


RECLAMATION

Managing Water in the West

Categorical Exclusion Checklist

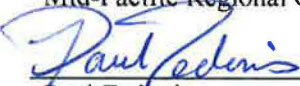
State of California's Site Rehabilitation Project – Hoadley Peaks Repeater Site – Central Valley Project


NCAO-CEC-17-03

Prepared by:  Date: 11/7/2016
Irene Hobbs
Realty Specialist
Northern California Area Office (Willows)

Concurrence by: Attachment 2 Date: October 17, 2016
Megan Simon
Northern California Area Office Designee for
Tribal Trust Assets

Concurrence by: Attachment 3 Date: January 21, 2014
William Soule
Archaeologist
Mid-Pacific Regional Office

Concurrence by:  Date: 11/8/2016
Paul Zedonis
Environmental and Natural Resources
Division Manager Northern California Area
Office

Approved by:  Date: 11/8/2016
Don Bader
Area Manager
Northern California Area Office



U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region

November 2016

Proposed Action

Reclamation personnel conducted a review of the Hoadley Peaks radio repeater site (Site; Figure 1) and identified facilities that require rehabilitation to contemporary standards: specifically those to maintain emergency communications in storms and earthquakes. Reclamation will issue a new 25-year license agreement that will authorize the California Department of Transportation (DOT/CalTrans) to complete a modernization project at the Site. The modernization project will consist of: construction of a new, 140-foot (ft), self-supporting lattice communications tower; installation of a new communications vault and a generator vault with emergency generator and associated building pads; removal of the existing towers, vaults, and fuel tanks, and; supporting infrastructure improvements including earthwork and grading, and extension of underground utilities and security fencing (Figure 2). In addition, up to 20 trees on adjacent land to the northwest and southeast of the improvement area, owned by the US Bureau of Land Management, will be trimmed or removed in order to maintain microwave antenna “Line of Sight” requirements (Figure 3).

In addition to the construction activities, the license agreement will also authorize CalTrans’s continued operations and maintenance activities at the Site. Reclamation will also issue a new agreement with the United States Geological Survey (USGS) to allow for their continued housing of a radio telemetry facility at the Site. The radio telemetry facility is used to monitor regional earthquake activity around Shasta, Trinity, and Whiskeytown Dams.

The Site is located in the Trinity Mountain Range, approximately five miles north of the junction of Hoadley Peaks Road and Highway (Hwy) 299 and 25 miles west of Redding (via Hwy 299), in Section 27, Township 3 North, Range 8 West, Mount Diablo Baseline and Meridian, Trinity and Shasta Counties, CA. The site elevation is about 4,490 ft (Figure 1).

Reclamation acquired the land on which the Site was constructed in conjunction with the construction of the Trinity River Unit of the Central Valley Project and constructed the first radio repeater on the Site in 1957. Caltrans, then the California Division of Highways, built their first iteration of the existing facilities in 1970, under a license agreement with Reclamation, and additional facilities in 1973 and 1982. In addition to Caltrans and the USGS, the Site serves state agencies, including the California Highway Patrol (CHP) and California Department of Forestry and Fire Protection (CAL Fire). The CalTrans Maintenance Office of Radio Communications (MORC) is responsible for the safety operation of the Site and for its compliance with Reclamation’s associated requirements.

The existing Hoadley Peaks radio repeater facility consists of a fenced complex containing three small utilitarian buildings (two radio vaults and one generator vault), four steel lattice towers, and three propane tanks. The majority of the Site within the fenced area has been modified from the installation of the existing infrastructure consisting of radio tower facilities and storage facilities. Several concrete pads and structures cover the majority of the ground. The central area of the Project site is characterized by gravel and dirt fill material. The area surrounding the perimeter of the facilities, just inside the fence, is characterized by dirt with scattered bunches of grasses and low lying vegetation. A concrete block building with a flat roof and an approximately 60-ft steel lattice tower are located in the center of the Site. A vertical-paneled

steel vault with a flat roof and an approximately 30-ft, three-legged steel lattice tower are located in the northwestern corner of the Site. A rectangular vertical paneled steel vault is located in the northern portion of the Site. A 60-ft steel lattice tower, owned by the United States Forest Service, is located in the southern portion of the Site. A 40-ft steel lattice tower is located in the western portion of the Site. A short black steel pole structure is located in the eastern portion of the Site. Three propane tanks are located in southeastern portion of the Site, which is surrounded by a 6-ft high chain link fence. Demolition would include all existing towers, fittings, and associated structures and would occur after the new facilities are constructed and operational.

The surrounding area consists predominantly of Douglas fir and Ponderosa pine forest.

CalTrans's modernized Site will be constructed and operated in conformance with the Department of Interior's (DOI) Radio Communications Site Standards dated December 11, 2009, Office of the Chief Information Officer (OCIO) Directive 2010-18 and DOI Radio Communications Site Standards Policy Amendment 1. Other radio communications systems sites standards and guidelines that will be employed include those of the Occupational Safety and Health Administration (OSHA), US Environmental Protection Agency (EPA), Motorola R56 Committee, Electronics Industries Alliance/Telecommunications Industry Association (EIA/TIA), American National Standards Institute (ANSI), National Fire Prevention Association (NFPA) and the Federal Communications Commission's (FCC) Office of Engineering and Technology. Reclamation personnel have reviewed the DOT's construction plans and specifications, which were designed in accordance with the aforementioned standards and guidelines.

Exclusion Categories

Bureau of Reclamation Categorical Exclusion – 516 DM 14.5, D(10): Issuance of permits, licenses, easements and crossing agreements which provide right-of-way over Bureau of Reclamation lands where the action does not allow or lead to larger public or private action.

Extraordinary Circumstances

Below is an evaluation of the extraordinary circumstances as required in 43 CFR 46.215.

1. This action would have a significant effect on the quality of the human environment (40 CFR 1502.3). No ☒ Uncertain ☐ Yes ☐
2. This action would have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA Section 102(2)(E) and 43 CFR 46.215(c)). No ☒ Uncertain ☐ Yes ☐
3. This action would have significant impacts on public health or safety (43 CFR 46.215(a)). No ☒ Uncertain ☐ Yes ☐

- | | |
|---|--|
| 4. This action would have significant impacts on such natural resources and unique geographical characteristics as historic or cultural resources; parks, recreation, and refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (EO 11990); flood plains (EO 11988); national monuments; migratory birds; and other ecologically significant or critical areas (43 CFR 46.215 (b)). | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |
| 5. This action would have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks (43 CFR 46.215(d)). | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |
| 6. This action would establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects (43 CFR 46.215 (e)). | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |
| 7. This action would have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects (43 CFR 46.215 (f)). | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |
| 8. This action would have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by Reclamation (LND 02-01; and 43 CFR 46.215 (g)). | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |
| 9. This action would have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated critical habitat for these species (43 CFR 46.215 (h)). | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |
| 10. This action would violate a Federal, Tribal, State, or local law or requirement imposed for protection of the environment (43 CFR 46.215 (i)). | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |
| 11. This action would affect ITAs (512 DM 2, Policy Memorandum dated December 15, 1993). | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |
| 12. This action would have a disproportionately high and adverse effect on low income or minority populations (EO 12898; and 43 CFR 46.215 (j)). | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |
| 13. This action would limit access to, and ceremonial use of, Indian sacred sites on Federal lands by Indian religious | No <input checked="" type="checkbox"/> Uncertain <input type="checkbox"/> Yes <input type="checkbox"/> |

practitioners or significantly adversely affect the physical integrity of such sacred sites (EO 13007; 43 CFR 46.215 (k); and 512 DM 3).

14. This action would contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act; EO 13112; and 43 CFR 46.215 (l)).
- No ☒ Uncertain ☐ Yes ☐

Regional Archeologist concurred with Item 8 (email attached).

ITA Designee concurred with Item 11 (email attached).

NEPA Action Recommended

☒ CEC – This action is covered by the exclusion category and no extraordinary circumstances exist. The action is excluded from further documentation in an EA or EIS.

☐ Further environmental review is required, and the following document should be prepared.

☐ EA

☐ EIS

Environmental commitments, explanations, and/or remarks:

With the notable exception of the trees to be removed to meet the Line-of-Sight requirements, project activities will be entirely enclosed within an existing developed communications facility and dirt access road, with limited potential for the presence of any special-status species or habitat. The forested lands immediately adjacent to the Site provide potentially suitable habitat for a variety of birds and mammals, including but not limited to the Northern Spotted Owl (NSO), a species listed as Threatened under the Federal Endangered Species Act (ESA). There are no surface waters or drainages that could impact surface waters on site. With the exception of the California red-legged frog, the NSO is the only non-aquatic ESA-listed species reported by the US Fish and Wildlife Service (Service) as having the potential to inhabit the project vicinity, according to Reclamation's query of the Service's Information for Planning and Conservation (IPaC) website. The California red-legged frog has no designated Critical Habitat in the project area. Reclamation's query of the Biographic Information and Observation System (BIOS) mapping complement to the California Natural Diversity Database (CNDDB), maintained by the California Department of Fish and Wildlife (CDFW), indicates that reported occurrences of special status species in the project vicinity are limited to those of the state-listed West Coast fisher, Townsend's big-eared bat and bald eagle.

CalTrans completed a Final Initial Study (IS)/Mitigated Negative Declaration (MND) under the California Environmental Quality Act (CEQA) for the project in February 2016. In conjunction with the CEQA review, Caltrans's consultant submitted correspondence to the Service's Yreka

Office, in March of 2015, requesting technical assistance on the project's potential to affect the NSO. The Service's Yreka Office responded that the project is not within 2012 designated NSO Critical Habitat. Although this determination appears to conflict with the Service's maps referenced by Reclamation during its environmental review, the letter states that the ridge on which the Site is constructed is "low-quality foraging or dispersal habitat" and "not appear(ing) to be the multi-structured, complex forests that are associated with nesting NSO". In addition, the Service's response, included as Attachment 3, indicates that a survey of the area completed by Sierra Pacific Industries identified the nearest NSO home range nest as located 0.75 miles from the Site. The Service concurred with the proponent's determination that the project "may affect, but is not likely to adversely affect the NSO" and concluded that "the application of limited operating periods for the life of the Project is not necessary," noting that the tree removal would not change the function of the "low-quality habitat" that is "not strongly associated with NSO nesting".

As part of its environmental review, Reclamation contacted the Service's Arcata Office to confirm its concurrence with the Not Likely to Adversely Affect determination on the NSO. This confirmation was received by John Hunter of the Service's Arcata Office in a telephone conversation with Megan Simon of Reclamation's NCAO on October 19, 2016. Reclamation also requested information on the potential for impacts to migratory birds from communications tower construction and operation. Mr. Hunter provided Reclamation with the Service's *2013 Revised Voluntary Guidelines for Communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning* for reference, as well as an additional document with suggestions for revisions from a FWS specialist. According to the Service's 2013 guidance document, the proposed tower meets the Service's "gold standard" for design due to the proposed height under 200 ft and lack of guywires and lighting components that are often associated with large-scale strike losses of migratory birds. Other applicable commitments recommended by the guidance document that will be incorporated into Reclamation's license agreement with Caltrans include items 11-13 of the amended guidance, included as Attachment 4.

In addition, according to Caltran's IS/MND, the modernization project will be completed in conformance with the following environmental commitments, as established in the Mitigation Monitoring and Reporting Program therein:

- To minimize ground disturbance, no large machinery would be used for the tree trimming and/or removal.
- The construction contractor shall implement all feasible Standard Mitigation Measures for South Coast Air Quality Management District and North Coast Unified Air Quality Management District (NCUAQMD), including but not limited to adhering to fugitive dust control, erosion control and construction emissions reduction practices.
- In order to minimize the potential for effects to protected or sensitive species, a qualified biologist will:
 - Complete a biological survey to identify protected species and associated suitable wildlife habitat within the Site no more than 7 days prior to the onset of construction activities and tree trimming and/or removal, if conducted in the nesting season (February 1 - August 1). (Construction activities are anticipated to occur during some portion of the nesting season due to the high potential for

inclement weather outside of the nesting season at the Site's elevation that could prohibit transportation to and from the remote location in addition to complicating construction activities at the Site.)

- Establish "no disturbance" buffers and monitor any identified nests and avian species during construction activities, if construction activities will overlap the nesting season. The radius of protective buffers would be specific to the species and will be determined at the time of the survey(s), as they will differ between species. Species protective buffers will be determined in consultation with CDFW and/or USFW where appropriate. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing the change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures.
- Conduct pre-dawn and dusk special status bat emergence surveys and daytime visual inspection of potential bat roosting habitat. A 100-ft "no-disturbance" buffer will be established around roost sites to avoid effects from clearing and grubbing, operation of combustion equipment operation and light interference.
- Inspect, with portable camera probes, any hardwood or conifer trees greater than feet in diameter selected for removal for potential dens (cavities, entrance holes) suitable for Pacific fisher. Occupied dens shall be flagged and a minimum 300 ft avoidance area established. CDFW will be consulted on any intended passive removal of an individual, as may be necessary outside of kit-rearing season.
- Complete rare plant surveys during the blooming period of the state-listed Northern clarkia and establish avoidance areas, and/or mitigation measures, as appropriate.
- Site personnel shall complete Worker Awareness Training in order to be educated on protected biological resources that have, or may be, discovered at the site.
- Although such an encounter is unanticipated, a qualified professional archeologist, and Native American monitor, as appropriate, shall examine any potential cultural resource discovered during Site improvement activities and proceed with the establishment of avoidance zones and test excavations and consultation processes, as appropriate.

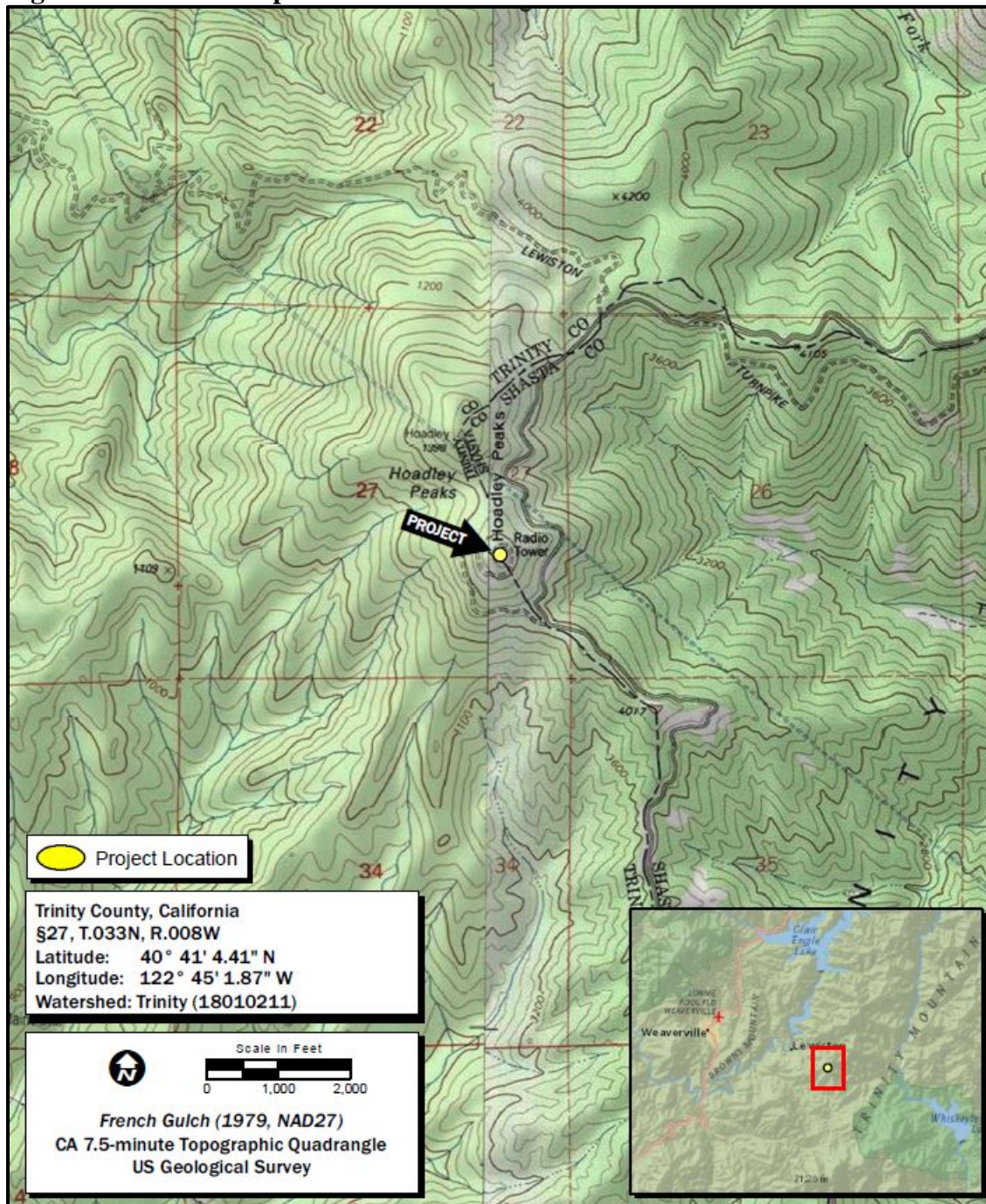
A computer-generated viewshed analysis determined that the new tower would not create a focal point in the viewshed from key viewpoints.

The following permits and approvals will be obtained, and notifications made, as appropriate, for project activities:

- Conformance with General Construction Stormwater Permit, including preparation of a Water Pollution Control Program
- Air permit (generator) and Authority to Construct Permit from NCUAQMD and the Shasta County Air Quality Management District (SCAQMD)
- FCC license for radio transmitters
- Notification to State Fire Marshall, State Architect for essential services, fire suppression and code compliance review

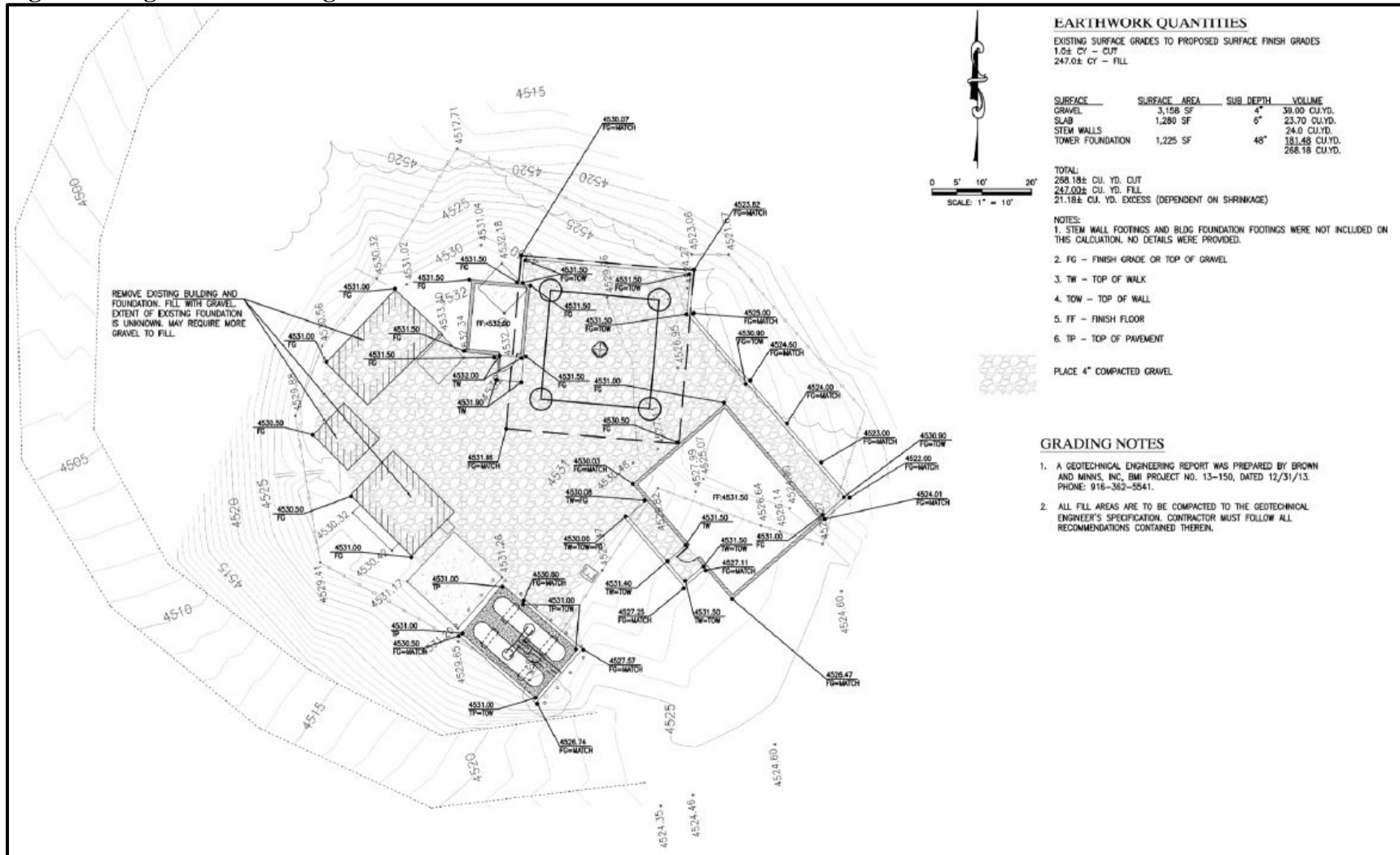
Cost Authority Number to review this request is: XXXR0680R1RR.17529652.2300181

Figure 1. Location Map



Soure: Caltrans February 2016 Mitigated Neg Dec

Figure 2. Engineer's Drawing



Soure: Caltrans February 2016 Mitigated Neg Dec

Figure 3. Timber Plan



Soure: Caltrans February 2016 Mitigated Neg Dec

Figure 4. Representative Site Photographs



Photo 1. Overview of Project area and structures, view north



Photo 2. Overview of propane tanks, view northeast



Photo 3. Two wireless communication buildings, view west



Photo 4. Overview of propane tanks and wireless transmitter, view east

Soure: Caltrans February 2016 Mitigated Neg Dec

Figure 4, Cont.



Photo 5 – Overview of previously used space, view southwest



Photo 6 – Overview of east slope of Project area, view east



Photo 7 – Central area of Project site (graded), view north



Photo 8 – Lattice towers and buildings overview, view west

Soure: Caltrans February 2016 Mitigated Neg Dec

Attachment 1: Indian Trust Asset Review



Simon, Megan <msimon@usbr.gov>

ITA Review - Hoadley Peak Radio Repeater Tower Site

Simon, Megan <msimon@usbr.gov>
To: "Zedonis, Paul" <pzedonis@usbr.gov>

Mon, Oct 17, 2016 at 5:09 PM

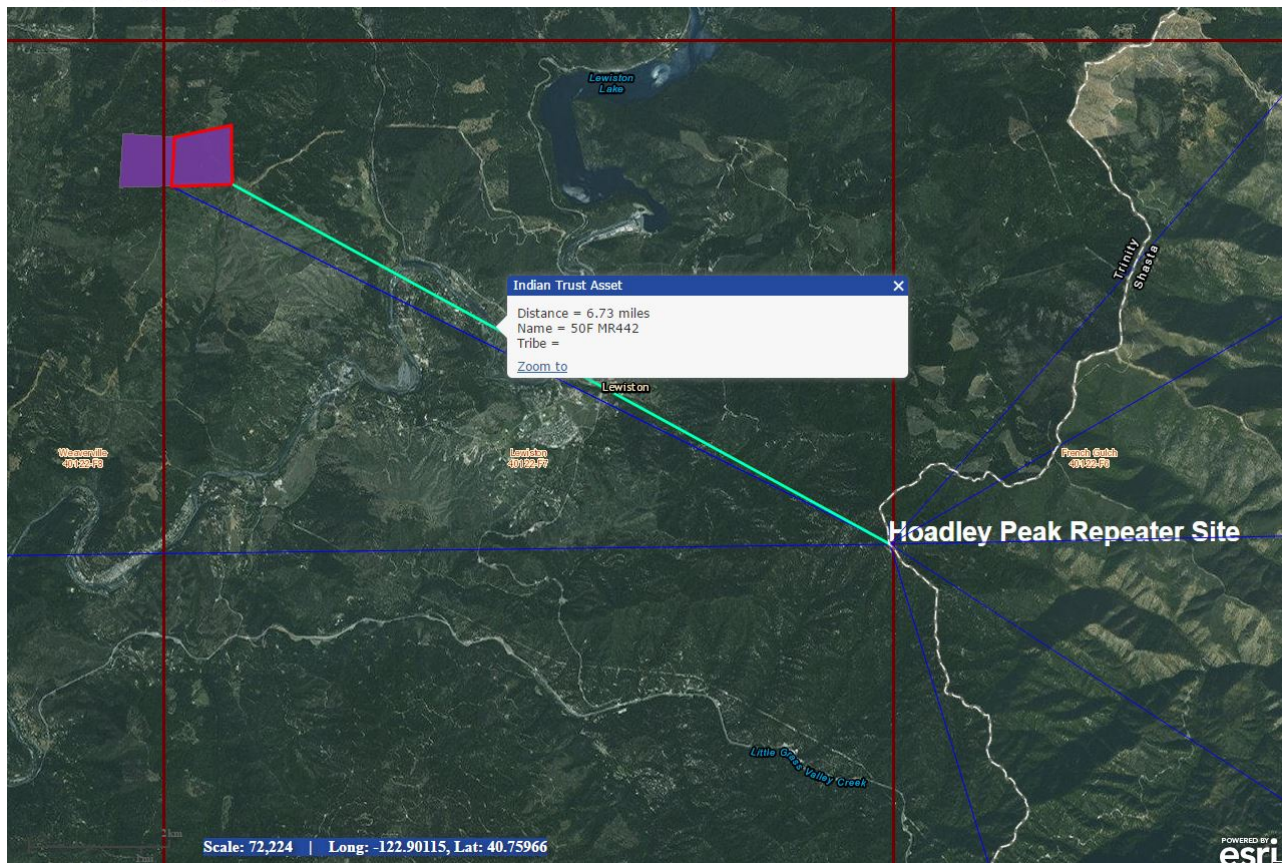
I have examined the referenced proposal and have determined that the facility is at least 6.5 miles from the closest Indian Trust Asset.

I have determined that there is no likelihood that this action will adversely impact Indian Trust Assets.

—

Megan K. Simon

Natural Resources Specialist
U.S. Bureau of Reclamation
Northern California Area Office
16349 Shasta Dam Blvd.
Shasta Lake, CA 96019
(530) 276-2045
msimon@usbr.gov



Attachment 2. Cultural Resources Review

**CULTURAL RESOURCE COMPLIANCE
Reclamation Division of Environmental Affairs
MP-153**

MP-153 Tracking Number: 13-NCAO-221

Project Name: Hoadley Peak Repeater Facility Upgrade Project

NEPA Document: NCAO-CEC-13-30

NEPA Contact: Paul Zedonis, Natural Resource Specialist, NCAO

MP 153 Cultural Resources Reviewer: William Soule, Archaeologist

Date: 01/21/2014

Reclamation proposes to grant permission to the California Department of General Services (CDGS) to construct upgrades to the Hoadley Peak Repeater Facility in Shasta and Trinity counties, California. This Federal action constitutes an undertaking pursuant to Section 301(7) of the NHPA (16 USC 470) as amended, and as such requires compliance with Section 106 of the NHPA. This undertaking was determined to be the type of action that could cause effects to historic properties pursuant to 36 CFR Part 800.3 of the National Historic Preservation Act (NHPA).

The proposed project consists of initial project site soil testing and subsequent upgrades to the existing communications towers and vaults at the Hoadley Peak facility. These upgrades will involve the demolition and removal of a steel pole tower and related facilities and the construction of a new 140-foot-tall tower including a new communication vault, a new generator vault with emergency generator, and other minor support infrastructure. The area of potential effects (APE) totals approximately 0.25 acre which spans the Trinity County/Shasta County boundary and is located approximately three miles east of Lewiston and six miles west of French Gulch. The APE is located within the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 27, T. 33 N., R. 8 W. Mount Diablo Baseline and Meridian, as depicted on the French Gulch, California 7.5' U.S. Geological Survey quadrangle map (1979).

In an effort to identify historic properties in the APE, ECORP Consulting, Inc., conducted a records search with the Northeast Information Center of the California Historical Resources Information System, literature and additional archival research, a pedestrian survey of the project APE, recordation of all identified cultural resources within the APE, and an evaluation of National Register of Historic Places (National Register) eligibility for those cultural resources. Pursuant to the regulations at 36 CFR § 800.3(f)(2) Reclamation identified the Redding Rancheria, the Round Valley Indian Tribes of the Round Valley Rancheria, and the Pit River Tribe of California as federally recognized tribes potentially attaching religious and cultural significance to historic properties in the APE. Reclamation sent letters to these tribes, pursuant

CULTURAL RESOURCE COMPLIANCE
Reclamation Division of Environmental Affairs
MP-153

to 36 CFR § 800.4(a)(4), inviting their participation in the Section 106 process and requesting their assistance in identifying cultural resources eligible for the National Register, sites of religious and cultural significance, and sites of a sacred nature pursuant to Executive Order 13007. Reclamation also identified the Nor-Rel-Muk Nation, the Shasta Nation, the Winnemem Wintu Tribe, and the Wintu Tribe of Northern California as Indian tribes and organizations that may have knowledge or concerns regarding historic properties in the APE. Pursuant to 36 CFR § 800.4(a)(3), Reclamation sent letters to these tribes and organizations requesting their assistance in the identification of sites which may be eligible for listing on the National Register. No responses have been received to date.

Reclamation sent a letter to the California State Historic Preservation Officer (SHPO) on December 18, 2013, inviting the SHPO's comments on our delineation of an APE and the appropriateness of our identification efforts, and requesting concurrence with our determination that the Hoadley Peak Repeater Facility (Hoad-001) was not eligible for inclusion on the National Register of Historic Places and with our finding of no historic properties affected. The SHPO responded in a letter dated January 13, 2014, concurring with this finding.

After reviewing NCAO-CEC-13-30, I concur with item 8 which states that this action would not have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by Reclamation. This memo is intended to document the conclusion of the Section 106 process for this undertaking. Please retain a copy in the administrative record for this action. Should changes be made to this action, additional NHPA Section 106 review, possibly including additional consultation with the SHPO, may be necessary. Thank you for providing the opportunity to comment.

CC: Cultural Resources Branch (MP-153), Anastasia Leigh – Regional Environmental Officer (MP-150)

Attachment 3. Fish and Wildlife Service Informal Consultation Letter



In Reply Refer To:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Yreka Fish and Wildlife Office

1829 South Oregon Street

Yreka, California 96097

Tel: (530) 842-5763 FAX: (530) 842-4517



08EYRE00-2015-TA-0015

April 3, 2015

Ms. Tamara Gallentine
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, California 96057

Subject: Technical Assistance for the Hoadley Peak Project

Dear Ms. Gallentine:

This is in response to your request for U. S. Fish and Wildlife Service (Service) technical assistance, dated and received in this office on March 3, 2015. Your office provided preliminary information in 2014. Supplemental information was provided by you on March 24, 2015. Your request pertains to potential impacts to the Northern spotted owl (*Strix occidentalis caurina*) (NSO) as a result of operations associated with the installation of a communications tower. The Project is not located within 2012 NSO designated critical habitat.

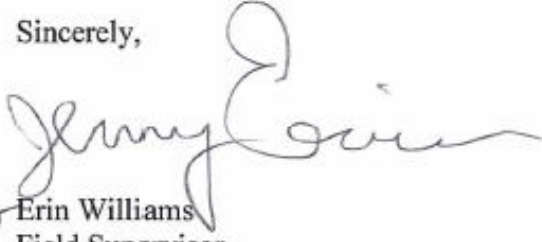
The proposed Project (Project) consists of the clearing of up to 20 trees ranging in size from approximately 10 to 20 inches diameter at breast height (dbh) for line of sight purposes, along with the construction of the tower itself. The Project site is located on Hoadley Peak, east of the community of Lewiston, in Trinity County, California (T27N R08W, Section 27). It appears from our review of Google Earth© imagery that roads accessing the Project site are located along the major ridge systems. The Project site has been previously disturbed (the tower location itself has been cleared and contains some equipment and small structures) along the major ridge line that divides Trinity and Shasta Counties, at approximately 4,300 feet in elevation. Habitat on this ridge and within 0.25 mile surrounding the site would be considered low quality foraging or dispersal habitat. It does not appear to be the multi-structured, complex forests that are associated with nesting NSO. This entire area has been surveyed by Sierra Pacific Industries (SPI). The Project does occur within one known NSO home range (TRI0289). A survey summary from 2014 was provided by SPI personnel on April 28, 2014, and supplemented on March 25, 2015. TRI0289 occurs approximately 0.75 mile from the Project location.

After reviewing the Google Earth© imagery and verifying known NSO locations, the Service concurs with your preliminary assessment that the Hoadley Peak Project may affect, but is not

likely to adversely affect the NSO due to the following factors: 1) The Project and associated roads are located along major ridges, in topographic positions that are not strongly associated with nesting NSO; 2) the habitat potentially affected appears to be low in quality; and 3) the potential removal of up to 20 trees no greater than 20 inches dbh would not change the function of the existing habitat. Because of these factors, the application of limited operating periods for the life of the Project is not necessary.

If you have questions please contact Jan Johnson, Fish and Wildlife Biologist, at 530-841-3102 or jan_johnson@fws.gov. Thank you for your interest in furthering the conservation of NSO.

Sincerely,


Acting Erin Williams
Field Supervisor

Attachment 4. Service's Tower Guidance and Related Recommendations

Suggestions Based on Previous USFWS Recommendations to FCC Regarding WT Docket No. 03-187, FCC 06-164, Notice of Proposed Rulemaking, "Effects of Communication Towers on Migratory Birds" (2007), Docket No. 08-61, FCC's Antenna Structure Registration Program (2011), Service 2012 Wind Energy Guidelines, and Service 2013 Eagle Conservation Plan Guidance

Submitted by:

Albert M. Manville, II, Ph.D., C.W.B.
Senior Wildlife Biologist & Avian-Structural Lead
Division of Migratory Bird Management, U.S. Fish & Wildlife Service
4401 N. Fairfax Dr. -- MBSP-4107
Arlington, VA 22203
703/358-1963, albert_manville@fws.gov

Last updated: September 27, 2013

[Comm Tower 2013 Revised Guidance-to FCC-AMM.docx]

1. Collocation of the communications equipment on an existing communication tower or other structure (e.g., billboard, water and transmission tower, distribution pole, or building mount) is strongly recommended. Depending on tower load factors and communication needs, from 6 to 10 providers should collocate on an existing tower or structure provided that frequencies do not overlap/"bleed" or where frequency length or broadcast distance requires higher towers. New towers should be designed structurally and electronically to accommodate the applicant's antenna, and antennas of at least 2 additional users – ideally 6 to 10 additional users, if possible – unless the design would require the addition of lights and/or guy wires to an otherwise unlit and/or unguyed tower. This recommendation is intended to reduce the number of towers needed in the future.

2. If collocation is not feasible and a new tower or towers are to be constructed, it is strongly recommended that the new tower(s) should be not more than 199 feet above ground level (AGL), and that construction techniques should not require guy wires. Such towers should be unlighted if Federal Aviation Administration (FAA) regulations and lighting standards (FAA 2007, Patterson 2012, FAA 2013 lighting circular anticipated update) permit. Additionally, the Federal Communications Commission (FCC) through recent rulemaking now requires that new towers \geq 450 ft AGL contain no red-steady lights. FCC also recommends that new towers 350–450 ft AGL also contain no red-steady lights, and they will eventually recommend that new towers $<$ 350 ft AGL convert non-flashing lights to flash with existing flashing lights. LED lights are being suggested as replacements for all new construction and for retrofits, with the intent of future synchronizing the flashes. Given these dynamics, the Service recommends using lattice tower or monopole structures for all towers $<$ 200 ft AGL and for taller towers where feasible. The Service considers the less than 200 ft AGL option the "gold standard" and suggests that this

is the environmentally preferred industry standard for tower placement, construction and operation – i.e., towers that are unlit, unguyed, monopole or lattice, and less than 200 ft AGL.

3. If constructing multiple towers, the cumulative impacts of all the towers to migratory birds – especially to Birds of Conservation Concern (FWS 2008) and threatened and endangered species, as well as the impacts of each individual tower, should be considered during the development of a project.

4. The topography of the proposed tower site and surrounding habitat should be clearly noted, especially in regard to surrounding hills, mountains, mountain passes, ridge lines, rivers, lakes, wetlands, and other habitat types used by raptors, Birds of Conservation Concern, and state and federally listed species, and other birds of concern. Active raptor nests, especially those of Bald and Golden Eagles, should be noted, including known or suspected distances from proposed tower sites to nest locations. Nest site locations for Golden Eagles may vary between years, and unoccupied, inactive nests and nest sites may be re-occupied over multiple years. The Service's 2013 Eagle Conservation Plan Guidance, Module 1, Land-based Wind Energy, Version 2, available on our website, is a useful document (USFWS 2013).

5. If at all possible, new towers should be sited within existing "antenna farms" (i.e., clusters of towers), in degraded areas (e.g., strip mines or other heavily industrialized areas), in commercial agricultural lands, in Superfund sites, or other areas where bird habitat is poor or marginal. Towers should not be sited in or near wetlands, other known bird concentration areas (e.g., state of federal refuges, staging areas, rookeries, and Important Bird Areas), in known migratory, daily movement flyways, areas of breeding concentration, in habitat of threatened or endangered species, or key habitats for Birds of Conservation Concern (FWS 2008). Disturbance can result in effects to bird populations which may cumulatively affect their survival. The Service has recommended some disturbance-free buffers, e.g., 0.5 mi around raptor nests during the nesting season, and 1-mi disturbance free buffers for Ferruginous Hawks and Bald Eagles during nesting season in Wyoming (FWS WY Ecological Services Field Office, referenced in Manville 2007:23). The effects of towers on "prairie grouse," "sage grouse," and grassland and shrub-steppe bird species should also be considered since tall structures have been shown to result in abandonment of nest site areas and leks, especially for "prairie grouse" (Manville 2004). The issue of buffers is currently under review, especially for Bald and Golden Eagles. Additionally, towers should not be sited in areas with a high incidence of fog, mist, and low cloud ceilings.

6. If taller (> 199 ft AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white strobe or red strobe lights (red preferable since it is generally less displeasing to the human eye at night), or red flashing incandescent lights should be used at night, and these should be the minimum number, minimum intensity (< 2,000 candela), and minimum number of flashes per minute (i.e., longest duration between flashes/"dark phase") allowable by the FAA. The use of solid (non-flashing) warning lights at night should be avoided (Patterson 2012, Gehring et al. 2009) – see recommendation #2 above. Current research indicates that solid red lights attract night-migrating birds at a much higher rate than flashing lights (Gehring et al. 2009, Manville 2007, 2009). Recent research

indicates that use of white strobe, red strobe, or red flashing lights alone provides significant reductions in bird fatalities (Patterson 2012, Gehring et al. 2009).

7. Tower designs using guy wires for support, which are proposed to be located in known raptor or waterbird concentrations areas, daily movement routes, major diurnal migratory bird movement routes, staging areas, or stopover sites, should have daytime visual markers or bird deterrent devices installed on the wires to prevent collisions by these diurnally moving species. The efficacy of bird deterrents on guy wires to alert night migrating species has yet to be scientifically validated. For guidance on markers, see Avian Power Line Interaction Committee (APLIC). 2006. *Suggested Practices for Avian Protection on Power Lines -- State of the Art in 2006*. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, DC, and Sacramento, CA. 207 pp, and APLIC. 2012. *Reducing Avian Collisions with Power Lines -- the State of the Art in 2012*. Edison Electric Institute and APLIC. Washington, DC. 159 pp. Also see www.aplic.org, www.energy.ca.gov, or call 202-508-5000.

8. Towers and appendant facilities should be designed, sited, and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint." However, a larger tower footprint is preferable to the use of guy wires in construction. Several shorter, un-guyed towers are preferable to one, tall guyed, lighted tower. Road access and fencing should be minimized to reduce or prevent habitat fragmentation, disturbance, and the creation of barriers, and to reduce above ground obstacles to birds in flight.

9. If, prior to tower design, siting and construction, if it has been determined that a significant number of breeding, feeding and roosting birds, especially of Birds of Conservation Concern (FWS 2008), state or federally-listed bird species, and eagles are known to habitually use the proposed tower construction area, relocation to an alternate site is highly recommended. If this is not an option, seasonal restrictions on construction are advised in order to avoid disturbance, site and nest abandonment, especially during breeding, rearing and other periods of high bird activity.

10. Security lighting for on-ground facilities, equipment and infrastructure should be motion- or heat-sensitive, down-shielded, and of a minimum intensity to reduce nighttime bird attraction and eliminate constant nighttime illumination, but still allow safe nighttime access to the site (USFWS 2012, Manville 2011).

11. Representatives from the USFWS or researchers from the Research Subcommittee of the Communication Tower Working Group should be allowed access to the site to evaluate bird use; conduct dead-bird searches; place above ground net catchments below the towers (Manville 2002); and to perform studies using radar, Global Position System, infrared, thermal imagery, and acoustical monitoring, as necessary. This will allow for assessment and verification of bird movements, site use, avoidance, and mortality. The goal is to acquire information on the impacts of various tower types, sizes, configurations and lighting protocols.

12. Towers no longer in use, not re-licensed by the FCC for use, or determined to be obsolete should be removed from the site within 12 months of cessation of use, preferably sooner.

13. In order to obtain information on the usefulness of these guidelines in preventing bird strikes and better understanding impacts from habitat fragmentation, please advise USFWS personnel of the final location and specifications of the proposed tower, and which measures recommended in these guidelines were implemented. If any of these recommended measures cannot be implemented, please explain why they are not feasible. This will further advise USFWS in identifying any recurring problems with the implementation of the guidelines, which may necessitate future modifications.

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