTracker database; list of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside of the waste management unit; list of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board (note that many of the sites do not concern the discharge of wastes that are hazardous materials); and a list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

determine appropriate measures for continued safety (if needed) of air navigation beyond that required by the current FAA Advisory Circular AC 70/7460 1 entitled "Obstruction Marking and Lighting."

Under 47 CFR 17, any proposed or existing antenna structure that requires notice of proposed construction to the FAA must also be registered with the FCC prior to construction or alteration. FCC regulates structures used as part of stations licensed by the FCC for the transmission of radio energy; and, through the registration process, the FCC implements the antenna structure marking and lighting requirements for air navigation safety. None of the 18 sites evaluated in SEA2 are located within an area that interferes with airspace or within an Airport Runway Zone.

Fire Hazard Severity Zones

Of the eight sites considered in SEA2, four sites are located within a high fire hazard severity fire zone. Sites LDWP243, CHPNWHLL, and SDW are designated as high fire danger within the local responsibility area (Figure 3-3). A fourth site (ONK) is located in the very high fire danger areas for state responsibility area zones (Figure 3-4).

Methane Hazards

None of the sites evaluated in SEA2 are located within a Los Angeles City or County designated Methane Hazard Zone or 1,000 feet of a landfill. Sites LASDMVS, SCELNIDO, SCELONG, SCEMADR, and SCEMESA are located within 200 feet of an oil well and have a potential to be exposed to associated methane. However, subsurface activities would be limited to potential placement of fencing and trenching for power, fiber, and grounding equipment.

Figure 3-3: Fire Hazard Severity Zones, Local Responsibility Area

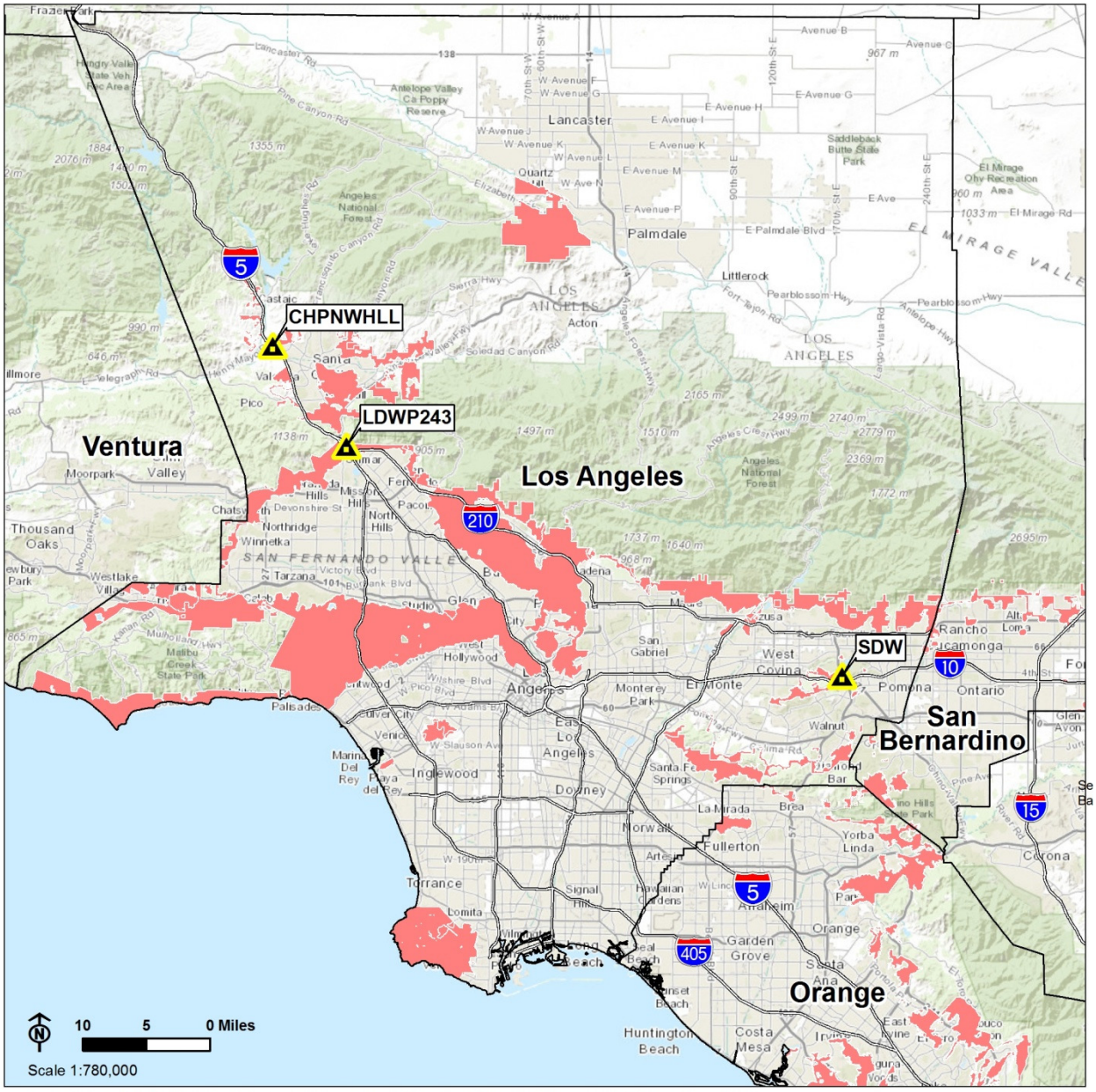
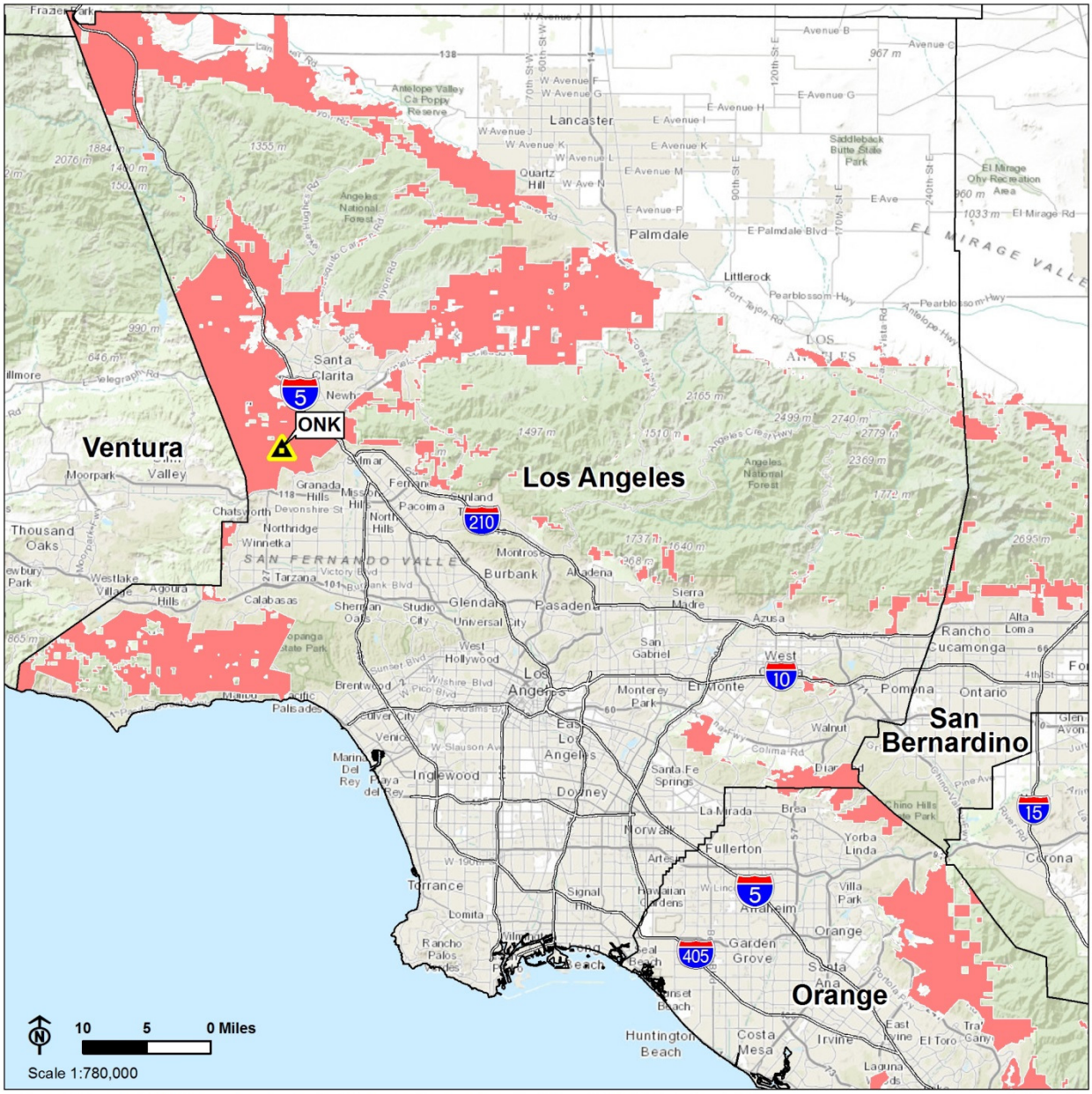


Figure 3-4: Fire Hazard Severity Zones, State Responsibility Area



Radio Frequency Exposure

The FCC is responsible for evaluating the effect of exposure from FCC-regulated transmitters on the quality of the human environment. Safe exposure limits are specified by the FCC in terms of maximum permissible exposure (MPE) limits that vary with frequency. The requirements for radio frequency exposure compliance are contained in FCC Office of Engineering and Technology (OET) Bulletin 65, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields* (FCC 1997). FCC OET Bulletin 65 also contains guidance on the methodology and calculations that need to be performed to evaluate the radiofrequency electromagnetic (RF-EME) energy fields for radio frequency transmitters. Notably, FCC requires only that installation of tower-mounted antennas be evaluated initially and routinely for compliance with FCC radio frequency exposure guidelines if the antennas will be mounted less than 10 meters above ground and the total power of all channels being used is over 2,000 watts effective radiated power. Tower-mounted antennas not meeting these criteria have been determined to have ground-level power densities that are typically hundreds to thousands of times below MPE limits (FCC 1997). FCC OET Bulletin 65 also provides guidance on RF exposure at multiple-transmitter sites involving several sources and frequencies. Baseline RF energy fields occur at each LTE site that has existing antennas. The level of RF energy present is dependent on equipment type and placement within each site. FCC OET Bulletin 65 provides that the individual fractional contribution of the power density of new RF energy fields can be added for the total predicted exposure level such that the sum of all fractional contribution would not exceed the MPE limits.

Occupational/controlled exposure limits apply in situations in which persons are exposed during employment or are otherwise temporarily in a location where these limits apply. Application of this limit can be used only when individuals are fully aware of the potential for exposure and can therefore exercise control over that exposure. General population/uncontrolled exposure limits apply in situations where persons may not be fully aware of the potential for exposure and therefore do not exercise control over exposure. The FCC further requires that antenna sites be placarded, workers be trained to preclude any potential occupational exposures at sites, and that other control measures such as fencing out unauthorized persons and/or shielding of antenna are put into place, where warranted.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential short-term (construction) and long-term (operational) impacts of the Proposed Action and the No Action Alternative.

4.1 Noise

Noise impacts associated with the Proposed Action and the No Action Alternative are discussed in this section.

4.1.1 Proposed Action

Short-Term (Construction) Impact

Direct Impacts

The main noise sources during construction of non-COW sites are operation of demolition and construction equipment. Noise is produced by engines, by exhaust fumes exiting from tailpipes, by friction with the ground as the equipment moves, and by vehicle safety equipment such as beeping backup signals. At many sites, occasional equipment use, such as jackhammers, contributes noise and vibration. Noise from construction workers' commuting vehicles, material delivery trucks, and waste disposal trucks also contribute to the noise.

For non-COW sites, demolition of existing pavement and structures was determined to result in the highest one-hour average noise exposure; however, demolition would not occur at all sites and would be brief where it does. The second noisiest construction activity, excavation and soil handling for the monopole foundation, would occur at sites LDWP243 and ONK and may take more than one day; therefore, it would have a greater potential for annoyance to sensitive receivers. The one-hour average exposure at 50 feet from the assumed location of the combination of activities (near the future monopole position) would be approximately 81.0 dBA L_{eq}. This value was used as a reference for calculating noise exposures at increasing distances from the construction activity.

For non-COW sites in rural or remote areas (ONK), where "soft" ground surfaces absorb a substantial amount of noise energy, receivers located within 399 feet of the proposed LTE site would be exposed to at least 55 A-weighted decibels of equivalent continuous noise levels (dBA L_{eq}) during excavation and drilling. However, no receptors are within 1,000 feet of this site.

For non-COW sites in urban fringe areas (LDWP243 and SDW) where the "hard" ground surface allows the noise to carry further, receivers located within about 1,002 feet of the proposed LTE site would be exposed to at least 55 dBA L_{eq} during excavation and drilling. Only site SDW has sensitive receptors within 1,002 feet. Residences are located approximately 75-feet to the north, east and west of the site boundary. Exposure to noise would be reduced by several factors:

- Construction contractors would be required to follow applicable noise ordinances which may include restricting construction activities to certain hours of the day and days of the week.
- Each project site's construction activities are not expected to exceed 30 days, with only intermittent noise generated during that period.
- Construction would occur only during daylight hours.
- Field investigation has determined that Site SDW is at least partially surrounded by walls that can help to serve as noise barriers. These walls can reduce noise transmission by about 10 dBA.
- Buildings at or near each of the sites would shield more distant buildings; this shielding would reduce exposures substantially.
- The LTE sites are too far apart for their aggregate noise impacts to be significant.

All construction activities would adhere to local construction noise regulations. No significant direct noise impacts from construction activities are anticipated.

COW sites would potentially include trenching for power, wall and fencing construction, and placement of grounding equipment. Other noise associated with construction of a COW would include trailer placement involving light- or heavy-duty trucks and deployment of the antenna tower. These impacts are not expected to be significant.

The analysis also addressed vibration impacts during construction of the all LTE sites. The ground motion caused by vibration is measured as PPV in inches per second and is referenced as VdB. Typical outdoor sources of perceptible groundborne vibration are construction equipment and traffic on rough roads. The Federal Transit Administration (FTA) uses a PPV of 0.2 inch per second as a vibration damage threshold for fragile buildings and a PPV of 0.12 inch per second for extremely fragile historic buildings (FTA 2006). According to the FTA, vibration levels from typical heavy-duty construction equipment (excluding pile drivers and other heavy equipment which would not be used on the project) at 50 feet from the vibration source ranges from about 0.0011 to 0.0315 inches per second (FTA 2006). This level of vibration is below the threshold; no significant direct or indirect vibration impacts are anticipated to occur.

Indirect Impacts

No significant indirect noise impact resulting from construction of LTE sites has been identified.

Long-Term (Operational) Impact

Direct Impacts

The main potential noise sources associated with operations at each of the 18 LTE sites would be the noise, best described as a "hum," from some pieces of communications equipment; the occasional use of emergency generators; routine facilities maintenance; and heating, ventilating, and air conditioning

(HVAC) systems for the equipment cabinets. The equipment housing walls that would encase the communications equipment would provide sufficient attenuation so that communications equipment would not be audible to sensitive receivers near the sites.

The noise from maintenance activities, which could include landscaping, routine site inspections, and occasional equipment repairs, would not be substantially different from current levels at the host facilities. Therefore, this noise source was not evaluated further.

Noise emissions from diesel generator sets vary greatly with size and design. Most new models have built-in attenuation. A review of specifications for 11 commercially available diesel generators ranging from 25 to 40 kW found noise ratings of 56 to 98 dBA at 23 feet. The median noise rating was 66 dBA at 23 feet. This is equivalent to 59.3 dBA at 50 feet. Furthermore, the emergency generators at the LTE sites would be in solid wall enclosures, which would attenuate at least 10 dBA. The resulting noise emissions would be approximately 49.6 dBA at 50 feet, below any standards identified at any proposed LTE site. It also should be noted that generators at the proposed sites are only used in an emergency situation, and would not be continuously running at other times. The generator at each site would be tested once a month for up to one hour. Generator noise is not considered significant.

The method for estimating noise emissions from the HVAC for the equipment cabinets is described in Appendix C of the Final LA-RICS LTE System EA. The air conditioning requirement for each of the four cabinets was estimated to be about 1.5 tons. Typical noise ratings for refrigeration units with 1.5-ton capacity are 63 to 67 dBA. The analysis conservatively assumes that the noise emissions from each of the four equipment cabinets would be 67 dBA. Noise exposure resulting from air conditioner operation was calculated using the Air-Conditioning & Refrigeration Institute's (ARI's) "Application of Sound Rating Levels of Outdoor Unitary Equipment," which is described in Appendix C of the Final LA-RICS LTE System EA.

The following assumptions were used in applying the ARI Standard 275 to the case of the air-conditioning units:

- A reference sound level of 67 dBA
- Air conditioners would be on the ground, within 10 feet of a reflective surface

Because air-conditioning units would run 24 hours a day, the CNEL noise metric was used to account for the greater perceived noise impact during normal sleeping hours. Based on this metric, it is estimated that noise exposures at unshielded distances greater than 15 feet from the source would be less than 60 dBA, which is considered normally acceptable for outdoor residential exposure.

No significant direct impacts from noise would occur as a result of project activities.

Indirect Impacts

No significant indirect noise impacts were identified that would result from operation of LTE sites.

4.1.2 No Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect noise impacts are anticipated.

4.2 Air Quality and Greenhouse Gases

This section evaluates air pollutants and GHG emissions that would result from implementing the Proposed Action and the No Action Alternative. Specific topics include emissions from construction, a localized construction impact analysis, and emissions from the LA-RICS LTE PSBN system operation.

4.2.1 Proposed Action

Short-Term (Construction) Impact

To estimate emissions from construction of the 18 proposed LTE sites, a construction scenario for a generic site with maximum activity levels was defined. This scenario consisted of the following construction activities that may generate air emissions:

- Demolition of existing pavement and structures
- Preparation (through cuts and fills) of the area where the monopole, equipment shelters, and emergency generator will be installed
- Excavation for the monopole's foundation
- Concrete pad construction
- Monopole erection and antenna equipment installation
- Installation of cabinets, emergency generator, and other ground-based equipment

Methods for estimating emissions from construction at a generic site are described in Appendix D.1 of the Final LA-RICS LTE System EA. Various assumptions about the types of equipment used and their deployment schedules were used in conjunction with the California Emissions Estimator Model (CalEEMod®), a widely used emissions estimation model that was developed for the California Air Pollution Control Officers Association that is applicable statewide (EIC 2013a, 2013b). As stated in Section 4.2.1 of the Final LA-RICS LTE System EA, the project, including the construction of new towers would not exceed the SCAQMD daily NO_x thresholds. Moreover, mounting or collocating antennas to communication towers and placement of COWs and development of COW sites would generate substantially fewer air pollutant emissions than constructing new towers, a type of construction activity discussed for many sites in the Final LA-RICS LTE System EA. As described in Section 2.1.4 above, COW sites would potentially include trenching for power, wall and fencing construction, and placement of grounding equipment. Therefore, construction emissions associated with the COWs would be minimal. Equipment at the COW sites will include trenching equipment, concrete cutting equipment, and diesel pickup trucks.

All 18 LTE sites considered in SEA2 are in the jurisdiction of the SCAQMD, except for two proposed COW sites (BLR2DPW and LADPW38) which are in the jurisdiction of AVAQMD. The CalEEMod modeling conducted indicated that daily and annual construction emissions for a single modeled site (i.e., a site modeled as having a new monopole constructed) would be below the significance thresholds of either SCAQMD or AVAQMD. Table 4-1 shows the estimated maximum daily construction emissions for a typical site in the jurisdiction of SCAQMD. Emissions for NO_x came closest to exceeding the significance threshold. Because multiple sites would be constructed simultaneously, the analysis also estimated the number of sites that could be constructed at the same stage of construction simultaneously while staying below the SCAQMD daily thresholds. For the AVAQMD, daily and annual emissions would be well below thresholds for all criteria pollutants.

Table 4-1: Construction Emissions per Site within the South Coast Air Quality Management District

	Maximum Daily Emissions (lbs/day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Unmitigated emissions	0.71	6.6	3.7	0.38	0.29
Mitigated emissions	0.60	5.9	3.8	0.27	0.21
SCAQMD Threshold	75.00	100.0	550.0	150.00	55.00

Source: CalEEMod Version 2013 2.1, LA-RICS 2014
ROG = reactive organic gases
NO_x = oxides of nitrogen
CO = carbon monoxide
PM_{10} = particulate matter less than 10 microns in aerodynamic diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in aerodynamic diameter

Examination of a large number of simulated construction scenarios concluded that all three non-COW sites and the COW sites could be started on a single day and be under construction simultaneously. This examination is described in Appendix D of the Final LA-RICS LTE System EA. Construction emissions currently associated with construction of the entire LA-RICS LTE system are forecast and reported weekly. Implementation of AIR mitigation measure (MM) 1 requires that all 18 LTE sites be added into the weekly construction emission forecasting and reporting effort. The mitigation measure would preclude impacts by either curtailing activity to allowable levels or require the contractor to use Tier 4 equipment in the event that thresholds may be exceeded.

Finally, the issue of exposure of sensitive receptors in the SCAQMD to construction emissions was addressed in Section 4.2.1 of the Final LA-RICS LTE System EA. The nearest sensitive receptors to all the LTE sites are identified in the site data sheets in Appendix B. Emissions would not exceed SCAQMD's source receptor area-specific thresholds at any of the proposed sites considered in SEA2.

No significant short-term, direct impacts to regional air quality in the SCAB are expected from construction of the 18 LTE sites.

Indirect Impacts

Construction of the LTE sites would not induce population and/or housing growth or increase traffic other than that related to construction. The activity would not be an indirect emission source. Therefore, no significant indirect air quality impacts would result from construction of LTE sites.

Long-Term (Operational) Impact

Direct Impacts

Vehicles used for transporting personnel for routine maintenance of the LTE equipment would emit criteria pollutants and greenhouse gases. EMFAC2011-LDV (Light Duty Vehicles), a CARB-developed motor vehicle emission model, was used to estimate emissions from motor vehicle traffic for site maintenance. The same method for estimating emissions from these vehicles was used in the Final LA-RICS LTE System EA, as described in Appendix D.3.1 of the Final LA-RICS LTE System EA. It was conservatively assumed that maintenance would be required twice a year, such that maintenance for all proposed sites would be divided evenly among 12 months of a given year.

In addition, emergency generator testing would result in the same types of pollutants as discussed above for diesel construction equipment. The generator at each site would be tested once a month for up to one hour. It was also assumed that test days would be distributed evenly during the month, so that among the proposed LTE sites, no more than one would be tested on any given day. The method for estimating diesel emergency generator emissions is presented in Appendix D of the Final LA-RICS LTE System EA.

Annual emissions would be below the thresholds for a federal general conformity determination. Therefore, a general conformity determination is not required for this project.

Finally, annual average diesel particulate matter exposure over the 70-year lifetime assumed for air toxics health risk assessments would be negligible, and no significant health impact from diesel generator operation are expected.

Indirect Impacts

Operation of the LTE sites would not induce population and/or housing growth or increase traffic other than that related to construction. The activity would not be an indirect emission source. Therefore, no significant indirect air quality impact would result from construction of LTE sites.

Greenhouse Gas Emissions

Methods for estimating greenhouse gas emissions from the proposed project are presented in Appendix D.4 of the Final LA-RICS LTE System EA. The analysis included GHG emissions from off-road construction equipment and on-road vehicles used to transport construction workers. Construction emissions were amortized throughout the life of the project (assumed to be 30 years). GHG emissions from motor vehicle traffic for site maintenance and from monthly generator testing were also

calculated. Finally, indirect greenhouse gas emissions such as those from electricity consumption were included in the analysis.

Table 4-2 shows the combined annual GHG emissions from the 18 LTE sites throughout the life of the project (assumed to be 30 years). The values in Table 4-2 include emissions from construction, amortized over 30 years; from biannual maintenance vehicle trips, from emergency generator testing, and from indirect communication tower electricity use per year.

Table 4-2: Total Greenhouse Gas Emissions from SEA 2 LTE Sites through Life of Project

GHG Emission Source	Annual Emissions (metric tons)
Construction (amortized over 30 years)	601.6
Routine maintenance	0.8
Generator testing	3.0
Indirect (electricity generation)	1097.8
Total	**1703.2**
Source: CalEEMod Version 2013 2.1 and L.A. RICS Authority, 2014. Relevant pollutants include CO_2, CH_4, and N_2O.	

Total annual GHG emissions from the 18 sites analyzed in SEA2 are estimated to be 1703.2 metric tons per year. When added to the total annual GHG emissions from the 64 other sites in the LA-RICS LTE Project, the total is estimated to be 7758.9 metric tons. As discussed in Section 3.2.2 of the Final LA-RICS LTE System EA, NTIA's *Environmental Assessment Guidance for BTOP Award Recipients* (USDOC 2010) acknowledges CEQ's "presumptive effects threshold of 25,000 metric tons of CO_2 equivalent emissions" for when federal agencies should consider GHG emissions and climate change in NEPA. Because construction of these sites would result in GHG emissions significantly below the 25,000-metric-ton threshold, no further analysis of GHG emissions and climate change is required.

Mitigation Measures

AIR MM 1: (1) At the beginning of each week of construction, the contractor will, for each day of the week, project the types and numbers of pieces of onsite construction equipment that will operate at the three non-COW and 13 COW LTE project sites within the SCAB; (2) At the beginning of each week, the contractor will estimate the combined total of NO_X emissions from all construction activities at the three LTE project sites in the SCAB for each day of the week and verify that the total does not exceed 100 pounds; (3) On every day for which combined NO_X emissions are forecast to exceed 100 pounds, the contractor will substitute equipment with Tier 4 engines for all types of off-road equipment to which Environmental Protection Agency regulations apply, or otherwise limit construction activity to the extent necessary to reduce daily basin-wide NO_X emissions to 100 pounds. This mitigation measure applies to all sites within the LA-RICS LTE system, including those examined in the Final LA-RICS LTE System EA and those included in SEA2. The contractor will include all 18 sites analyzed in this EA in the analysis and reporting in the existing weekly air monitoring report currently in use to monitor construction emissions associated with the LA-RICS LTE system.

4.2.2 No Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect air quality and greenhouse gas impacts are anticipated.

4.3 Geology and Soils

This section analyzes direct and indirect impacts from seismic hazards and erosion associated with the Proposed Action and the No Action Alternative.

4.3.1 Proposed Action

Seismic Hazards

All of the sites considered in SEA2 have a risk for impacts from seismic activities that may include structural damage to equipment, buildings, and monopoles and disruption of LTE function. Site LDWP243 is within an Alquist-Priolo Earthquake Fault Zone. Prior to any construction at this site, a special study will be required at the site to determine the presence and location of the active fault mapped in the area. The geotechnical study will attempt to identify the exact location of the active fault line within the project boundary, and, if necessary, a setback can be delineated from the active fault line to ensure any structures are not built across the fault line. Though unlikely, it may result in the location of the tower to be adjusted to avoid placement of the structure on top of the active fault line or within a delineated setback zone. For sites LDWP243 and ONK, site-specific geotechnical studies and evaluations would be conducted; and construction activities would be performed in accordance with applicable federal, state, and Los Angeles County requirements, codes, and permit conditions to avoid or minimize impacts associated with seismic activity.

Compliance with the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazard Mapping Act of 1990, and Los Angeles County building code standards and permit requirements would ensure that these LTE facilities are constructed to avoid hazards from surface rupture. For these reasons, and with implementation of GEO MM 1 and GEO MM 2 at the two sites (sites LDWP243 and ONK) where new monopoles are proposed, no significant impacts (direct or indirect) due to seismic hazards are anticipated.

Soil Erosion

As described in Section 2.1.4, COW direct construction impacts involve placement of a trailer at the site and trenching for power, wall and fencing construction, and placement of grounding equipment. Potential for soil erosion associated with construction of COWs would be negligible.

Implementation of the Proposed Action would result in short-term disturbance to soils within the sites. The primary disturbance to undisturbed native soil profiles would be from operation of augers and other construction equipment for monopole installation. Excavation of up to 80 cubic yards of earth would be necessary to construct each new monopole foundation and provide for ancillary components (pad sites for equipment and trenching for power and/or fiber, where necessary). Erosion of soils would be

minimized or avoided during and after construction through implementation of erosion, sediment, tracking, wind erosion, non-stormwater management, and waste management and material pollution best management practices (BMPs) identified in BIO Construction Management Requirement (CMR) 18, which would be applicable at all non-COW sites. No significant impacts (direct or indirect) to soils and from soil erosion would be anticipated because soils would be contained or stabilized during and after construction using established BMPs.

Mitigation Measures

GEO MM 1: Site-specific seismic impacts at LTE sites shall be evaluated by a thorough geotechnical investigation in order to design structures that would reduce the risk of loss, injury, or death to a minimal level. A geotechnical report shall be prepared according to the California Building Code (24 California Code of Regulations [CCR] 1802.8) to "provide completed evaluations of the foundation conditions of the site and the potential geologic/seismic hazards affecting the site. The geotechnical report shall include, but shall not be limited to, site-specific evaluations of design criteria related to the nature and extent of foundation materials, groundwater conditions, liquefaction potential, settlement potential and slope stability. The report shall contain the results of the analysis of problem areas identified in the engineering geologic report. The geotechnical report shall incorporate estimates of the characteristics of site ground motion provided in the engineering geologic report.

The geotechnical report shall be prepared by a geotechnical engineer registered in the State of California with the advice of the certified engineering geologist and other technical experts, as necessary." The approved engineering geologic report shall be submitted to the Authority with or as part of the geotechnical report.

GEO MM 2: Final design of structures, including seismic safety design, shall be developed using feasible and effective engineering methods and shall include design criteria specified or recommended in the geotechnical report prior to approval or issuance of construction permits.

4.3.2 No Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect impacts to geology and soils are anticipated.

4.4 Water Resources

This section evaluates direct and indirect impacts to water resources associated with implementation of the Proposed Action and the No Action Alternative.

4.4.1 Proposed Action

Surface Water

Construction

As described in Section 2.1.4, COW direct construction impacts involve placement of a trailer at the site and trenching for power, wall and fencing construction, and placement of grounding equipment. Potential for impacts to surface waters associated with construction of COWs would be negligible.

Potential mechanisms for surface water discharges and contamination by project construction of LTE sites under the Proposed Action include:

- Ground disturbance that may result in soil erosion during precipitation events and entrainment of sediment in stormwater runoff
- Surface discharge of groundwater from dewatering during excavation at LTE sites where the groundwater table is higher than the lowest elevation of excavation
- Damage to existing underground pipelines and storage tanks during excavation
- Contamination of stormwater runoff from leaks or spills of commonly used lubricants, coolant, and similar fluids found in construction equipment and around construction sites

Seven proposed sites (LDWP243, ONK, SDW, SCECART, SCELONG, SCEMADR, and SCESTUD) have National Wetland Inventory-mapped wetlands that during or immediately after rains may contain surface water within 500 feet of the site boundaries; however; no significant impacts (direct or indirect) from stormwater and non-stormwater discharges from LTE sites during construction would occur because:

- Proposed LTE site construction would occur on previously disturbed ground; and soil disturbance, if any, would be less than 0.08 acre[4] at any single site
- Excavated earth would be used as backfill or exported to sites that require import of earth.

[4] Disturbance at the non-COW sites would include up to 162 square feet for equipment cabinets (if needed); up to 72 square feet for a generator (if needed); up to 500 linear feet for trenching (if needed); and 64 square feet for the monopole (Sites ONK and LDWP243) plus additional areas for site access and laydown, resulting in up to 3,600 square feet (0.08 acre) total disturbance.

- Waste materials including soil, asphalt, and concrete would be disposed at a facility licensed to accept such waste.
- Underground utility-locating surveys would be completed to identify and avoid underground pipelines and tanks prior to ground disturbance during construction.
- BMPs identified in CMRs BIO CMR 17 and BIO CMR 18 would be implemented to control sediment and pollutants in stormwater and non-stormwater runoff associated with construction. These practices were developed based on protocols established by the California Stormwater Quality Association and are contained in Appendix A-1.

No significant impacts would occur to surface waterbodies by dredge and fill operations because these operations are not needed to construct or operate any of the 18 proposed LTE sites.

Operation

Potential mechanisms for surface water discharges and contamination during project operation at the 18 proposed LTE sites analyzed under the Proposed Action include contamination of stormwater runoff by leaking fuel storage tanks for the emergency generator. No significant impacts (direct or indirect) from stormwater and non-stormwater discharges from LTE sites during operation would occur because the tank design would meet or exceed industry standards for leakage prevention for aboveground tanks for flammable and combustible liquids.

Groundwater

No direct or indirect impacts to local groundwater resources are likely to occur from construction or operations associated with the Proposed Action.

4.4.2 No Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect water resources impacts are anticipated.

4.5 Biological Resources

This section focuses on the impacts associated with implementation of the Proposed Action and the No Action Alternative on biological resources. The resources analyzed include vegetation, wildlife, special status species, and sensitive habitats that occur within or adjacent to each of the proposed LTE sites.

4.5.1 Proposed Action

Direct and Indirect Impacts

No significant impacts (direct or indirect) to biological resources would occur at any of the proposed LTE sites as a result of implementation of the Proposed Action. This is largely a function of project planning and design processes designed to preclude any potentially significant impacts in order to meet the

criteria for environmental protection identified in the California Environmental Quality Act (CEQA) statutory exemption. These criteria preclude substantial adverse impacts on wetlands, riparian areas, or habitat of significant value. Additionally, the exemption requires that project implementation not harm any species protected by the federal ESA, the NPPA, or the CESA or habitat of species protected by these laws. In order to meet these requirements and prevent potential impacts, two major steps were taken:

- The site selection process resulted in avoidance of placement of LTE sites in areas where proposed project activities could result in potentially significant impacts to biological resources. Only sites with sufficient human-altered available lands (i.e., those sites with sufficient urban developed, ornamental landscaped, and ruderal habitats) were considered for inclusion in the proposed project.
- A set of CMRs was developed and embedded into the contract between the Authority and the construction contractor to further preclude or otherwise avoid potentially significant impacts to biological and other resources. These CMRs are integral to the project, are incorporated into the detailed project design, and are enforceable by the Authority through the contract provisions. The full text of the CMRs is included in Appendix A-1.

Vegetation

This section discusses potential effects to vegetation (discussed in terms of land cover) and potential impacts from the introduction or the spread of noxious weeds.

As discussed above, the site selection process avoided locations where proposed project activities could have significant impacts on biological resources. Further, because of the Proposed Action site selection process and project CMRs, only existing human-altered areas would be available for use as a work area during construction. In addition, several CMRs were specifically designed to prevent or eliminate impacts such as direct mortality or damage to plants or disturbance of substrate supporting vegetation at work areas during and after the construction at each of the proposed LTE sites. The project CMRs designed to prevent impacts to vegetation are listed below. The full text of the CMRs is included in Appendix A-1.

- BIO CMR 6: Construction Monitoring
- BIO CMR 9: Establish Habitat Protection Zones
- BIO CMR 10: Protect Native Vegetation
- BIO CMR 11: Limit the Spread of Invasive Plants
- BIO CMR 12: Post construction Noxious Weed Survey
- BIO CMR 17: Wetlands and Other Waters
- BIO CMR 18: Hazardous Substance Management

Ground disturbance at the three non-COW sites associated with the Proposed Action would be less than 0.08 acre each (or 0.24 acre total), consisting of previously disturbed or developed lands. No substantive

ground disturbance would occur at any of the COW sites. No significant impacts to vegetation are expected.

Operations activities associated with the Proposed Action would require use only of existing developed areas for occasional repair and maintenance activities. No significant direct impacts to vegetation would result from these activities.

Noxious Species (Weeds)

Currently, invasive plant species exist within and adjacent to work areas within the proposed LTE sites. Invasive weed species are typically found within patches of native plant communities and in areas that have been disturbed from human activities, including along the edges of developed sites and ornamental or landscaped areas.

Whenever a construction project occurs, weed infestations have the potential to establish or increase in areas where the soil has been disturbed. Grading or other disturbance that exposes soil may create suitable conditions for invasive species. Weed infestations in disturbed and ornamental habitats may spread to natural vegetation communities where they may out-compete native species, altering vegetation patterns, fire regimes, and use by wildlife.

Implementation of BIO CMR 11 and BIO CMR 12 would preclude the advancement of noxious species. These CMRs call for inspection of vehicles prior to entering project sites, for post construction surveys to occur, and for replacement landscaping to be free of weeds. As a result, no direct or indirect significant impacts from introduction or spread of noxious species would occur.

Operations associated with the Proposed Action would require use only of existing developed areas for occasional repair and maintenance activities. No significant weed-related impacts (direct or indirect) from these activities would occur.

Common Wildlife

This section discusses effects to wildlife, which includes invertebrates, fish, amphibians and reptiles, birds, and mammals.

No significant direct effects to common wildlife would be expected with project implementation. Any effects would most likely result from temporary human activity adjacent to habitat areas, resulting in temporary minor increases in dust and noise. During specific periods of the year, particularly at times of breeding and nesting activity, these effects have the potential to become more amplified. For example, noise could potentially drive off adult nesting birds prior to the fledging of the young from the nest. While there is a potential for mortality of small mammals and other species that might hide in undetected burrows within unvegetated or ruderal areas, this would likely be a rare occurrence, as most species would prefer higher value habitat and thus would not be expected to occur in these highly altered areas.

In an effort to further reduce or preclude these effects, specific CMRs were designed and incorporated into the proposed project design to preclude potentially significant impacts to wildlife. These CMRs require contractors to take specific avoidance measures if the construction occurs during nesting or other seasons of wildlife sensitivity. These requirements are designed to avoid impacts to and maximize protection of the species with preconstruction surveys, delineated no-work zones, and a biological monitor who may stop work if necessary. The CMRs also require the contractor to schedule construction at times outside nesting or other seasons sensitive to wildlife to the extent feasible. CMRs applicable for general wildlife are presented below.

- BIO CMR 1: Preconstruction Survey for Nesting Birds
- BIO CMR 6: Construction Monitoring
- BIO CMR 7: Non-listed Amphibians, Reptiles, and Small Mammals
- BIO CMR 8: Open Trenches and Ditches
- BIO CMR 9: Establish Habitat Protection Zones
- BIO CMR 10: Protect Native Vegetation

No significant direct or indirect impacts to wildlife are anticipated with implementation of the Proposed Action.

Special Status Species

This section discusses potential impacts to sensitive species that are protected under the federal ESA, BGEPA, MBTA, and state regulation.

Federal Endangered Species Act

Twelve COW sites (LASDMVS, CHPWVLLY, SCECART, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, and SCESTUD) are considered urban, being completely surrounded by development with no native habitats occurring in association with or in proximity to the project sites. A determination has been made that construction of COW equipment and operation of these sites will have no effect on any of the 42 ESA-listed species, their habitats, or designated critical habitat as previously discussed in the May 2014 BA (LA-RICS Authority 2014).

The remaining six sites (BLR2DPW, LADPW38, LDWP243, ONK, SDW, and CHPNWHLL) are located within the vicinity of federally listed species and/or critical habitat and have potential to affect these resources. The Authority developed and submitted a Supplemental BA of the proposed action, which includes required implementation of the CMRs, to USFWS for consideration through re-initiation of the informal consultation process (Section 7 of the ESA) and is seeking USFWS' concurrence with a 'may affect, but not likely to adversely affect' determination for all applicable species at these six sites. A detailed discussion of potential effects to federally listed species and/or critical habitat at these sites is provided in Section 5 of the Supplemental BA (see Appendix D). By letter dated August 4, 2015 (see Appendix C) USFWS concurred with the determination made in the Supplemental BA that the project may affect but is not likely to adversely affect arroyo toad, California condor, desert tortoise, and coastal California gnatcatcher. Informal consultation with USFWS has been concluded. Effects determinations to

federally listed species for the activities at these sites are summarized in Table 4-3. Impacts to critical habitat are discussed later in this section, under Sensitive Habitats.

Table 4-3: Potential Impacts to Federally-listed Species Under the Proposed Action

Site	Common Name (*Scientific Name*)	ESA Status	Effects Determination	Effect (NEPA)	Rationale
LDWP243	California condor (*Gymnopyps californicus*)	E	May affect not likely to adversely affect	Not significant	Habitat is poor for condors; site is located adjacent to freeway and tract homes. The Proposed Action (addition of a monopole) will not create opportunity for perching. Implementation of BIO CMR 6 and BIO CMR 18 would avoid impacts to this species.
	coastal California gnatcatcher (*Polioptila californica californica*)	T CH	May affect not likely to adversely affect	Not significant	Nesting habitat not present. Potential disturbance to dispersing birds due to noise associated with construction. Implementation of BIO CMR 1, BIO CMR 6, and BIO CMR 19 would avoid impacts to this species.
ONK	California condor (*Gymnopyps californicus*)	E	May affect not likely to adversely affect	Not significant	Foraging condors may pass through area, but potential nesting habitat is limited. Numerous communication towers are present. Proposed development is consistent with current site usage and would not alter the nature of site impacts. The Proposed Action (addition of a monopole) will not create opportunity for perching. Implementation of BIO CMR 6 and BIO CMR 18 would avoid impacts to this species.

Table 4-3: Potential Impacts to Federally-listed Species Under the Proposed Action

Site	Common Name (*Scientific Name*)	ESA Status	Effects Determination	Effect (NEPA)	Rationale
	coastal California gnatcatcher (*Polioptila californica californica*)	T CH	May affect not likely to adversely affect	Not significant	Nesting habitat not present within 500 feet of the site. Potential disturbance to dispersing birds due to noise associated with construction. Implementation of BIO CMR 1, BIO CMR 6, and BIO CMR 19 would avoid impacts to this species.
BLR2DPW	California condor (*Gymnopyps californicus*)	E	May affect not likely to adversely affect	Not significant	Marginally suitable condor foraging habitat. Birds on exploratory flight may pass through area. No nesting habitat is within 500 feet of the site. The Proposed Action (addition of a monopole) will not create opportunity for perching. Implementation of BIO CMR 6 and BIO CMR 18 would avoid impacts to this species.
	Mojave desert tortoise (*Gopherus agassizii*)	T	May affect not likely to adversely affect	Not significant	The site is located within the range of the Desert Tortoise. Potential impact from construction vehicles. Implementation of BIO CMR 6, BIO CMR 8, BIO CMR 9, and BIO CMR 14 would avoid Impacts to this species.
LADPW38	California condor (*Gymnopyps californicus*)	E	May affect not likely to adversely affect	Not significant	Marginally suitable condor foraging habitat. Birds on exploratory flight may pass through area. No nesting habitat is present within 500 feet of the site. The Proposed Action (addition of a monopole) will not create opportunity for perching. Implementation of BIO CMR 6 and BIO CMR 18 would avoid impacts to this species.

Table 4-3: Potential Impacts to Federally-listed Species Under the Proposed Action

Site	Common Name (*Scientific Name*)	ESA Status	Effects Determination	Effect (NEPA)	Rationale
	Mojave desert tortoise (*Gopherus agassizii*)	T	May affect not likely to adversely affect	Not significant	The site is located within the range of the desert tortoise. Potential impact from construction vehicles. Implementation of BIO CMR 6, BIO CMR 8, BIO CMR 9, and BIO CMR 14 would avoid Impacts to this species.
SDW	coastal California gnatcatcher (*Polioptila californica californica*)	T CH	May affect not likely to adversely affect	Not significant	Nesting habitat not present within 500 feet of the site. Potential disturbance to dispersing birds due to noise associated with construction. Implementation of BIO CMR 1, BIO CMR 6, and BIO CMR 19 would avoid impacts to this species.
CHPNWHLL	California condor (*Gymnopyps californicus*)	E	No effect	Not impact	Habitat is inappropriate for condors. Site is located adjacent to freeway and commercial development; it is not on a hilltop. The Proposed Action (addition of a monopole) will not create opportunity for perching. No CMRs are necessary as condors are not expected to visit the site.
	least Bell's vireo (*Vireo bellii pusillus*)	E CH	No effect	No impact	No critical habitat occurs on the site. Though designated critical habitat is directly across the road, the closest PCE habitat is over 1,000 feet away. No CMRs are necessary as vireos are not expected to visit the site.

Table 4-3: Potential Impacts to Federally-listed Species Under the Proposed Action

Site	Common Name (*Scientific Name*)	ESA Status	Effects Determination	Effect (NEPA)	Rationale
	arroyo toad (*Anaxyrus californicus*)	E CH	May affect, not likely to adversely affect	Not significant	The site is located within the range of the arroyo toad. Potential impact from construction vehicles to dispersing toads. Implementation of BIO CMR 6, BIO CMR 8, BIO CMR 9, and BIO CMR 15 would avoid Impacts to this species.
KEY: E = ESA Endangered T = ESA Threatened CH = ESA Critical Habitat					

For purposes of clarity, the terminology associated with the federal ESA is used in the table to classify effect. Under the federal ESA, a finding of "no effect" would equate to "no impact" or "none" under NEPA. Findings of "may affect, but not likely to adversely affect" would equate to "no significant impact" under NEPA. No findings of "likely to adversely affect," "not likely to jeopardize," or "likely to jeopardize" were made.

The following BIO CMRs, updated since the Final LA-RICS LTE System EA, and included in the Supplemental BA, are required to address species-specific issues and are applied to individual project site descriptions and considered in the project effects analysis (see Table 4-4). With implementation of the measures in Table 4-4, the Proposed Action would have no significant impacts on federally listed species.

- BIO CMR 1 – Pre-construction Surveys for Nesting Birds
- BIO CMR 6 – Construction Monitoring
- BIO CMR 8 – Open Trenches and Ditches
- BIO CMR 9 – Protect Native Vegetation
- BIO CMR 14 – Desert Tortoise Preconstruction Surveys and Monitoring
- BIO CMR 15 – Avoidance Measures for Arroyo Toad
- BIO CMR 18 – Hazardous Substance Management
- BIO CMR 19 – Coastal California Gnatcatcher

Table 4-4: CMRs as Applied to Individual Project Sites under the Proposed Action

Site	Applicable CMRs
BLR2DPW	6, 8, 9, 14
LADPW38	6, 8, 9, 14
LDWP243	1, 6, 9, 10, 18, 19
ONK	1, 6, 9, 10, 18, 19
SDW	1, 6, 9, 10, 18, 19
CHPNWHLL	6, 8, 9, 15
SCECART	1, 10, 11, 17
SCELGNBL	1, 10, 11
SCELNIDO	1, 10, 11
SCELONG	1
SCEMADR	1, 2, 17
SCEMERC	1, 10, 11
SCEMESA	1, 10, 11
SCEMNRV	1, 10, 11
SCEMRGO	1, 10, 11
SCESTUD	1, 10, 11, 17

Under the Proposed Action, no significant impacts to individual species or critical habitat protected under the federal ESA would occur. Temporary human activity adjacent to habitat areas would result in temporary minor increases in dust and noise; however, the CMRs discussed above would assure no significant impacts or adverse effects would occur to ESA-listed species. Full texts of the CMRs are included in Appendix A-1.

Bald and Golden Eagles

Four sites (LDWP243, ONK, BLR2DPW, and LADPW38) were determined to provide foraging habitat for golden eagles; two sites (ONK and LDWP243) have low nesting potential for the golden eagle in the general vicinity of the site, but not at the site itself. Monopole towers would have anti-perch devices affixed to any elevated horizontal surfaces (e.g., T-arms, or "crow's nest" platforms) that may be suitable as perch sites for large birds. Eagles are sensitive to activities associated with human disturbance. Site ONK is part of a larger complex of communication facilities along the ridgeline; but, of the analyzed LTE sites, ONK provides the best combination of topography, foraging habitat, and remote conditions conducive to the presence of golden eagles. Below Site ONK and the Oat Mountain ridgeline, steep slopes and narrow canyons may provide cliffs or rocky crags suitable as nest sites for golden eagles; though the closest nesting eagles to this site is over 12 miles away. Potentially suitable nesting habitat for golden eagles may occur in steep topography to the north of Site LDWP243, though there are

many anthropogenic disturbances surrounding the site; the closest documented golden eagle nest to Site LDWP243 is more than 16 miles away. No loss of habitat is anticipated to occur under the Proposed Action, as the CMRs discussed in Section 4.5.1 would be employed. Implementation of BIO CMR 2, related to bald and golden eagles, would ensure that no significant indirect impacts would occur to the species.

Table 4-5: Impact Analysis Summary for Bald and Golden Eagle – Listed Species

Applicable Site	Common Name (*Scientific Name*)	SOP	Anticipated Impacts	Rationale for Effects Determination
LDWP243 ONK BLR2DPW LADPW38	golden eagle (*Aquila chrysaetos*)	Low (nesting)	Not significant	The following CMRs would preclude significant impacts to this species: BIO CMR 1 and BIO CMR 6
KEY: SOP = species occurrence potential CMR = Construction Management Requirements				

The full text of this CMR is included in Appendix A-1. As a result, no significant direct impacts to BGEPA-listed species would be expected to occur.

Migratory Bird Treaty Act

Various species of migratory birds, including raptors, may nest in close proximity to proposed project construction sites. These birds and their nests and young are protected under the Migratory Bird Treaty Act (16 USC 703– 711) and Sections 3503 and 3503.5. Section 3513 of the California Fish and Game Code provides for take prohibitions consistent with the MBTA. Protected birds may nest in a wide variety of locations, including trees, shrubs, on the ground, and on human-made structures (e.g., buildings, bridges, water tanks, antenna towers). Nesting birds may be found in pristine native habitats, in highly degraded habitat remnants, within landscaped and ornamental plantings, and in ruderal settings.

Project construction activities at some sites may include vegetation removal, which could result in the direct loss of nests, eggs, and/or young. The noise and human presence associated with construction during the breeding season has the potential to disturb nesting birds throughout the project vicinity, which could result in a loss of productivity (i.e., reduced number of young raised) due to disruption of foraging activities and care of nestlings by the parent birds, or otherwise lead to the abandonment of nests. The degree of sensitivity to disturbances varies greatly species by species, pair by pair within a species, and is influenced by the stage of the nesting cycle (e.g., nest building, egg laying, and age of young). Generally, raptors are the most sensitive to human presence in the vicinity of their nests. Refer to Appendix A-1 for the complete text of BIO CMR 1 for project mitigation requirements for the protection of nesting migratory birds.

CESA, CFP, and NPPA Species

Five sites (LDWP243, ONK, SDW, BLR2DPW, and LADPW38) have some potential to support eight state-listed species within the vicinity, but the sites contain no habitat for any of the species.

Some potential exists for direct effects to CESA- and NPPA-listed and CFP-regulated species as a result of temporary human activity associated with project implementation. These effects would most likely result from temporary human activity adjacent to habitat areas, resulting in temporary increases in dust and noise. With implementation of the CMRs identified in Table 4-6, no significant impacts to these state-regulated species are expected.

Table 4-6: Effects on California-Listed Species (CESA, NPPA, and CFP)

Site	Taxa	Common Name (*Scientific Name*)	Status	SOP*	Effect (NEPA)	Rationale
LDWP243	Plant	Santa Susana tarplant (*Deinandra minthornii*)	SR, NPPA	Low	None	Species was not identified during field surveys. Proposed Action is outside known range, which is limited to sandstone outcrops. No sandstone outcrops occur on site; closest occurrence is Calabasas. Additionally, implementation of BIO CMR 9 and BIO CMR 10 would avoid impacts to this species at this site.
	Bird	California condor (*Gymnopyps californicus*)	SE, FP	Low	Not significant	Habitat is poor for condors; site is located adjacent to freeway and tract homes. The Proposed Action (addition of a monopole) will not create opportunity for perching. Implementation of BIO CMR 6 and BIO CMR 18 would avoid impacts to this species.
	Bird	American peregrine falcon (*Falco peregrinus*)	FP	Moderate	Not significant	Potential foraging habitat. Implementation of BIO CMR 1 and BIO CMR 6 would avoid impacts to this species at this site.
	Bird	golden eagle (*Aquila chrysaetos*)	FP	Low (nesting)	Not significant	Nests near cliffs or very large trees, which are not present in study area. Implementation of BIO CMR 1 and BIO CMR 6 would avoid impacts to this species at this site.
ONK	Plant	thread-leaved brodiaea (*Brodiaea filifolia*)	SE,	Low	None	Suitable native grassland habitat is not present.
	Bird	California condor (*Gymnopyps californicus*)	SE, FP	Moderate	Not significant	Foraging condors may pass through area, but potential nesting habitat is limited. Numerous communication towers are present. Proposed development is consistent with current site usage and would not alter the nature of site impacts. The Proposed Action (addition of a monopole) will not create opportunity for perching. Implementation of BIO CMR 6 and BIO CMR 18 would avoid impacts to this species.
	Bird	American peregrine falcon (*Falco peregrinus*)	FP	Moderate	Not significant	Potential foraging habitat. Implementation of BIO CMR 1 and BIO CMR 6 would avoid impacts to this species.
	Bird	golden eagle (*Aquila chrysaetos*)	FP	Low (nesting)	Not significant	Limited nesting habitat present in vicinity of Oat Mountain ridgeline. Implementation of BIO CMR 1 and BIO CMR 6 would avoid impacts to this species.

Table 4-6: Effects on California-Listed Species (CESA, NPPA, and CFP)

Site	Taxa	Common Name (*Scientific Name*)	Status	SOP*	Effect (NEPA)	Rationale
BLR2DPW	Mammal	Mohave ground squirrel (*Ammospermophilus mohavensis*)	ST	Low	Not significant	Marginal habitat may exist within the site vicinity. Implementation of BIO CMR 6, BIO CMR 9 and BIO CMR 13 would avoid impacts to this species.
	Reptile	Mojave desert tortoise (*Gopherus agassizii*)	SE	Moderate	Not significant	The site is located within the range of the desert tortoise. Potential impact from construction vehicles. Implementation of BIO CMR 6, BIO CMR 8, BIO CMR 9, and BIO CMR 14 would avoid Impacts to this species.
	Bird	golden eagle (*Aquila chrysaetos*)	FP	Low (nesting)	None	No nesting habitat present. Implementation of BIO CMR 1 and BIO CMR 2 would avoid impacts to this species.
	Bird	California condor (*Gymnopyps californicus*)	SE, FP	Moderate	None	Marginally suitable condor foraging habitat, and birds on exploratory flight may pass through area; no nesting habitat is present. The Proposed Action (addition of a monopole) will not create opportunity for perching. Additionally, implementation of BIO CMR 6 would avoid impacts to this species.
LADPW38	Mammal	Mohave ground squirrel (*Ammospermophilus mohavensis*)	ST	Low	Not significant	Marginal habitat may exist within the site vicinity. Implementation of BIO CMR 6, BIO CMR 9, and BIO CMR 13 would avoid impacts to this species.
	Reptile	Mojave desert tortoise (*Gopherus agassizii*)	SE	Moderate	Not significant	The site is located within the range of the desert tortoise. Potential impact from construction vehicles. Implementation of BIO CMR 6, BIO CMR 8, BIO CMR 9, and BIO CMR 14 would avoid Impacts to this species.
	Bird	golden eagle (*Aquila chrysaetos*)	FP	Low (nesting)	None	No nesting habitat present. Implementation of BIO CMR 1 and BIO CMR 2 would avoid impacts to this species.
	Bird	California condor (*Gymnopyps californicus*)	SE, FP	Moderate	Not significant	Marginally suitable condor foraging habitat and birds on exploratory flight may pass through area; no nesting habitat is present. The Proposed Action (addition of a monopole) will not create opportunity for perching. Additionally, implementation of BIO CMR 6 would avoid impacts to this species.

Table 4-6: Effects on California-Listed Species (CESA, NPPA, and CFP)

Site	Taxa	Common Name (*Scientific Name*)	Status	SOP*	Effect (NEPA)	Rationale
VALENCIA CHPAR	Bird	least Bell's vireo (*Vireo bellii pusillus*)	SE	None	No impact	No habitat in study area. Although designated critical habitat is adjacent to project site, the closest suitable habitat is over 1,000 feet away. No CMRs are necessary, as vireos are not expected to visit the site.
	Bird	California condor (*Gymnopyps californicus*)	SE, FP	No impact	Not significant	Habitat is inappropriate for condors. Site is located adjacent to freeway and commercial development; it is not on a hilltop. The Proposed Action (addition of a monopole) will not create opportunity for perching. No CMRs are necessary, as condors are not expected to visit the site.

KEY:
SE = State listed Endangered
SR = State listed Rare
ST = State listed Threatened
FP = California Fully Protected
NPPA = Native Plant Protection Act
SOP = species occurrence potential; The SOP is determined by analyzing the site's surrounding habitat. Species may have potential to occur in the surrounding habitat but may not have potential to occur within the site itself.

Sensitive Habitats

Critical Habitat

As previously discussed, critical habitat does not occur on any of the sites; however, critical habitat for coastal California gnatcatcher is approximately 1,800 feet from Site ONK, 740 feet from Site LDWP243, and 170 feet from Site SDW; least Bell's vireo critical habitat is adjacent (i.e., across the roadway) to Site CHPNWHLL, which is about 1,300 feet from arroyo toad and southwestern willow flycatcher critical habitat. Project construction activities would be limited to the project footprint within previously disturbed areas; no destruction or modification of vegetation would occur, and the project would have no effect on critical habitat. No impacts to critical habitat are anticipated.

Wetlands

Wetlands were identified as being adjacent to seven proposed supplemental LTE sites (LDWP243, ONK, SDW, SCECART, SCELONG, SCEMADR, and SCESTUD). At Site LDWP243 six drainage features are mapped as wetlands (according to the USFWS National Wetland Inventory [NWI] definition) within 500 feet of the site boundary, including the Los Angeles Aqueduct (reach code:18070105000486). Four features are drainages mapped as R4SBA – Riverine (Intermittent, streambed, temporarily flooded); one feature is mapped as a R4SBJ – Riverine (Intermittent, streambed, intermittently flooded); and one feature is the Los Angeles Aqueduct, mapped as R4SBAr-Los Angeles Aqueduct– Artificial Riverine (Intermittent, streambed, temporarily flooded). At Site ONK one drainage feature is mapped as a wetland (according

to the USFWS NWI definition) within 500 feet of the site boundary and is classified as R4SBA – Riverine (Intermittent, streambed, temporarily flooded). At Site SDW, one feature is mapped as wetlands (according to the USFWS NWI definition) within 500 feet of the site boundary; a Forested/Shrub Wetland is approximately 30 feet away.

At Site SCECART, one feature is mapped as R4SBCx – Riverine – The San Gabriel River. At site SCELONG, one feature is mapped as R4SBAx – Riverine – The Los Angeles River; and one freshwater pond mapped as PUBHh. Site SCEMADR is adjacent to the Madrona Marsh which is generally classified as an Emergent Wetlands. The site has one freshwater pond feature mapped as PABFx; three freshwater emergent wetland features mapped as PEMAs, PEMCs, and PEMCx; three freshwater forested/shrub wetland features mapped as PFOCx, PSSAx, and PSSCx; and two freshwater pond features mapped as PFOCx and PSSAx. At Site SCESTUD, one feature is mapped as R4SBAx – Riverine – The San Gabriel River; one feature is mapped as R4SBCx – Riverine – Alamitos back bay. No dredge or fill activities in or near wetlands would occur. With implementation of the following CMRs, the full texts of which are included in Appendix A-1, no indirect impacts (i.e., runoff from construction disturbance) would be expected. As a result, no significant direct or indirect impacts to wetlands are anticipated.

- BIO CMR 17: Wetlands and Other Waters
- BIO CMR 18: Hazardous Substance Management

4.5.2 No Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect biological resources impacts are anticipated.

4.6 Historic and Cultural Resources

This section describes any potential direct or indirect effects associated with implementation of the Proposed Action and the No Action Alternative on archaeological, architectural, Native American, and paleontological resources at each LTE project location. LTE site SDW was exempted under the 2001 Collocation PA and will not be assessed for effects on cultural resources; however, this site has been assessed for any potential impacts on paleontological resources.

4.6.1 Proposed Action

4.6.1.1 Archaeological Resources

Direct APE. There were no NRHP-listed or -eligible prehistoric or historic archaeological resources identified within the direct APE at any of the LTE project locations. This was confirmed through archival research and field surveys conducted by an SOI-qualified archaeologist; therefore, there will be no historic properties (archaeological) affected by implementation of the LTE Proposed Action.

The presence of subsurface archaeological remains is difficult to predict, and resources may be unexpectedly encountered at any time. As a result, if prehistoric or historic archaeological materials,

particularly human remains, are discovered during construction activities, all ground-disturbing activities must cease in the vicinity of the find and the following CRM CMRs followed. The full text of the CMRs is included in Appendix A-1.

- CRM CMR 3: Archaeological Materials Encountered
- CRM CMR 4: Human Remains.

Indirect APE. One NRHP-listed prehistoric archaeological site, which is also considered a Native American resource, was identified within the indirect APE at LTE project site SCESTUD. As described in Section 3.6, this site is located at the northwestern-most boundary of the indirect and approximately .45 miles from the LTE project area. Based on information contained in the archival records, the site was essentially destroyed during the construction of modern housing and the salvage of associated artifacts in the 1960s. As a result there will be no effect on historic properties (archaeological) from implementation of the LTE Proposed Action at this project location.

4.6.1.2 Architectural Resources

No NRHP-listed or -eligible architectural resources were identified within the direct or indirect APEs of LTE project sites BLR2DPW, CHPNWHLL, CHPWVLLY, LADPW38, LASDMVS, ONK, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, and SCEMESA. The assessment of any potential impacts on architectural resources within the remaining LTE project locations – LDWP243, SCECART, SCEMNRV, SCEMRGO, SCESTUD are described below.

LDWP243

Direct APE. One NRHP-eligible architectural resource was identified within the direct APE at LTE project site LDWP243. The resource, Los Angeles Aqueduct No. 1, runs beneath the western-most edge of the paved project area. However, pre-coordination with the Los Angeles Department of Water and Power personnel to pinpoint the location of the historic aqueduct ensures that there will be no adverse effects on this linear feature.

Indirect APE. Two NRHP-eligible architectural resources were identified within the indirect APE at this project location. The first of these is Los Angeles Aqueduct No. 1, which extends from beneath the direct APE north/south across the indirect APE both above and below ground. The second resource is a segment of Old San Fernando Road. The project site would be visible to both of these resources; however, the new monopole would be in character with the existing tanks, transmission towers, and other industrial features within the landscape and would not adversely affect the two historic properties.

An FCC Form 620 was completed for construction of the new monopole and associated infrastructure features at this LTE project site and SHPO concurred with the finding of no adverse effect for this site in a letter dated June 2, 2015 (see Appendix C).

SCECART

Direct APE. There were no NRHP-listed or -eligible architectural resources identified within the direct APE at LTE project site SCECART. This was confirmed through archival research and field surveys conducted by an SOI-qualified architectural historian; therefore, there will be no historic properties (architectural) affected by implementation of the LTE Proposed Action at this project location.

Indirect APE. One NRHP-eligible architectural/engineering resource was identified within the indirect APE at SCECART. The resource is a segment of the historic Union Pacific Railroad that crosses the entire indirect APE northwest/southeast adjacent to and north of the northern boundary of the direct APE. Parts of the railroad segment are visible from the project site; however, the new COW will be situated adjacent to an existing communications lattice tower and would be in character with the existing viewshed which is heavily industrial and adjacent to multiple transportation corridors. As a result, there would be no adverse effects on the historic railroad segment from a COW and any associated infrastructure features placed at this project location.

SCEMNRV

Direct APE. There were no NRHP-listed or -eligible architectural resources identified within the direct APE at LTE project site SCEMNRV. This was confirmed through archival research and field surveys conducted by an SOI-qualified architectural historian; therefore, there will be no historic properties (architectural) affected by implementation of the LTE Proposed Action at this project location.

Indirect APE. One NRHP-eligible architectural resource (the Uriah Zimmerman House) was identified within the indirect APE at SCEMNRV. The resource is a Victorian-era residence situated approximately .49 miles northeast of the project site. Given the intervening distance and dense urban environment within the indirect APE, the project site would not be visible from this historic property. As a result, there would be no effect on the historic residence from a COW and any associated infrastructure features placed at this project location.

SCEMRGO

Direct APE. There were no NRHP-listed or -eligible architectural resources identified within the direct APE at LTE project site SCEMRGO. This was confirmed through archival research and field surveys conducted by an SOI-qualified architectural historian; therefore, there will be no historic properties (architectural) affected by implementation of the LTE Proposed Action at this project location.

Indirect APE. Two NRHP-eligible architectural/engineering resources were identified within the indirect APE at this project location. The first of the two resources is a segment of the historic Union Pacific Railroad (Southern Pacific Los Angeles Division), which crosses the entire indirect APE northeast/southwest approximately .31 miles south of the direct APE. Although the COW may be visible to this resource from certain vantage points, it would be in character with the surrounding heavily industrialized landscape, which has many other engineering, transportation, and transmission features;

therefore impacts on this segment of historic railroad would not be significant. The second of the architectural resources at this project location is the former post-World War I C. F. Braun Company, which is situated approximately .43 miles southwest of the direct APE. Given the intervening distance and heavily urbanized landscape within the indirect APE, the COW at this location would not be visible from this architectural resource. As a result, there would be no effect on these two historic properties from a COW and any associated infrastructure features placed at this project location.

SCESTUD

Direct APE. There were no NRHP-listed or -eligible architectural resources identified within the direct APE at LTE project site SCESTUD. This was confirmed through archival research and field surveys conducted by an SOI-qualified architectural historian; therefore, there will be no historic properties (architectural) affected by implementation of the LTE Proposed Action at this project location.

Indirect APE. Two NRHP-eligible architectural/engineering resources were identified within the indirect APE at this project location. The first of the two resources is the NRHP-listed Rancho Los Alamitos, which is situated approximately .38 miles from the direct APE. The second architectural resource is a single-family residence located approximately .49 miles east of the direct APE. The property is a contributing element of the Leisure World NRHP Historic District and is also eligible for listing in the California Register. Given the intervening distance and dense urban environment, the COW at this proposed location will not be visible to either architectural resource; therefore, there will be no effect on historic properties (architectural) from a COW and any associated infrastructure features placed at this project location.

4.6.1.3 Native American Resources

Direct APE. There were no NRHP-listed or -eligible Native American resources identified within the direct APE at any of the proposed LTE project locations. This was confirmed through archival research, field surveys conducted by an SOI-qualified archaeologist, and outreach to the NAHC and Native American Tribes through the TCNS process. As a result, no historic properties (Native American) would be affected by implementation of the LTE Proposed Action at any of the LTE project locations.

The presence of subsurface Native American sites and artifacts is difficult to predict, and resources may be unexpectedly encountered at any time. As a result, if Native American resources, particularly human remains, are discovered during construction activities, all ground-disturbing activities must cease in the vicinity of the find and the following CRM CMRs followed. The full text of the CMRs is included in Appendix A-1.

- CRM CMR 3: Archaeological Materials Encountered
- CRM CMR 4: Human Remains.

Indirect APE. As also described under archaeological resources, one NRHP-listed Native American resource was identified within the indirect APE at SCESTUD. The site is situated approximately .45 miles from the direct APE; however, the site was essentially destroyed in the 1960s and any remnants are now

beneath modern houses and paved surfaces. As a result, there will be no effect on historic properties (Native American) from a COW and any associated infrastructure features placed at this project location.

4.6.1.4 Paleontological Resources

There have been no paleontological resources identified within the boundary of any of the proposed project locations; however, fossils have been found nearby at 15 of the project sites (CHPNWHLL, CHPWVLLY, LASDMVS, LDWP243, SCECART, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, SCESTUD, and SDW) and surface and/or subsurface strata have been determined to have moderate to high sensitivity for paleontological resources at all of the project locations (including SDW) except BLR2DPW and LADPW38. As a result, a qualified paleontological monitor shall be present during all ground-disturbing activities associated with construction, grading, or trenching at all LTE project sites except BLR2DPW and LADPW38. In addition, if unidentified paleontological remains are encountered, the guidance in CRM CMR 5 shall be followed. The full text of CRM CMR 5 is included in Appendix A-1.

- CRM CMR 5: Potential Paleontological Resources in Area.

4.6.2 No Action Alternative

Under the No Action Alternative, no construction or operations would occur. Therefore, no direct or indirect impacts on archaeological, architectural, Native American, or paleontological resources would occur.

4.7 Aesthetic and Visual Resources

4.7.1 Proposed Action

During the construction phase, equipment, work crews, and materials would be visible in the vicinity of all proposed LTE sites. Views associated with construction (e.g., grading and trenching activities, temporary fencing) may also be temporarily visible. These minor impacts would be short-term in nature and local to the area immediately surrounding each proposed project site. No significant impacts would occur.

Once construction is completed, the primary impact on visual resources would be the new monopole and or lighting (if required by FAA) at sites LDWP243, ONK, and at the COW sites. Monopoles and any needed lighting would not be likely to intrude significantly into the viewshed. Site SDW is a collocated site, where the antennas would be attached to existing communication towers. Because the antennas would be attached to existing structures, no long-term visual impacts would occur.

None of the sites in SEA2 are located on federally administered lands or within other visually sensitive areas (i.e., the coastal zone) as described Section 3.7.2 of the Final LA-RICS LTE System EA. A detailed description of each of the proposed LTE sites is found in Appendix B. No significant direct or indirect impacts to aesthetics and visual resources are anticipated.

While not required, where appropriate and in coordination with the Authority members and local jurisdictions, stealth technology could be used to disguise the proposed monopole towers as palm trees, pine trees, flagpoles, or hose towers; or the monopoles could be incorporated into architectural elements.

4.7.2 No Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect impacts associated with aesthetics and visual resources are anticipated.

4.8 Land Use

This section presents the likely effects to land use that would result from implementation of the Proposed Action and the No Action Alternative.

4.8.1 Proposed Action

Construction and operation under the Proposed Action would not conflict with applicable land use plans. The proposed LTE equipment for all 18 sites would be installed at sites that have been previously developed. Six of the proposed LTE sites (three non-COW and three COW sites) are also currently occupied by a police, sheriff, or fire station or other public facilities that transmit and receive public safety radio signals, while the remaining 12 are sites used for utility (e.g., water or electrical) infrastructure . None of the proposed sites lies on federally administered land or within the coastal zone.

Activities at Site LDWP243 in the City of Los Angeles were determined to be consistent with underlying land use in the City of Los Angeles General Plan. Activities at Site SDW in the City of San Dimas were determined to be consistent with underlying land use in the City's Specific Plan 5 and the East San Gabriel Valley Planning Area.

As noted in Section 4.8.1 of the LA-RICS LTE System EA, Los Angeles County General Plan land use policies do not address communication facility uses; and the General Plan lacks specific or detailed development standards that could establish design requirements. Thus, none of the development proposed for the County-owned or County-located sites (ONK, LASDMVS, LADPW38, BLR2DPW, CHPNWHLL, and CHPWVLLY) would be inconsistent with the Los Angeles County General Plan or its land use-based policies.

The ten COW sites located on SCE properties are located within existing high-voltage transmission substations (SCELGNBL, SCELNIDO, SCEMADR, SCEMERC, SCEMESA, SCESTUD), high-voltage transmission utility corridors (SCECART, SCELONG), and SCE maintenance and service centers (SCEMNRV, SCEMRGO). These sites include the presence of very tall electric transmission structures and other industrial equipment, and several sites include existing communications towers. The placement of a COW at these sites would be consistent with the existing use at each site, and would not conflict with local agency plans.

As development of each of the sites would be consistent with local agency plans under the Proposed Action, no significant direct or indirect impacts are anticipated.

4.8.2 No-Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect impacts associated with land use are anticipated.

4.9 Infrastructure

4.9.1 Proposed Action

Utilities

Potential disruption of utilities was analyzed in Section 4.9.1 of the LA-RICS LTE System EA. With the exception of the geography involved (which would not drive impact), the activities considered in SEA2 are captured in that analysis and are not likely to cause impact, as design would include evaluation of all utility systems at these sites.

Potential impacts to electricity, solid waste, and water were analyzed under the Proposed Action. The analysis reflects that each of the proposed sites is served by public or large commercial utility providers.

Electricity

Construction activity associated with the Proposed Action would require minor amounts of energy for power hand tools, lights, and construction equipment. This demand would be short-term, ending when construction is completed.

Operation of the 18 proposed LTE sites would create an estimated peak demand of less than 0.1 percent of existing total annual generation capacity of the electrical utilities serving the area of the Proposed Action. No significant direct impacts to electrical supply are anticipated, and no indirect impacts have been identified.

Solid Waste

Construction activity at the 18 proposed LTE sites is anticipated to account for the majority of the solid waste generated during project lifespan. Solid waste generated as a result of construction of the Proposed Action would be less than 0.1 percent of current remaining landfill capacity.

No significant impact (direct or indirect) to solid waste management would occur.

Water

Limited amounts of nonpotable water would be required during construction at the 18 proposed LTE sites to suppress dust, stabilize stockpiled soils, and enable cleanup at job sites. Concrete would be mixed at a central location for delivery as needed. Due to the small size of land disturbance requiring dust suppression at non-COW LTE site (i.e., up to 3,600 square feet), the demand for water during

construction sites would be limited; and existing water connections located at the majority of the proposed LTE sites would be sufficient to meet construction demand. It is assumed that water would be transported to Site ONK where existing plumbing connections might not be available. During the operations phase, no demand for water (potable or nonpotable) is anticipated. COW sites would potentially include trenching for power, wall and fencing construction, and placement of grounding equipment. Water for dust suppression is not anticipated to be necessary. Total water supply for a single dry year in the greater Los Angeles region is estimated at approximately 2.55 million acre-feet per year. Water use at proposed LTE sites would be negligible in comparison.

No significant impacts (direct or indirect) on water supply would be expected under the Proposed Action.

Transportation

Construction-related traffic impacts at all 18 LTE sites would be short-term and localized. Traffic impacts include temporary impairment of access to adjacent roadways, potentially creating traffic hazards, and limiting emergency access. With the implementation of TRANS MM 1, temporary impacts at all sites would be minimized. Vehicle trips generated during construction would not be of sufficient volume to affect the level of service of any roadway. After construction, vehicle trips associated with operations at each LTE site would be limited to those required for occasional inspections, maintenance, and repair. Vehicle trips generated during operations would not be of sufficient volume to affect the level of service of any roadway.

Construction and operation of the Proposed Action would result in no significant impacts (direct or indirect) to transportation.

Implementation of the following mitigation measure would minimize impacts associated with access and circulation during the construction phase of the Proposed Action for all sites.

TRANS MM 1: The construction contractor would be required to maintain site access roads in passable condition during the time project work is being performed at the site. Use of standard construction traffic control practices such as flagmen, warning signs, and other measures would be implemented to ensure adequate vehicle circulation at all times.

4.9.2 No Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect impacts associated with infrastructure are anticipated.

4.10 Socioeconomic Resources

This section analyzes the potential for disproportionate human health and environmental effects of the Proposed Action and the No Action Alternative on environmental justice populations.

4.10.1 Proposed Action

The Proposed Action includes sites dispersed over a wide geographic area within Los Angeles County. While environmental justice populations were identified at eight sites (BLR2DPW, LADPW38, SCELGNBL, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, and SCEMRGO), no significant direct or indirect impacts were identified in SEA2 analysis for any resource affecting local communities. The Proposed Action would actually help in increasing public safety for the local communities by providing a single interoperable communication system that can be operated by all agencies and would result in a positive effect that extends beyond any defined study area or affected area. As a result, no significant direct or indirect impacts are anticipated.

4.10.2 No Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect impacts associated with socioeconomics are anticipated.

4.11 Human Health and Safety

4.11.1 Proposed Action

Direct and Indirect Impacts

Hazardous Materials

No nexus between existing hazardous waste sites and proposed LTE sites has been identified. All management of hazardous materials during construction and operation would be conducted in accordance with applicable federal and state regulations. Table 4-7 provides an impact analysis summary for hazardous materials for all 18 LTE sites. No significant indirect impacts associated with the Proposed Action would be expected.

As described in Section 2.1.4, COW direct construction impacts involve placement of a trailer at the site and trenching for power, wall and fencing construction, and placement of grounding equipment. Potential for disturbance of hazardous material associated with construction of COWs would be negligible.

Worker Safety

All trenching or excavation of foundations and utility connections would be conducted in compliance with California Office of Occupational Safety and Health Administration (Cal/OSHA) regulations for safety, including those outlined in CCR Title 8, Section 1540, Excavations. Provided that all Cal/OSHA safety procedures are followed, the Proposed Action would not cause a significant impact (direct or indirect) to worker safety.

Table 4-7: Impact Analysis Summary for Hazardous Materials

Site	List of Hazardous Waste Sites within 0.25 mile of Site	Impact Analysis
BLR2DPW	None identified	N/A
CHPNWHLL	Two permitted UST sites; two closed Cleanup Program sites	The identified permitted UST sites and the closed cleanup site are located outside of the designated polygon for the site. The locations of the permitted USTs are known and will not be encountered. Any potentially residual impacted soil or groundwater will not be encountered during planned ground disturbing activities. Planned ground disturbing activities include shallow excavation for trenching that will not encounter groundwater and there is no indication that potentially impacted soil from the two closed cleanup sites extends to within the planned project boundary.
CHPWVLLY	One permitted UST site; four closed Cleanup Program sites	The identified permitted UST site and the closed cleanup site are located outside of the designated polygon for the proposed LTE site. The location of the permitted USTs is known and will not be encountered. Any potentially residual impacted soil or groundwater will not be encountered during planned ground disturbing activities. Planned ground disturbing activities include shallow excavation for trenching that will not encounter groundwater and there is no indication that potentially residual impacted soil from the four closed cleanup sites extends to within the planned project boundary.
LADPW38	None identified	N/A
LASDMVS	Four permitted UST sites; one open Cleanup Program site; one closed Cleanup Program site	The identified permitted UST sites and the closed and open cleanup sites are located outside of the designated polygon for the site. The locations of the permitted USTs are known and will not be encountered. Any potentially residual impacted soil or groundwater will not be encountered during planned ground disturbing activities. Planned ground disturbing activities include shallow excavation for trenching that will not encounter groundwater and there is no indication that potentially residual impacted soil from the one closed and one open cleanup site extends to within the planned project boundary.
LDWP243	None identified	N/A
ONK	None identified	N/A
SCECART	None identified	N/A
SCELGNBL	One permitted UST site located within 0.25 mile of the LTE site	The permitted UST is located off site outside of the approved polygon for the project. The permitted location of the UST is known and will not be encountered during planned construction activities for the site.

Table 4-7: Impact Analysis Summary for Hazardous Materials

Site	List of Hazardous Waste Sites within 0.25 mile of Site	Impact Analysis
SCELNIDO	Four closed LUST cleanup sites and one open LUST cleanup site are located within 0.25 mile of the LTE site	The four closed and one open LUST cleanup sites are located outside of the planned project activities within the designated polygon for the site. Any potentially residual impacted soil or groundwater will not be encountered during planned ground disturbing activities. Planned ground disturbing activities include shallow excavation for trenching that will not encounter groundwater and there is no indication that potentially impacted soil from the one open LUST site and the four closed LUST sites extends to within the planned project boundary.
SCELONG	None identified	N/A
SCEMADR	One permitted UST site located within 0.25 mile of the LTE site	The permitted UST is located off site outside of the approved polygon for the project. The permitted location of the UST is known and will not be encountered during planned construction activities for the site.
SCEMERC	One closed LUST cleanup site is located within 0.25 mile of the LTE site	The identified closed LUST site is located outside of the planned project activities within the designated polygon for the site. Any potentially residual impacted soil or groundwater will not be encountered during planning ground disturbing activities. Planned ground disturbing activities include shallow excavation for trenching that will not encounter groundwater and there is no indication that potential residually impacted soil from the closed LUST site extends to within the planned project boundary.
SCEMESA	Three permitted UST sites; four closed LUST cleanup sites, and one open LUST cleanup site are located within 0.25 mile of the LTE site	The three permitted UST sites are all outside of the planned project boundary and will not be encountered during project construction activities. The four closed LUST sites have meet regulatory standards for closure and there is no indication that any potential residual impacted soil or groundwater is present. The open LUST case is located to the east of the project site. Reports indicate that only soil has been impacted in the immediate vicinity of the site which does not extend into the project boundary. The NPL site is a closed landfill with the remedy in place that controls methane gas leachate; groundwater is being monitored for natural attenuation. The NPL site's northern boundary is approximately 50 feet southeast of the eastern boundary of proposed project boundary for the site. Planned project activities will not encounter any impacted soil or groundwater associated with the NPL site.

Table 4-7: Impact Analysis Summary for Hazardous Materials

Site	List of Hazardous Waste Sites within 0.25 mile of Site	Impact Analysis
SCEMNRV	Two permitted UST sites and three closed LUST cleanup sites are located within 0.25 mile of the LTE site	The identified permitted UST sites and the closed LUST site are located outside of the planned project activities within the designated polygon for the site. The locations of the permitted USTs are known and will not be encountered. Any potentially residual impacted soil or groundwater will not be encountered during planned ground disturbing activities. Planned ground disturbing activities include shallow excavation for trenching that will not encounter groundwater. There is no indication that potential residually impacted soil from the closed LUST sites extend to within the planned project boundary.
SCEMRGO	Four permitted UST sites and five closed LUST cleanup sites are located within 0.25 mile of the LTE site	The identified permitted UST sites and the closed LUST sites are located outside of the planned project activities within the designated polygon for the site. The locations of the permitted USTs are known and will not be encountered. Any potentially residual impacted soil or groundwater will not be encountered during planned ground disturbing activities. Planned ground disturbing activities include shallow excavation for trenching that will not encounter groundwater and there is no indication that potential residually impacted soil from the closed LUST sites extend to within the planned project boundary.
SCESTUD	None identified	N/A
SDW	There is a NPL site located approximately 0.5 mile northwest of and downgradient from the site	Site SDW is located at the top of a hill, and an NPL site is located approximately 0.5 mile downgradient from Site SDW. Project construction activities would not encounter the NPL site.

KEY:
LUST = Leaking Underground Storage Tank
NPL = National Priorities List
N/A = Not applicable
UST = Underground Storage Tank

Aeronautical Hazards

Each of the sites considered in SEA2 except Site SDW (collocation to existing tower) were subjected to the FCC's Landing Slope Facility Calculator (TOWAIR tool). All of the sites passed the review. FAA has recommended, however, and NTIA has agreed, that voluntary FAA notification be made for all proposed LTE antenna structures as best practice; and, therefore, proposed towers at all of the LTE sites considered in SEA2 would be required to be submitted to FAA for hazard determination review. This hazard determination review is ongoing. Development of infrastructure at all sites would occur in compliance with all stipulated conditions in the corresponding FAA Hazard Determination to preclude

hazards to air navigation. Because any new tower construction would be required to be in compliance with applicable FAA and FCC regulations, no significant direct or indirect impacts to air navigation are anticipated.

Wildland Fires

Four proposed LTE sites (LDWP243, ONK, SDW, and CHPNWHLL) are located within a high fire hazard severity zone.

Application of HAZ MM 2 requires that activities at each of these sites would be governed by the existing approved LA-RICS LTE fire management plan (see Appendix F). No significant direct or indirect impacts are anticipated.

Methane Gas

Five sites (LASDMVS, SCELNIDO, SCELONG, SCEMADR, and SCEMESA) have the potential to be exposed to methane due to its proximity to an oil well that may produce methane. Ground disturbance at these sites potentially includes trenching for power, wall and fencing construction, and placement of grounding equipment, and is expected to be minimal. Since no foundations and subsequent permanent structures will be built at these sites, methane would have no potential pathway to migrate from the subsurface, if present, and accumulate within the mobile facility. Using the DOGGR standards for analysis, none of the remaining 13 LTE sites evaluated in SEA2 are located within 200 feet of an oil well or within 1,000 feet of a landfill. No significant direct or indirect impacts would be expected to occur.

Radio Frequency Exposure

The FCC has established MPE limits for human exposure to RF-EME energy fields. The MPE limits do not represent levels where a health risk exists, as they are designed to provide a substantial margin of safety. The FCC guidelines incorporate two separate tiers of exposure limits. The first tier is based upon occupational / controlled exposure limits (for workers). The second tier is for the general population / uncontrolled exposure limits, for the general population.

General population/ uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related.

Occupational/ controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/ uncontrolled limits

(see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

The FCC has established an occupational/ controlled MPE of 5 milliwatts per square centimeter (mW/cm^2) and an uncontrolled MPE of 1 (mW/cm^2) for equipment that operates above the 1500 MHz frequency range. For equipment operating at 700 MHz, the occupational MPE is 2.83 (mW/cm^2) and an uncontrolled MPE of 0.57 (mW/cm^2).

No roof- or building-mounted antennas were analyzed in this EA, therefore the potential for close range contact with antenna by the public or non-trained personnel does not exist. Modeling was conducted for the 18 proposed tower- or COW-mounted sites using RoofView® software, a widely used predictive modeling program, to estimate the worst-case power density at the site ground-level resulting from operation of the proposed antennas. The models utilize operational specifications for different types of antennas to produce a plot of spatially averaged power densities that are expressed as a percentage of the FCC's exposure limits. The assumptions used in radiofrequency modeling included:

- Inputs assumed that all transmitters would operate continuously at 100 percent power. In normal operation, LTE transmitters would be expected to operate at an average of 10 to 25 percent of that power, meaning that actual radio frequency fields should be reduced by 75 to 90 percent of modeled results
- Shielding by buildings was not taken into account. Shielding by buildings would reduce RF field strength by a factor of 6 to 30 times.

Modeling took into account the nearest walking/working surfaces to determine maximum potential exposures, and then distance to publically accessible areas (typically the ground below the antennas). The predicted power densities were then compared against the FCC's MPE limits for allowable public and workplace exposures. Modeling also took into account power densities generated by other licensed antennas located at the site (to provide an aggregate estimation of total power densities from RF transmitters onsite). The results show that collocations or new 70-foot monopoles would not be expected to exceed occupational general maximum permissible exposure limits at the ground level.

Table 4-8 provides the results of modeling for RF exposures at the 18 LTE sites. For the 15 COW sites, modeling results presented were based on the lowest proposed tower height (i.e., 40-foot height) to represent maximum potential exposure results.

Using the methods identified, no areas on any accessible ground-level walking/working surface were predicted to exceed the FCC's occupational or general population exposure limits at the sites (Motorola Solutions 2015, EBI Consulting 2015, Richard Tell Associates, Inc. 2015). FCC OET Bulletin 65 guidance provides prudent measures (found in HAZ MM 5), including use of warning labels or signs at sites where these measures are deemed warranted. Additionally, the system contractor is required under the contract to conduct follow-up field measurements at each site and implement radio frequency exposure-controlling measures identified in FCC OET Bulletin 65, where warranted, to demonstrate

compliance with FCC MPE guidelines. Therefore, no significant direct or indirect impacts due to radio frequency exposure are anticipated.

Mitigation Measures

HAZ MM 2: Prior to construction activity, the Authority must work with the agency responsible for fire protection to develop and implement a fire management plan for use during construction activity on those LTE project sites proposed in areas designated as high fire hazard severity zones. The plan will contain notification procedures and emergency fire prevention and control measures.

HAZ MM 5: Access restrictions, signage, and other measures identified in FCC OET Bulletin 65 shall be implemented based on the calculated and measured RF-EME such that the RF exposure level is in compliance with FCC MPE guidelines to prevent exceeding MPE limits to workers and the public.

4.11.1 No Action Alternative

No activities have been proposed under the No Action Alternative; therefore, no direct or indirect impacts associated with socioeconomics are anticipated.

Table 4-8: RF Modeling Results for Proposed LTE Sites

LA-RICS Site Name	Antenna height above ground level	General Population / Uncontrolled MPE (mW/cm^2)[1]	General Population / Uncontrolled Modeled Result[1]				Occupational / Controlled MPE (mW/cm^2)[1]	Occupational / Controlled Modeled Result[1]			
			Roof Exposure (mW/cm^2)	Roof % MPE	Ground Exposure (mW/cm^2)	Ground % MPE		Roof Exposure (mW/cm^2)	Roof % MPE	Ground Exposure (mW/cm^2)	Ground % MPE
BLR2DPW	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
CHPNWHLL	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
CHPWVLLY	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
LADPW38	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
LASDMVS	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
LDWP243	64 feet	0.505	N/A	N/A	0.008	1.613%	2.525	N/A	N/A	0.008	0.3226%
ONK	69 feet	1.0	N/A	N/A	0.00002	0.002%	5.0	N/A	N/A	0.00002	0.0004%
SCECART	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
SCELGNBL	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
SCELNIDO	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
SCELONG	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
SCEMADR	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
SCEMERC	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
SCEMESA	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
SCEMNRV	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%

Table 4-8: RF Modeling Results for Proposed LTE Sites

LA-RICS Site Name	Antenna height above ground level	General Population / Uncontrolled MPE (mW/cm^2)[1]	General Population / Uncontrolled Modeled Result[1]				Occupational / Controlled MPE (mW/cm^2)[1]	Occupational / Controlled Modeled Result[1]			
			Roof Exposure (mW/cm^2)	Roof % MPE	Ground Exposure (mW/cm^2)	Ground % MPE		Roof Exposure (mW/cm^2)	Roof % MPE	Ground Exposure (mW/cm^2)	Ground % MPE
SCEMRGO	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
SCESTUD	40 feet	0.505	N/A	N/A	0.007	1.3%	2.525	N/A	N/A	0.007	0.3%
SDW	30 feet	1.0	N/A	N/A	0.0001	0.01%	5.0	N/A	N/A	0.0001	0.002%

Source: Motorola Solutions 2015, EBI Consulting 2015, Richard Tell Associates, Inc. 2015

[1] RF emission as percentages of FCC MPE

4.12 Cumulative Impacts

NEPA defines a cumulative impact as an "impact on the environment which results from the incremental impact of the action when added to other present and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR § 1508.7).

This section addresses the potential cumulative impacts associated with implementation of the Proposed Action. No cumulative impacts were identified under the No Action Alternative.

4.12.1 Determination of Present and Reasonably Foreseeable Future Projects

Projects included in this analysis represent those that might result in incremental additional impacts when considered with other projects. Guidance used in developing this list included the CEQ's guidance found at CEQ's *Considering Cumulative Effects Under the National Environmental Policy Act* (CEQ 1997) and the U.S. Environmental Protection Agency (EPA) found in *Consideration of Cumulative Impacts in EPA Review of NEPA Documents* (USEPA 1999).

A project impact zone (PIZ) was developed based on the potential geographic extent of impact expected at individual sites. This cumulative PIZ was 2 miles at sites LDWP243, ONK, LADPW38, CHPNWHLL, and BLR2DPW because these sites had a potential for impacts to large bird species to that distance (i.e., impacts to California condors and eagles were considered over an area extending up to 2 miles from each of these sites). At Site SDW and 12 other COW sites (LASDMVS, CHPWVLLY, SCECART, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, and SCESTUD), the cumulative PIZ was 0.5 mile, reflecting the furthest distance of impact to visual resources. Only projects identified within this cumulative PIZ established for each site were evaluated in terms of cumulative impact.

A search was conducted for similar projects identified within the cumulative PIZ for each of the proposed sites. Included in this search were the California Public Utilities Commission website (for proposed or in-construction electrical transmission projects) and the FCC Antenna Structure Registration (ASR) website (for proposed or in-construction Telecommunications tower projects). As shown in Table 4-9, six sites were identified as having nearby projects that could result in cumulative impacts.

Table 4-9: Projects Located Within the Project Impact Zone of Sites Considered in the Proposed Action

Site	Cumulative PIZ	Nearby Proposed Project(s)	Distance to Site (closest point)	Discussion
LDWP243	2 mi.	Proposed LA-RICS Land Mobile Radio (LMR) Site LDWP243 located within LTE site boundary. Collocation of LMR antennas to proposed LTE monopole and associated infrastructure	Immediately adjacent	Telecommunication antennas on proposed LTE monopole
		Proposed Sunshine Canyon Landfill 66-kV Subtransmission Line Segment Relocation	1-2 miles	Transmission line towers/poles may be similar to proposed LTE monopoles with similar effects
		Aliso Canyon Turbine Replacement Project (currently under construction)	1-2 miles	Transmission line towers/poles may be similar to proposed LTE monopoles with similar effects
ONK	2 mi.	Proposed LA-RICS LMR Site ONK located within LTE site boundary. Up to 180-foot lattice tower, equipment shelters, and up to 45-kW generator	Immediately adjacent	Telecommunication tower/pole may be similar to proposed LTE monopoles with similar effects at same site
SDW	0.25 mi.	Proposed LA-RICS LMR Site SDW located within LTE site boundary. Up to 180-foot lattice tower, equipment shelters, and up to 45-kW generator	Immediately adjacent	Telecommunication tower/pole at same site
LASDMVS	0.25 mi.	Proposed LA-RICS LMR site. Collocation on existing tower, equipment shelters, and up to 45-kW generator	Immediately adjacent	Telecommunications tower/pole at same site

Table 4-9: Projects Located Within the Project Impact Zone of Sites Considered in the Proposed Action

Site	Cumulative PIZ	Nearby Proposed Project(s)	Distance to Site (closest point)	Discussion
CHPWVLLY	0.25 mi.	Proposed LA-RICS LMR Site LAFD084 within PIZ. Up to 70-foot monopole, equipment shelters, and up to 45-kW generator	0.2 Miles	Telecommunication tower/pole may be similar to proposed LTE monopoles with similar effects at same site
BLR2DPW	2 mi	Proposed LA-RICS LMR Site BRK within PIZ. Up to 180-foot lattice tower, equipment shelters, and up to 45-kW generator	0.5 mi	Telecommunication tower/pole may be similar to proposed LTE monopoles with similar effects at same site

4.12.2 Cumulative Impact Analysis

This analysis focuses on the six sites, LDWP243, ONK, SDW, LASDMVS, CHPWVLLY, and BLR2DPW that were identified as having nearby proposed projects or projects in construction that could potentially result in cumulative impacts to the resources analyzed in SEA2.

Noise

Additional incremental noise impacts from LTE site construction could create temporary localized noise impacts at sites LDWP243, ONK, and SDW. Construction activities associated with LTE development at sites LDWP243 and ONK could, but most likely would not, overlap with construction activities associated with the Land Mobile Radio (LMR) system project, a separate project that is also proposed by the LA-RICS Authority. However, no sensitive receptors are within 1,000 feet of either of these sites. For Site SDW, residences are located within 75 feet of the site boundary. The Site SDW LTE project is a collocation that would not require drilling and would likely be completed prior to construction of the LMR project at the site. Additionally, measures discussed in Section 4.11 would be implemented; and all construction activities would adhere to local construction noise regulations. Only minor temporary impacts associated with installation of fencing/block wall, trenching for power and/or fiber, and parking the trailer are anticipated from COW construction. Impacts at the COW sites would be far less than those discussed for the non-COW sites. No significant cumulative construction noise impacts at any of these sites are anticipated.

Sites LDWP243, ONK, SDW, and LASDMVS would include LTE and LMR projects at the same site. The main potential noise sources associated with operations at each of the 18 LTE sites would be the noise, best described as a "hum," from some pieces of communications equipment; the occasional use of emergency generators; routine facilities maintenance; and HVAC systems for the equipment cabinets.

Operational noise would be similar under both the LTE and LMR projects at these sites and would not be significant. No significant cumulative operational noise impacts are expected.

Air Quality

The Proposed Action is not growth-inducing and would not result in an economic activity that would exceed the assumptions used in forecasting district-wide emissions, which take into account all proposed activities identified in the jurisdiction of the SCAQMD. Consistent with the SCAQMD methodology for analysis of cumulative impacts, the project would have no significant cumulative impacts to air quality.

Geology and Soils

Development at all proposed sites would comply with federal, state, and Los Angeles County requirements, codes, permit conditions, and BMPs and CMRs applicable at each site. Construction impacts, if any, would be temporary and contained at each LTE site, eliminating the potential for overlap in space and time with the other projects identified. No long-term (operational) impacts were identified. No significant cumulative impacts to soils and geology are anticipated.

Water Resources

Development at all proposed sites would comply with federal, state, and Los Angeles County requirements, codes, permit conditions, and BMPs and CMRs applicable at each site. Construction impacts, if any, would be temporary and contained at each LTE site, eliminating the potential for overlap in space and time with the other projects identified. No long-term (operational) impacts were identified. No significant cumulative impacts to water resources are anticipated.

Biological Resources

The Proposed Action has been designed to avoid significant impact on wetlands, riparian areas, and habitats of significant value. Construction under the Proposed Action would not harm any species protected by the federal ESA, the NPPA, or the CESA or habitat of species protected by these laws. Construction impacts, if any, would be short-term and localized, eliminating the potential for overlap in space and time with the other projects identified. Monopole towers do not offer perching opportunities for bird species considered in SEA2 as having any potential to be affected as a result of the proposed LTE sites, and no other operational impacts are anticipated. No significant impacts on biological resources were identified. Given the above, no significant cumulative impacts would occur to biological resources.

Historic and Cultural Resources

The potential for cumulative impacts on historic properties (i.e., archaeological, architectural, and Native American resources included in or eligible for inclusion in the NRHP) as well as paleontological resources were assessed within the direct and one-half mile indirect (visual) APEs and considered in light of presently identified and reasonably foreseeable projects within the PIZ (see Table 4-9). Of the six LTE project sites identified in the PIZ where cumulative effects might occur, only one proposed LTE site (LDWP243) has been found to have historic properties. PIZ activities at the LDWP243 project location

consist of collocation of additional antennas on the LTE monopole once it is completed and the construction of electrical transmission lines at locations between 1 and 2 miles away. The transmission lines are well beyond the distance that would cause the proposed LTE monopole to produce significant cumulative visual effects on historic properties at the LDWP243 project site and the attachment of additional antennas on the LTE monopole by the LMR project would not directly, indirectly, or cumulatively affect the significance of the resources at this location. Therefore, based on available data and field surveys, construction of the proposed new LTE monopole combined with the two transmission lines would have no significant additive cumulative impacts on historic properties within the LDWP243 direct or indirect APEs.

All other proposed LTE project locations are dispersed over a wide geographic area and have either no associated historic properties or there are no other identified proposed projects that could cumulative affect historic properties within the project site APEs. As a result, cumulative impacts are not anticipated.

There is moderate to high potential for paleontological resources to occur at all of the project sites, except BLR2DPW AND LADPW38. Ground disturbance will require monitoring by a qualified paleontologist and any unidentified paleontological remains that are encountered during project construction will follow CRM CMR 5 to avoid potential cumulative impacts to not significant levels

Aesthetic and Visual Resources

Aesthetic and visual resources were considered within the PIZ for the proposed LTE sites, as previously discussed and shown in Table 4-9. Primary impacts on visual resources would be the tower and or lighting (if required by FAA). No impacts were identified to aesthetic and visual resources at these sites; therefore, no significant cumulative visual impacts on the local viewshed are anticipated as a result of the Proposed Action.

Land Use

At all of the sites, the Proposed Action would not directly involve conflicts with existing land uses and would be substantially consistent with County ALUPs and local general plans, and would not generate a significant cumulative impact when added to the impacts of projects identified in Table 4-9. No significant cumulative impacts to land use are anticipated.

Infrastructure

Adequate capacities of electrical power, solid waste disposal, and potable water have been identified to manage development at each of the sites considered under the Proposed Action. Any incremental increase in demand for electrical power, solid waste, and potable water created by operation of the Proposed Action is expected to be minor when compared to current system capacity and demand, and would not generate a significant cumulative impact when added to the impacts of projects identified in Table 4-9. Therefore, no significant cumulative impacts would be associated with the Proposed Action.

Construction activity on an LTE site would not involve changes to current or future traffic. No significant cumulative traffic impacts would result from the Proposed Action.

Socioeconomic Resources

No disproportionate direct or indirect impacts were identified in the analysis of implementation of the Proposed Action. Therefore, no significant cumulative impact to socioeconomic resources would be expected.

Human Health and Safety

All development is subject to federal and state regulations that govern construction near landfills and gas wells and regulate worker safety on construction sites. All sites would be operated in compliance with FCC regulations regarding public and worker exposures to radio frequency emissions associated with LTE and microwave antennas installed at each site. Confirmatory sampling done at the time the site becomes operational will be completed to ensure that no exceedance of the FCC's maximum permissible exposures would occur at any site. No significant cumulative impact is anticipated.

5.0 FEDERAL AND STATE AGENCY CONSULTATION

This chapter provides a summary of the federal and state agency involvement activities undertaken by NTIA and the Authority to date for the Proposed Action for SEA2 to satisfy regulatory requirements for agency consultation and coordination. This chapter also contains information regarding federal and state agencies that are participating in the NEPA process leading to the development of SEA2. Native American Tribes potentially impacted by the Proposed Action were identified, and consultation was initiated in February 2015.

5.1 Federal Communications Commission

LA-RICS has initiated use of FCC's ASR process by using the FCC's TOWAIR tool to determine whether the proposed LTE antenna structures are close enough to an airport or heliport to require an aeronautical study by FAA and registration with FCC prior to construction or alteration.

As part of compliance with the ASR process, FCC uses the electronic TCNS to notify interested federally recognized tribes and participating SHPOs regarding the proposal. NTIA has completed TCNS for all of the proposed sites in SEA2. In accordance with the Nationwide PAs (FCC 2001, 2004) and the 2009 Program Comment (FR 2009), compliance with Section 106 requires the use of FCC Forms 620 (for non-collocated sites) and 621 (for collocated sites not exempted under the FCC's 2001 Collocation PA) to transmit information regarding any cultural resources identified in the APE for each site to SHPO. Based on its use of the Program Comment, the lead agency for purposes of NHPA is NTIA.

5.2 California State Historic Preservation Office

Section 106 of the NHPA requires NTIA to take into account the effects of proposed undertakings on historic properties. The regulations that implement Section 106 (36 CFR Part 800) require NTIA to consult with the California SHPO and to comply with the statutes, regulations, and PAs listed in Section 3.6.1 of SEA2 and briefly described in Section 3.6.1 of the Final LA-RICS LTE System EA. As part of the compliance process, applicants must also prepare and submit either a request for exemption to NTIA under the 2001 Collocation PA, or request concurrence on a Section 106 submission packet from the SHPO consisting of FCC Form 620 (for non-collocation actions) or FCC Form 621 (for collocation locations that are not exempt). In accordance with this process, Site SDW was exempted by NTIA on February 19, 2015, and sites LDWP243 and ONK were cleared by the SHPO using FCC Form 620 on June 2, 2015.

NTIA entered into a Programmatic Agreement (PA) with the SHPO on October 3, 2014 (see Appendix E), formalizing a phased Section 106 process to facilitate project implementation. The phased process allows 620/621 Submission Packets to be submitted in batches, so that each individual project site that receives SHPO concurrence will be considered approved for construction, rather than having to wait until the 620/621 forms for the entire project are submitted and approved.

5.3 U.S. Fish and Wildlife Service

USFWS responded via the IPaC system letter of March 27, 2015, May 1, 2015, and May 15, 2015, indicating species of concern in the project areas (See Appendix C of the Supplemental BA).

A telephone conversation occurred on March 26, 2015, with Colleen Draguesku and Jesse Bennett, representing USFWS, and Nancy Yang, Anne Lynch, Jim Hoyt, David Charlton, and Bruce Palmer, representing the Authority, to discuss effect determinations for sites ONK, LDWP243, and SDW. Coordination for these sites and the 15 COW sites (BLR2DPW, CHPNWHLL, CHPWVLLY, LADPW38, LASDMVS, SCECART, SCELGNBL, SCELNIDO, SCELONG, SCEMADR, SCEMERC, SCEMESA, SCEMNRV, SCEMRGO, and SCESTUD) are included within the Supplemental BA. The BA included review of all sites included in this SEA2, and included a determination that the project may affect, but is not likely to adversely affect the arroyo toad, California condor, Mojave desert tortoise, and coastal California gnatcatcher. The BA was submitted to USFWS on June 30, 2015. By letter dated August 4 2015, USFWS concurred with this determination; further consultation under Section 7 is not required.

5.4 Native American Consultation

Public outreach efforts have been undertaken to fulfill NHPA Section 106 requirements with federally-recognized Native American Tribes. The outreach included completing research and posting information regarding the proposed LTE sites onto the TCNS in order that federally recognized Tribes would have an opportunity to evaluate the proposed project. For sites LDWP243 and ONK, the NAHC was re-contacted by letter on February 24, 2015; and a search of their Sacred Lands File was requested. The NAHC responded on March 3, 2015, indicating that no identified Native American resources are within the APEs for these project locations. The NAHC also provided a list of additional local Tribes to contact.

On July 6, 2015, the NAHC was contacted to request a search of the Sacred Lands File for the 15 COW sites and a listing of appropriate Tribes to contact for additional information regarding Sacred Lands. Outreach to the NAHC for the COW sites is ongoing.

As part of the FCC Form 620/621 process, Tribes identified by the NAHC were contacted on March 25, 2015, and their input solicited regarding the proposed activities at sites LDWP243 and ONK. Tribal input for the proposed 15 COW sites is ongoing.

Copies of TCNS- and NAHC-related correspondence are included in Appendix C of SEA2.

6.0 ENVIRONMENTAL PERMITS AND REGULATORY REQUIREMENTS

Table 6-1 summarizes applicable federal, state, and local regulatory requirements and permits; the current status of project compliance; and project environmental commitments.

Table 6-1: Federal, State, and Local Regulatory Requirements and Permits

Regulatory/ Permit Requirements	Permitting/ Regulatory Agency	Timing	Status of Project Compliance	Other Commitments/Mitigation Measures
Federal				
NHPA Section 106	California State Historic Preservation Office, State Historic Preservation Officer	Prior to construction	Consultation using FCC Forms 620/621 was completed on June 2, 2015, for sites LDWP243 and ONK. Completion of FCC forms for the 15 COW sites is ongoing. .	CRM CMRs provided in Appendix A-1 would be implemented to eliminate adverse effects to cultural and historic resources. Consultation with the SHPO regarding sites LDWP243 and ONK was completed on June 2, 2015. Consultation regarding the 15 COW sites is ongoing. Construction at proposed project locations will not proceed until SHPO consultation is concluded.
FAA Part 77 Notification	FAA	Prior to construction	Not initiated; post-NEPA	Antenna support structures (e.g., monopole towers) would be constructed to the proposed height or lower per FAA's determination of "no hazard" to air navigation where notification to the FAA is required to ensure that the proposed structures do not represent a hazard to aeronautical navigation.
CERCLA, Federal Superfund Amendments and Reauthorization Act	Environmental Protection Agency	Prior to construction	Not initiated; post-NEPA	Contractor would develop a plan with guidelines to ensure protection of public health and safety, as related to discoveries of subsurface hazardous materials. If contaminated soil is encountered during construction, appropriate notifications and actions with the Local Enforcement Agency would take place.

Table 6-1: Federal, State, and Local Regulatory Requirements and Permits

Regulatory/ Permit Requirements	Permitting/ Regulatory Agency	Timing	Status of Project Compliance	Other Commitments/Mitigation Measures
State				
Porter-Cologne Water Quality Control Act	Los Angeles RWQCB	Prior to and during construction	Not initiated; post-NEPA	Best management practices, as adopted by RWQCB, would be implemented to eliminate potential impacts and preclude permitting requirements.
California Environmental Quality Act (CEQA)	Authority	Prior to Authority's approval of the project	Completed for all sites.	None
Local				
South Coast Air Quality Management District Rule 403	South Coast Air Quality Management District	During Construction	Not initiated; during construction, if required	Rule 403 imposes particulate matter reduction methods on all construction activities. Rule 403 applies to any man-made condition capable of generating fugitive dust.
2012 Air Quality Management Plan for the South Coast Air Basin	South Coast Air Quality Management District	Prior to FONSI	Completed as part of AIR MM 1, applicable to entire LTE project	Basis for short-term (construction) emission thresholds to prevent exceedance of national ambient air quality standards.
MS4 National Pollutant Discharge Elimination System (NPDES) Permit (Water Quality) during approval of building permit	City and County agencies	Prior to and during construction	Not initiated; post-NEPA, if required	Project would satisfy requirements through compliance with federal Clean Water Act Section 402 NPDES permit. Separate permitting may be required for dewatering activities. CMRs have been developed to eliminate impacts (See Appendix A-1).

7.0 AGENCIES AND PERSONS CONSULTED

In accordance with the requirements of NEPA, federal, state, local, and tribal agencies and persons identified as having interest in the Proposed Action were contacted. Interested agencies and persons were provided with information about the Proposed Action and requested to send their comments on potential environmental impacts associated with implementation of the Proposed Action. Table 7-1 provides an overview of the coordination undertaken including names of agencies and persons contacted, reason for contact, and input provided by the agencies and persons for the development of SEA2. All project scoping letters sent to different federal and state resource agencies, cities, and tribal organizations and all responses received are included in Appendix C, Agency Correspondence.

Table 7-1: Agencies and Persons Consulted

Agency/Person Name	Reason for Contact	Information Provided for EA Analysis
Federal Agencies		
Federal Communications Commission	TOWAIR Notification	All 18 sites were reviewed using the TOWAIR notification tool. All 18 sites passed TOWAIR. .
Federal Communications Commission	FCC Part 17 Antenna Structure Registration	Registration would be required for any proposed antenna support structure that receives a "fail" outcome from TOWAIR. This would occur post-FONSI. As noted above, however, all 18 towers passed TOWAIR review.
Federal Aviation Administration	FAA Part 77 Notification	None. FAA notification process in in progress. Compliance with any FAA conditions is mandatory
USFWS	Informal Consultation in accordance with Section 7 of the Endangered Species Act.	A BA was developed by the Authority and submitted to USFWS on June 30, 2015. The findings from the BA are presented in Section 4.6 of SEA2. By letter dated August 4, 2015 USFWS concurred with a determination of may affect, but is not likely to adversely affect arroyo toad, California condor, desert tortoise, and coastal California gnatcatcher. No further Section 7 consultation is required.
State Agencies		
California State Historic Preservation Office, State Historic Preservation Officer	Consultation under Section 106 of the NHPA	Section 106 consultation is underway with SHPO for the 15 COW sites; SHPO review and concurrence completed by letter dated June 20, 2015 for sites LDWP243 and ONK. NTIA determined Site SDW exempt from SHPO review by letter dated February 19, 2015.
California Native American Heritage Commission	Request a search of Sacred Lands Files and a current Native American contact list to facilitate consultation under Section 106 of the NHPA	Information regarding the presence of Native American sacred places in the APE; contact list of Native American tribes, individuals and organizations

Table 7-1: Agencies and Persons Consulted

Agency/Person Name	Reason for Contact	Information Provided for EA Analysis
Federally-recognized Indian Tribes		
Los Coyotes Band of Cahuilla and Cupeno Indians	Consultation under Section 106 of the NHPA via TCNS	The Los Coyotes Band of Cahuilla and Cupeno Indians was notified about the LTE project by the TCNS on February 4, 2015, and contacted by NTIA on February 13, 2015, through direct email. The Tribe was also contacted regarding the 15 COW sites by TCNS on June 24, 2015, and by direct email on July 3. In accordance with Tribal policy, if no response is received from the Los Coyotes Reservation within 30 days after notification through TCNS, the Los Coyotes Band of Indians has no interest in participating in preconstruction review for the proposed sites.
Santa Ynez Band of Chumash Indians	Consultation under Section 106 of the NHPA via TCNS	The Santa Ynez Band of Chumash Indians was notified about the LTE project by the TCNS on February 4, 2015, and contacted by NTIA on February 13, 2015, through direct mailing. The Tribe was also contacted regarding the 15 COW sites by on June 24, 2015, and by direct email on July 3. By reply through TCNS dated February 19, 2015 and July 7 2015, the Tribe has deferred to local tribes for comment.
Soboba Band of Luiseño Indians	Consultation under Section 106 of the NHPA via TCNS	The Soboba Band of Luiseño Indians was notified about the LTE project by the TCNS system on February 4, 2015, regarding LDWP243 and ONK and contacted by NTIA on February 13, 2015, through direct email. The Tribe was also contacted regarding the 15 COW sites by TCNS on June 24, 2015, and by direct email on July 3. The Soboba Tribe requires a $200 tribal review processing fee per project site and additional information, including a project description; maps and photographs of the area; site surveys and site visits may also be requested. The fee and additional information has been provided to the Soboba Tribe and the process is ongoing.

Table 7-1: Agencies and Persons Consulted

Agency/Person Name	Reason for Contact	Information Provided for EA Analysis
Eastern Shoshone Tribe	Consultation under Section 106 of the NHPA via TCNS	The Eastern Shoshone Tribe was notified through TCNS about the LTE project's 15 COW sites on June 24, 2015, and by direct email on July 3. The Eastern Shoshone Tribe requires a $400 tribal review processing fee per consultation and additional information, including maps and photographs of the area. The fee and additional information were provided to the Eastern Shoshone Tribe, which reviewed this information. By letter dated August 6 2015, the Tribe made a finding of no cultural properties, and the consultation process with Tribe was concluded.
Local Agencies		
Los Angeles County	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site ONK	No response received
City of Alhambra	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site SCEMRGO	No response received
City of Cerritos	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site SCECART	No response received
City of Commerce	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site SCELGNBL	No response received
City of Hawthorne	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site SCELNIDO	No response received
City of Long Beach	Solicit input to determine existence of historic properties within city	No response received

Table 7-1: Agencies and Persons Consulted

Agency/Person Name	Reason for Contact	Information Provided for EA Analysis
	limits to facilitate Section 106 compliance for sites SCELONG and SCESTUD	
City of Los Angeles	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site LDWP243	No response received
City of Monrovia	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site SCEMNRV	No response received
City of Monterey Park	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site SCEMESA	No response received
City of San Dimas	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site SDW	No response received
City of Torrance	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site SCEMADR	No response received
City of West Covina	Solicit input to determine existence of historic properties within city limits to facilitate Section 106 compliance for Site SCEMERC	No response received
Other Persons and Entities		
Deputy SHPO, Carol Griffith, Arizona State Parks, Phoenix, AZ	Consultation under Section 106 of the NHPA via TCNS	No response received
Deputy SHPO, William Collins, Arizona State Parks, Phoenix, AZ	Consultation under Section 106 of the NHPA via TCNS	No response received

8.0 LIST OF PREPARERS

David Charlton, Biologist, Jacobs
M.S., Agriculture/Biology, 1980, California Polytechnic University, San Luis Obispo, CA
B.S., Horticulture/Botany, 1974, California Polytechnic University, Pomona, CA
Years of Experience: 26

Phyllis Davis, Transportation Planner, Jacobs
M.S., Geographic Information Systems, 2009, Arizona State University, Phoenix, AZ
B.A., Geography, 2004, Arizona State University, Phoenix, AZ
Years of Experience: 8

Kevin C. Duncan, AICP, Environmental Planner, Jacobs
B.S., Urban Planning, 2002, University of Utah, Salt Lake City, UT
Years of Experience: 13

Jim Hoyt, Environmental Program Manager, Jacobs
B.S., Forestry, 1983, Humboldt State University, Arcata, CA
Years of Experience: 31

Bruce Palmer, Senior Biologist, Jacobs
B.S., Biology, 1977, Elmhurst College, Elmhurst, IL
Years of Experience: 35

Paige Peyton, Subject Matter Expert-Cultural Resources, Jacobs
Ph.D., Research, Archaeology and Ancient History, 2012, University of Leicester, England
M.A., Anthropology, 1990, California State University, San Bernardino
B.A., Anthropology, 1987, California State University, San Bernardino
Years of Experience: 30

Andy Priest, GIS Specialist, Jacobs
B.S., Natural Resource Management, 1994, Colorado State University, Fort Collins, CO
Years of Experience: 20

Linda St. John, Word Processor/Technical Editor, Jacobs
A.A., Liberal Arts, 1984, College of the Desert, Palm Desert, CA
Years of Experience: 9

Robin K. Sterry, Senior Environmental Planner/Project Manager, Jacobs
B.S., Engineering Technology, 1984, Texas A&M University, College Station, TX
Years of Experience: 30

Jason Walsh, Senior CEQA/NEPA Planner, Jacobs
M.S., Environmental Management, 2002, University of San Francisco.
B.A., Science and Management, 1998, Claremont McKenna College.
Years of Experience: 18

Brian Weith, Senior Environmental Project Manager, Jacobs
B.S., Geology, 1985, Colorado State University, Fort Collins, CO
Years of Experience: 29

Vamshi K. Yellisetty, Project Manager/GIS Manager, Jacobs
M.S., Civil Engineering, 2000, Arizona State University, Tempe, AZ
B.E., Civil Engineering, 1996, Osmania University, India
Years of Experience: 17

9.0 REFERENCES

California Department of Conservation (CDOC). 2014. http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx. Accessed January 2014.

Chico, T., et al. 2003. *Final Localized Significance Threshold Methodology*. South Coast Air Quality Management District, Diamond Bar, California. June 2003.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31, 131p.

EBI Consulting. 2015. *Radio Frequency – Electromagnetic Energy (RF-EME) Compliance Report for Site No. LDWP243*. May 2015.

ENVIRON International Corporation (EIC). 2013a. California Emission Estimator Model (CalEEMod)®, Version 2013.2 User's Guide. Prepared for the California Air Pollution Control Association. July 2013.

ENVIRON International Corporation (EIC). 2013b. California Emission Estimator Model (CalEEMod)®, Version 2013.2 User's Guide, Appendix D, Version 2013.2.1. Prepared for the California Air Pollution Control Association. July 2013.

Federal Communications Commission (FCC). 1997. Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, *FCC Bulletin* 65.

Federal Communications Commission (FCC). 2001. *Nationwide Programmatic Agreement for the Collocation of Wireless Antennas*.

Federal Communications Commission (FCC). 2004. *Nationwide Programmatic Agreement for Review of Effects on Historic Properties for Certain Undertakings Approved by the FCC.*

Frenkel, R. E. 1970. *Ruderal Vegetation Along Some California Roadsides*. University of California Press, Berkeley, CA.

Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California, The Resources Agency, Nongame Heritage Program, California Department of Fish and Wildlife, Sacramento, CA.

Mayer, K. E. and Laudenslayer, W. F. 1988. *A Guide to Wildlife Habitats of California*. State of California, Resources Agency, DFG, Sacramento, CA.

McKinney, M. 2002. Urbanization, Biodiversity, and Conservation. *BioScience*. 52 (10): 883-890.

Motorola Solutions. 2015. *RF Emissions Modeling and Safety Report for Site No. ONK*. July 2015.

_____. 2015. *RF Emissions Modeling and Safety Report for Site No. SDW*. July 2015.

National Archives and Records Administration, Office of the Federal Register (FR). 2009. *Notice of Program Comment for the Rural Utilities Service, the National Telecommunications and Information Administration, and the Federal Emergency Management Agency To Avoid Duplicative Section 106 Reviews for Wireless Communication Facilities Construction and Modification* (74 FR 60280). Federal Register Vol. 74, No. 223. November 20, 2009.

National Telecommunications and Information Administration (NTIA). 2014. Broadband Technology Opportunities Program (BTOP) Final Environmental Assessment, Los Angeles Regional Interoperable Communications System (LA-RICS) Project

National Telecommunications and Information Administration (NTIA). 2015. *Broadband Technology Opportunities Program (BTOP), Final Supplemental Environmental Assessment for Nine New or Modified Long-Term Evolution (LTE) Sites, Los Angeles Regional Interoperable Communications System (LA-RICS) LTE Project*. July 2015

Richard Tell Associates, Inc. 2015. *Radiofrequency Emissions Analysis Report for an LA-RICS Cell on Wheels (COW)*. July 2015.

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

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2015. Soil Survey Staff, Official Soil Series Descriptions. Available online. Accessed January 2015. USDA Natural Resources Conservation Service. https://soilseries.sc.egov.usda.gov/osdname.asp

United States Department of Commerce (USDOC). 2010. *Environmental Assessment Guidance for BTOP Award Recipients, Version 1.4*. National Telecommunications and Information Administration. Washington, DC. August 2010. U.S Department of Transportation, Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06. May 2006.

United States Department of Transportation, Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06. May 2006.

United States Environmental Protection Agency (USEPA). 1999. *Consideration of Cumulative Impacts in EPA Review of NEPA Documents.*

United States Environmental Protection Agency (USEPA). 2014. Western Ecology Division website: http://www.epa.gov/wed/pages/ecoregions/level_iii_iv.htm. Accessed January 2014.

United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI). 2015. Available online. http://www.fws.gov/wetlands/.

Walker, L. R. 2011. *The Biology of Disturbed Habitats* (Biology of Habitats Series). Oxford University Press, Oxford, United Kingdom.