

NEGATIVE DECLARATION

FILE: S14-0004,

PROJECT NAME: Verizon Monopine Cell Tower-Salmon Falls Road

NAME OF APPLICANT: Verizon Wireless

ASSESSOR'S PARCEL NO.: 126-051-17

SECTION: 11 T: 10N R: 8E

LOCATION: NE side of Lake Vista Lane, 1,050 feet NE of the intersection with Arroyo Vista Way in the El Dorado Hills area, Supervisorial District 1.

- GENERAL PLAN AMENDMENT:** FROM: TO:
- REZONING:** FROM: TO:
- TENTATIVE PARCEL MAP** **SUBDIVISION TO SPLIT** ACRES INTO LOTS
SUBDIVISION (NAME):
- SPECIAL USE PERMIT TO ALLOW:** Installation of a wireless telecommunication facility consisting of an 85-foot monopine tower with antennas mounted at 78 feet, an equipment shelter, and related ground equipment.
- OTHER:**

REASONS THE PROJECT WILL NOT HAVE A SIGNIFICANT ENVIRONMENTAL IMPACT:

- NO SIGNIFICANT ENVIRONMENTAL CONCERNS WERE IDENTIFIED DURING THE INITIAL STUDY.**
- MITIGATION HAS BEEN IDENTIFIED WHICH WOULD REDUCE POTENTIALLY SIGNIFICANT IMPACTS.**
- OTHER:**

In accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), State Guidelines, and El Dorado County Guidelines for the Implementation of CEQA, the County Environmental Agent analyzed the project and determined that the project will not have a significant impact on the environment. Based on this finding, the Planning Department hereby prepares this NEGATIVE DECLARATION. A period of thirty (30) days from the date of filing this negative declaration/mitigated negative declaration will be provided to enable public review of the project specifications and this document prior to action on the project by COUNTY OF EL DORADO. A copy of the project specifications is on file at the County of El Dorado Planning Services, 2850 Fairlane Court, Placerville, CA 95667.

This Negative Declaration was adopted by the Planning Commission on November 13, 2014.

Executive Secretary



**EL DORADO COUNTY PLANNING SERVICES
2850 FAIRLANE COURT
PLACERVILLE, CA 95667**

**INITIAL STUDY
ENVIRONMENTAL CHECKLIST**

Project Title: S14-0004 Verizon Wireless Communication Facility/Salmon Falls Road (Monopine)			
Lead Agency Name and Address: El Dorado County, 2850 Fairlane Court; Placerville, CA 95667			
Contact Person: Lillian MacLeod, Principal Planner		Phone Number: (530) 621-5355	
Project Applicant's Name and Address: Verizon Wireless, 255 Parkshore Drive, Folsom, CA 95630			
Project Agent's Name and Address: Alan Heine, 8230 Finisterre Court, Fair Oaks, CA 95628			
Project Engineer's Name and Address: HMM Design Group, 5164 Fry Road, Vacaville, CA 95687			
Project Location: 1521 Lake Vista Lane. The northeast side of Lake Vista Lane, 1,050 feet northeast of the intersection with Arroyo Vista Way in the El Dorado Hills area.			
Assessor's Parcel Number: 126-051-17		Acres: 10.0 acres	
Zoning: Estate Residential Five-Acre (RE-5)			
Section: 11 T: 10N R: 8E			
General Plan Designation: Low Density Residential (LDR)			
Description of Project: Special use permit request to allow the construction of a wireless communications facility consisting of an 85-foot monopine with 3 antennas mounted at 78-feet, a 12x16 foot equipment shelter, within a 22x40 foot lease area with 6-foot chain link fence. Access to the site would be provided by the existing driveway located at the end of Lake Vista Lane, a private road within the Arroyo Vista Subdivision. A small section of the driveway is proposed to be re-routed in order to go around the existing accessory structure on the parcel.			
Surrounding Land Uses and Setting:			
	Zoning	General Plan	Land Use/Improvements
Site	RE-5	LDR	Single-family residence and an accessory structure
North	RE-10	LDR	Single-family residence
South	RE-5	LDR	Single-family residence
East	RE-5	LDR	Single-family residence
West	RE-10	LDR	Undeveloped
Briefly Describe the environmental setting: The site is located on a 10.0-acre parcel, approximately 1,082-feet above sea level. There is a single-family residence and one accessory structure on the site. The parcel is slightly elevated and is screened from long distance views by existing vegetation. The closest residence is located approximately 400 feet north of the proposed tower location.			
Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement)			
<ol style="list-style-type: none"> 1. Building Services-Grading and Building Permits 2. El Dorado County Environmental Management-Hazardous Waste Division, review of condition compliance. 3. Air Quality Management District-Fugitive Dust Mitigation Plan. 			

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Agriculture and Forestry Resources		Air Quality
	Biological Resources		Cultural Resources		Geology / Soils
	Greenhouse Gas Emissions		Hazards & Hazardous Materials		Hydrology / Water Quality
	Land Use / Planning		Mineral Resources		Noise
	Population / Housing		Public Services		Recreation
	Transportation/Traffic		Utilities / Service Systems		Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

- I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and 2) has been addressed by Mitigation Measures based on the earlier analysis as described in attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION, pursuant to applicable standards; and b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or Mitigation Measures that are imposed upon the proposed project, nothing further is required.

Signature: _____ Prepared by: _____ Date: September 18, 2014
 Printed Name: Bianca Dinkler, Associate Planner For: El Dorado County

Signature:  Date: October 6, 2014
 Printed Name: Lillian Macleod, Principal Planner For: El Dorado County

PROJECT DESCRIPTION

Introduction

This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts resulting from an industrial development. This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts resulting from the proposed project. The project would allow the construction of a wireless telecommunications facility.

Project Description

The project would allow the construction of a wireless telecommunication facility consisting of an 85-foot tall monopine tower with three antennas and ground support equipment within one fenced enclosure.

Project Location and Surrounding Land Uses

The project site is located within the Arroyo Vista Subdivision in the El Dorado Hills area and is immediately surrounded by residences to the north, east, and south, with an undeveloped parcel to the west.

Project Characteristics

1. Transportation/Circulation/Parking

Access to the project would be provided from an existing paved driveway off of Lake Vista Lane. A 420-foot gravel road extension that is 15 feet wide will be required to access the shelter and tower. The access driveway and turnaround at the project lease area currently meet Fire Safe standards. The project does not propose the utilization of a parking space at the site.

2. Utilities and Infrastructure

Verizon Wireless proposes to utilize the current feeds at the existing Electrical TRX located approximately 475 feet away from the tower site, along the entrance driveway. They propose to bore from that location over to the site to avoid damage from trenching. Verizon Wireless will tap the necessary 120/240 volt 200 AMP power source from POC from the overhead service feed along Lake Vista Lane. They will also utilize the existing UG fiber connection located approximately 1,900 feet away from the tower site along Arroyo Vista Way. The connections will be made underground. No other utilities will be required to operate the site.

3. Construction Considerations

Minor lease area site construction, grading, extension of existing utilities, and the removal of one 6-inch diameter oak tree would be required for the project. Grading would be required for interior site preparation including surface grading, tower and equipment enclosure structures, foundations and concrete flooring, and overall site surfacing preparation. A 420 foot gravel road extension will be installed. All of these activities will take approximately 45 days. Verizon Wireless will have personnel on site daily during this construction period.

Project Schedule and Approvals

This Initial Study is being circulated for public and agency review for a 30-day period. Written comments on the Initial Study should be submitted to the project planner indicated in the Summary section, above.

Following the close of the written comment period, the Initial Study will be considered by the Lead Agency in a public meeting and will be certified if it is determined to be in compliance with CEQA. The Lead Agency will also determine whether to approve the project.

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is a fair argument that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of Mitigation Measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the Mitigation Measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. the significance criteria or threshold, if any, used to evaluate each question; and
 - b. the mitigation measure identified, if any, to reduce the impact to less than significant.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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ENVIRONMENTAL IMPACTS

I. AESTHETICS. <i>Would the project:</i>			
a. Have a substantial adverse effect on a scenic vista?			X
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X
c. Substantially degrade the existing visual character quality of the site and its surroundings?		X	
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X

Discussion: A substantial adverse effect to Visual Resources would result in the introduction of physical features that are not characteristic of the surrounding development, substantially change the natural landscape, or obstruct an identified public scenic vista.

- a. **Scenic Vista:** The project site is not identified by the County as being located within a scenic view or resource (El Dorado County Planning Services, El Dorado County General Plan Draft EIR (SCH #2001082030), May 2003, Exhibit 5.3-1 and Table 5.3-1). There would be no impact.
- b. **Scenic Resources:** The project site is not within a State Scenic Highway. There are no trees or historic buildings that have been identified by the County as contributing to exceptional aesthetic value at the project site (California Department of Transportation, California Scenic Highway Program, Officially Designated State Scenic Highways, p.2 (<http://www.dot.ca.gov/hq/LandArch/scenic/schwy1.html>)). There would be no impact.
- c. **Visual Character:** The proposed fencing and ground equipment would not be readily visible from surrounding areas. The tower itself would be visible from various points in the surrounding area, mostly from residences to the north, south, and east. The tower is designed to be a mono-pine (grey pine) to camouflage the facility. The antennas would be camouflaged within pine tree branches and the tower pole would be painted to resemble a pine tree.

The 12x16 foot equipment shelter would be located at the base of the tower within the 22x40 foot lease area. The site plans and photo simulations show the tower and ground equipment to be designed to meet the standards of Zoning Ordinance Section 17.14.210 (Communication Facilities, Wireless). By camouflaging the facility as a mono-pine with branches, the visual impacts would be less than significant.

- d. **Light and Glare:** No lights are proposed for the project. There would be no impact.

FINDING: As conditioned and with adherence to County Code, for this “Aesthetics” category, impacts would be anticipated to be less than significant.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by California Department of forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forrest Protocols adopted by the California Air Resources Board. Would the project:

a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Locally Important Farmland (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				X
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

Discussion: A substantial adverse effect to Agricultural Resources would occur if:

- There is a conversion of choice agricultural land to nonagricultural use, or impairment of the agricultural productivity of agricultural land;
 - The amount of agricultural land in the County is substantially reduced; or
 - Agricultural uses are subjected to impacts from adjacent incompatible land uses.
- a. **Farmland Mapping and Monitoring Program:** Review of the Important Farmland GIS map layer for El Dorado County developed under the Farmland Mapping and Monitoring Program indicates that the project lease area site contains Auburn very rocky silt loam. This soil type is not classified as unique, soils of local importance, prime farmland, or statewide important farmland. There would be no impact.
- b. **Williamson Act Contract:** The property is not located within a Williamson Act Contract and would not conflict with existing zoning for agricultural use, or affect any properties under a Williamson Act Contract. There would be no impact.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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- c. **Non-Agricultural Use:** The project site and all other surrounding parcels are not zoned or designated by the General Plan for agricultural uses. No conversion of agriculture land would occur as a result of the project. There would be no impact.
- d, e. **Loss of Forest land or Conversion of Forest land, Conversion of Prime Farmland or Forest Land:** Neither the General Plan nor the Zoning Ordinance designate the site as an important Timberland Preserve Zone. As discussed above in Section a, there would be no loss or conversion of prime farmland as well. There would be no impact.

FINDING: For this “Agriculture” category, the thresholds of significance have not been exceeded and no impacts would be anticipated to result from the project.

III. AIR QUALITY. <i>Would the project:</i>			
a. Conflict with or obstruct implementation of the applicable air quality plan?			X
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X
d. Expose sensitive receptors to substantial pollutant concentrations?			X
e. Create objectionable odors affecting a substantial number of people?			X

Discussion: A substantial adverse effect on Air Quality would occur if:

- Emissions of ROG and No_x will result in construction or operation emissions greater than 82lbs/day (See Table 5.2, of the El Dorado County Air Pollution Control District – CEQA Guide);
 - Emissions of PM₁₀, CO, SO₂ and No_x, as a result of construction or operation emissions, will result in ambient pollutant concentrations in excess of the applicable National or State Ambient Air Quality Standard (AAQS). Special standards for ozone, CO, and visibility apply in the Lake Tahoe Air Basin portion of the County; or
 - Emissions of toxic air contaminants cause cancer risk greater than 1 in 1 million (10 in 1 million if best available control technology for toxics is used) or a non-cancer Hazard Index greater than 1. In addition, the project must demonstrate compliance with all applicable District, State and U.S. EPA regulations governing toxic and hazardous emissions.
- a. **Air Quality Plan:** El Dorado County (EDC) has adopted the *Rules and Regulations of the El Dorado County Air Pollution Control District* (February 15, 2000) establishing rules and standards for the reduction of stationary source air pollutants (ROG/VOC, NO_x, and O₃). The EDC/State Clean Air Act Plan has set a schedule for implementing a funding transportation contract measures to limit mobile source emissions. The project would not conflict with or obstruct implementation of either plan. Therefore, the potential impacts of the project would be anticipated to be less than significant.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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- b, c. **Air Quality Standards and Cumulative Impacts:** The El Dorado County Air Quality Management District (AQMD) reviewed the application materials for this project and determined that by implementing typical conditions that are included in the project permit the project would have a less than significant level of impact in this category. The conditions would be implemented as part of an Asbestos Dust Mitigation Plan (ADMP) and would be reviewed and approved by the AQMD prior to and concurrently with the grading, improvement, and/or building permit approvals. With full review for consistency with General Plan Policies, impacts would be anticipated to be less than significant.

The project would create air quality impacts which may contribute to an existing or projected air quality violation during construction. Construction activities associated with the project include grading and site improvements for utilities, driveway, mono-pine installation, graveling, wall installation, and associated on-site activities. Construction related activities would generate PM10 dust emissions that could exceed either the state or federal ambient air quality standards for PM10. However, existing regulations implemented at issuance of building and grading permits would ensure that any construction related PM10 dust emissions would be reduced to acceptable levels. Adherence to the limitations of construction and to the ADMP would ensure impacts are less than significant.

Operational air quality impacts would be minor, and would be anticipated to cause an insignificant contribution to existing or projected air quality violations. This would be anticipated to be a less-than-significant impact.

- d. **Sensitive Receptors:** The CEQA Guide identifies sensitive receptors as facilities that house or attract children, the elderly, people with illnesses or others that are especially sensitive to the affects of air pollutants. Hospitals, schools and convalescent hospitals are examples of sensitive receptors. No sources of substantial pollutant concentrations will be emitted by the cell tower facility. Impacts would be less than significant.
- e. **Objectionable Odors:** Table 3-1 of the *El Dorado County APCD CEQA Guide* (February, 2002) does not list the proposed cellular communications facility use as a use known to create objectionable odors. There would be no impact.

FINDING: The proposed project would not affect the implementation of regional air quality regulations or management plans. The project would result in increased emissions due to construction and operation; however existing regulations would reduce these impacts to a less-than-significant level. As conditioned and with adherence to County Code, the proposed project would not be anticipated to cause substantial adverse effects to air quality, nor exceed established significance thresholds for air quality impacts.

IV. BIOLOGICAL RESOURCES. <i>Would the project:</i>				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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IV. BIOLOGICAL RESOURCES. <i>Would the project:</i>			
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X	
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			X

Discussion: A substantial adverse effect on Biological Resources would occur if the implementation of the project would:

- Substantially reduce or diminish habitat for native fish, wildlife or plants;
 - Cause a fish or wildlife population to drop below self-sustaining levels;
 - Threaten to eliminate a native plant or animal community;
 - Reduce the number or restrict the range of a rare or endangered plant or animal;
 - Substantially affect a rare or endangered species of animal or plant or the habitat of the species; or
 - Interfere substantially with the movement of any resident or migratory fish or wildlife species.
- a. **Special Status Species and Sensitive Natural Communities:** Review of the County GIS soil data demonstrates the project site would not be located on lands shown to contain Serpentine Rock or Gabbro soils. Search of the California Natural Diversity database indicates there are no rare, threatened, or endangered species on the site. The project is not located within a sensitive natural community of the county, state, or federal agency, including but not limited to an Ecological Preserve or USFWS Recovery Plan boundaries. The project site is not located within a Rare Plant Mitigation area. There will be no impact to these communities.
- b, c. **Riparian Habitat, Wetlands, Potentially Jurisdictional Waters of the U.S.:** No wetland features as defined by the U.S. Army Corps of Engineer’s criteria are found within the project parcel. There would be no impact.
- d. **Migration Corridors:** The 22x40 foot lease area would not impact any established mitigation corridors. There would be no impact.
- e. **Local Policies:** Biological Resources: The protection of biological resources would include protection of rare plants, setbacks to riparian areas, and mitigation of impacted oak woodlands. The 22x40 foot lease area is not located adjacent to any riparian areas nor does it include any areas of rare plants. Development of the monopine would require pruning of approximately two percent of the existing oak tree canopy by a certified arborist. No oak trees are required to be removed, thereby meeting the 90 percent retention standards under General Plan Policy 7.4.4.4 Option A. (*Oak Canopy Survey for the Property at 1521 Lake Vista Lane, El Dorado Hills El Dorado county, CA*, Natural Investigations Co, September 25, 2014).

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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- f. **Adopted Plans:** This project, as designed, does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There would be no impact.

FINDING: This site is not located within the USFWS Recovery Plan boundaries. No jurisdictional wetlands are present at the project site. The subject parcel contains a single-family residence and accessory structure. The proposed project location is in an area adjacent to the developed area of the parcel and has a relatively small footprint of impact for the ten-acre parcel. No significant impacts to biological resources would be anticipated.

V. CULTURAL RESOURCES. <i>Would the project:</i>			
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?			X
b. Cause a substantial adverse change in the significance of archaeological resource pursuant to Section 15064.5?			X
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X
d. Disturb any human remains, including those interred outside of formal cemeteries?			X

Discussion: In general, significant impacts are those that diminish the integrity, research potential, or other characteristics that make a historical or cultural resource significant or important. A substantial adverse effect on Cultural Resources would occur if the implementation of the project would:

- Disrupt, alter, or adversely affect a prehistoric or historic archaeological site or a property or historic or cultural significant to a community or ethnic or social group; or a paleontological site except as a part of a scientific study;
- Affect a landmark of cultural/historical importance;
- Conflict with established recreational, educational, religious or scientific uses of the area; or
- Conflict with adopted environmental plans and goals of the community where it is located.

a-c. **Archaeological Resource, Historic Resource, Paleontological Resource:** A record search was conducted on 7/29/14. The results determined a low potential for locating any significant prehistoric or historic cultural resources. No archaeological sites, features, or artifacts were identified, nor any known paleontological sites or known fossil strata/locales. In the event sub-surface historical, cultural, or archeological sites or materials are disturbed during earth disturbances and grading activities on the site, standard conditions of approval are included to reduce potential impacts to a less than significant level.

d. **Human Remains:** There is a low likelihood of human remains discovery on the project site. During all grading activities, standard conditions of approval would be required that address accidental discovery of human remains. Impacts would be anticipated to be less than significant.

FINDING: No significant cultural resources were identified on the project site. Standard conditions of approval would be required with requirements for accidental discovery during project construction. This project would be anticipated to have a less than significant impact within the Cultural Resources category.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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VI. GEOLOGY AND SOILS. <i>Would the project:</i>			
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:			
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X
ii) Strong seismic ground shaking?		X	
iii) Seismic-related ground failure, including liquefaction?			X
iv) Landslides?			X
b. Result in substantial soil erosion or the loss of topsoil?		X	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?		X	
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial risks to life or property?		X	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?			X

Discussion: A substantial adverse effect on Geologic Resources would occur if the implementation of the project would:

- Allow substantial development of structures or features in areas susceptible to seismically induced hazards such as groundshaking, liquefaction, seiche, and/or slope failure where the risk to people and property resulting from earthquakes could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards;
- Allow substantial development in areas subject to landslides, slope failure, erosion, subsidence, settlement, and/or expansive soils where the risk to people and property resulting from such geologic hazards could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards; or
- Allow substantial grading and construction activities in areas of known soil instability, steep slopes, or shallow depth to bedrock where such activities could result in accelerated erosion and sedimentation or exposure of people, property, and/or wildlife to hazardous conditions (e.g., blasting) that could not be mitigated through engineering and construction measures in accordance with regulations, codes, and professional standards.

a. **Seismic Hazards:**

- i) According to the California Department of Conservation, Division of Mines and Geology, there are no Alquist-Priolo fault zones within El Dorado County. The nearest such faults are located in Alpine and Butte Counties. There would be no impact.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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- ii) The potential for seismic ground shaking in the project area would be considered remote for the reason stated in Section i above. Any potential impacts due to seismic impacts would be addressed through compliance with the Uniform Building Code. All structures would be built to meet the construction standards of the UBC for the appropriate seismic zone. Impacts would be less than significant.
- iii) El Dorado County is considered an area with low potential for seismic activity. There are no potential areas for liquefaction on the project site as there are no wetland features or soil fill areas. There would be no impact.
- iv) All grading activities onsite would be required to comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance. There would be no impact.
- b. **Soil Erosion:** All grading activities exceeding 250 cubic yards of graded material or grading completed for the purpose of supporting a structure must meet the provisions contained in the *County of El Dorado - Grading, Erosion, and Sediment Control Ordinance* adopted by the County of El Dorado Board of Supervisors, August 10, 2010 (Ordinance #4949). This ordinance is designed to limit erosion, control the loss of topsoil and sediment, limit surface runoff, and ensure stable soil and site conditions for the intended use in compliance with the El Dorado County General Plan. There would be the potential for erosion, changes in topography, and unstable soil conditions with future development. These concerns would be addressed during the grading permit process. Impacts would be less than significant.
- c. **Geologic Hazards:** The project parcel contains Auburn very rocky silt loam soil which is not identified as a soil type that would be anticipated to result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse. All grading activities would comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance. Impacts would be less than significant.
- d. **Expansive Soils:** Expansive soils are those that greatly increase in volume when they absorb water and shrink when they dry out. The central half of the county has a moderate expansiveness rating while the eastern and western portions are rated low. These boundaries are very similar to those indicating erosion potential. When buildings are placed on expansive soils, foundations may rise each wet season and fall each dry season. This movement may result in cracking foundations, distortion of structures, and warping of doors and windows. Pursuant to the U.S.D.A. Soil Report for El Dorado County, Auburn very rocky silt loam soils are reported to have low shrink-swell capacity. Table 18-1-B of the Uniform Building Code establishes a numerical expansion index for soil types ranging from very low to very high. Impacts would be less than significant.
- e. **Septic Capability:** The project would not require the use of a septic system. There would be no impact.

FINDING: A review of the soils and geologic conditions on the project site determined that the soil type is suitable for the proposed development. All grading activities would be required to comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance which would address potential impacts related to soil erosion, landslides and other geologic impacts. Future development would be required to comply with the Uniform Building Code which would address potential seismic related impacts. For this ‘Geology and Soils’ category, impacts would be less than significant.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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VII. GREENHOUSE GAS EMISSIONS. <i>Would the project:</i>			
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X

a-b. Generate Greenhouse Gas Emissions and Policy. The prominent GHGs contributing to the greenhouse effect as specifically listed in Assembly Bill AB 32, the California Global Warming Solutions Act of 2006, are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors; in California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. California Energy Commission. 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. (Staff Final Report). Publication CEC-600-2006-013-SF.

GHGs are global pollutants, unlike criteria for air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect.

Emitting CO2 into the atmosphere is not itself an adverse environmental affect. It is the increased concentration of CO2 in the atmosphere potentially resulting in global climate change and the associated consequences of such climate change that results in adverse environmental affects (e.g., sea level rise, loss of snowpack, severe weather events). Although it is possible to generally estimate a project’s incremental contribution of CO2 into the atmosphere, it is typically not possible to determine whether or how an individual project’s relatively small incremental contribution might translate into physical effects on the environment.

In June 2008, the Office of Planning and Research’s (OPR) issued a technical advisory (CEQA and Climate Change) to provide interim guidance regarding the basis for determining the proposed project’s contribution of greenhouse gas emissions and the project’s contribution to global climate change. In the absence of adopted local or statewide thresholds, OPR recommends the following approach for analyzing greenhouse gas emissions: Identify and quantify the project’s greenhouse gas emissions; Assess the significance of the impact on climate change; and if the impact is found to be significant, identify alternatives and/or Mitigation Measures that would reduce the impact to less-than-significant levels.

The project proposes a cellular telecommunications facility, similar to other existing similar facilities within the county, and it would be required to incorporate modern construction and design features that reduce energy consumption to the extent feasible. Implementation of these features would help reduce potential GHG emissions resulting from the development of the proposed project. In light of these factors, impacts related to the project’s expected contribution to GHG emissions would not be considered significant, either on a project-level or cumulative basis. Impacts would be less than significant.

FINDING: The project would result in less than significant impacts to greenhouse gas emissions because of the project’s size and inclusion of design features to address the emissions of greenhouse gases. For this “Greenhouse Gas Emissions” category, there would be no significant adverse environmental effect as a result of the project.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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VIII. HAZARDS AND HAZARDOUS MATERIALS. <i>Would the project:</i>			
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?			X
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?			X
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?		X	

Discussion: A substantial adverse effect due to Hazards or Hazardous Materials would occur if implementation of the project would:

- Expose people and property to hazards associated with the use, storage, transport, and disposal of hazardous materials where the risk of such exposure could not be reduced through implementation of Federal, State, and local laws and regulations;
 - Expose people and property to risks associated with wildland fires where such risks could not be reduced through implementation of proper fuel management techniques, buffers and landscape setbacks, structural design features, and emergency access; or
 - Expose people to safety hazards as a result of former on-site mining operations.
- a, b. **Hazardous Materials:** The Federal Communication Commission (FCC) prohibits local governments from denying a wireless facility project based on concerns about the dangers of exposure to radio frequency/EMF. This is due to inconclusive evidence about the health risk of exposure to radio frequency EMF.

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The Telecommunications Act of 1996 became effective on February 8, 1996. This act preserves the authority of the State or local government over decisions regarding the placement, construction, and modifications of personal wireless services, subject to two limitations. Section 704(7)B(iii) requires any denials to be in writing and supported by “substantial evidence.” Section 704(7)B(iv) prohibits denial on the basis of radio frequency emissions if those emissions are compliant with Federal regulations.

The American National Standards Institute and the Institute of Electrical and Electronics Engineers (IEEE) have published a standard called ANSI/IEEE C95.1-1992, which until recently set recommended maximum power density levels for radio frequency (RF) energy originating from communications sites and other sources. The Federal Communications Commission (FCC) has also produced its own guidelines, which are more stringent and supersede the ANSI standard. The FCC rules categorically exclude certain transmitting facilities from routine evaluations for compliance with the RF emission guidelines if it can be determined that it is unlikely to cause workers or the general public to become exposed to emission that exceed the guidelines. The following table represents the FCC limits for both occupational and general population exposures to different radio frequencies:

Frequency Range (F) (MHz)	Occupational Exposure (mW/cm ²)	General Public Exposure (mW/cm ²)
0.3-1.34	100	100
1.34-3.0	100	180/F ²
3.0—30	900/F ²	180/F ²
30-300	1.0	0.2
300-1,500	F/300	F/1500
1,500-100,000	5.0	1.0

The RF analysis dated June 2, 2014 found that for a person anywhere at ground level, the maximum RF exposure level due to the installation of antennas was calculated to be 0.054 mW/cm² which is 0.90 percent of the applicable public exposure limit. The maximum calculated level at the second floor of any nearby residence is 2.0 percent of the applicable public exposure limit. The report validates the figures based on the FCC Regulations for measurements identifying quantitative standards for human exposure limits based on radio frequency emissions. Therefore, the risk of release of hazardous materials or emissions to the public is remote.

The project would not be anticipated to introduce, transport, store, or dispose of hazardous materials in such quantities that would create a hazard to people or the environment. As such, impacts would be less than significant.

- c. **Hazardous Materials near Schools:** No school sites exist near the project location therefore there would be no impact to schools.
- d. **Hazardous Sites:** The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. (California Department of Toxic Substances Control, Hazardous Waste and Substances Site List (Cortese List), http://www.dtsc.ca.gov/database/Calsites/Cortese_List). There would be no known direct impact with the approval of the proposed project.
- e. **Aircraft Hazards:** The project site is not within any airport safety zone or airport land use plan area. There would be no impact.
- f. **Private Airstrips:** There are no private airstrips in the vicinity of the project site. There would be no impact.

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- g. **Emergency Plan:** The proposed project would not physically interfere with the implementation of the County adopted emergency response and/or evacuation plan for the project area. There would be no impact.
- h. **Wildfire Hazards:** The project site is in an area of moderate hazard for wildland fire pursuant to Figure 5.8-4 of the 2004 General Plan Draft EIR. Implementation of California Building Codes would be anticipated to reduce the impacts of wildland fire to a less than significant level.

FINDING: The project would not be anticipated to expose the area to significant hazards relating to the use, storage, transport, or disposal of hazardous materials. Any proposed future use of hazardous materials would be subject to review and approval of a Hazardous Materials Business Plan issued by the Environmental Management. The project proposal was reviewed by the El Dorado Hills Fire Department who made no comments about hazardous materials. For this 'Hazards and Hazardous Materials' category, impacts would be less than significant.

IX. HYDROLOGY AND WATER QUALITY. <i>Would the project:</i>			
a. Violate any water quality standards or waste discharge requirements?		X	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or -off-site?		X	
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?		X	
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?		X	
f. Otherwise substantially degrade water quality?		X	
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			X
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			X
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X
j. Inundation by seiche, tsunami, or mudflow?			X

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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Discussion: A substantial adverse effect on Hydrology and Water Quality would occur if the implementation of the project would:

- Expose residents to flood hazards by being located within the 100-year floodplain as defined by the Federal Emergency Management Agency;
 - Cause substantial change in the rate and amount of surface runoff leaving the project site ultimately causing a substantial change in the amount of water in a stream, river or other waterway;
 - Substantially interfere with groundwater recharge;
 - Cause degradation of water quality (temperature, dissolved oxygen, turbidity and/or other typical stormwater pollutants) in the project area; or
 - Cause degradation of groundwater quality in the vicinity of the project site.
- a. **Water Quality Standards:** Erosion control would be required of the future building/grading permit and strict adherence to County Code would not increase the level of sediments in stormwater discharges significantly more at the site than the current discharge levels. Operation of the proposed project would not involve any uses that would generate wastewater. Stormwater runoff from potential development would be directed to an engineered drainage system and would contain water quality protection features in accordance with a potential NPDES stormwater permit, as deemed applicable. The project would not be anticipated to violate water quality standards. Impacts would be less than significant.
- b. **Groundwater Supplies:** The project is proposed on a developed site and is not anticipated to affect any potential groundwater supplies any more than pre-project levels due to the limited project impact area size and no dependency on a well. There would be no impact.
- c-f. **Drainage Patterns:** A grading permit through Development Services would be required for the project lease area and access road to address grading, erosion and sediment control. Project related construction activities would be required to adhere to the applicable El Dorado County Grading, Erosion Control and Sediment Ordinance which would require Best Management Practices (BMP's) to minimize degradation of water quality during construction. Impacts would be less than significant.
- g-j. **Flood-related Hazards:** The project site is not located within any mapped 100-year flood areas and would not result in the construction of any structures that would impede or redirect flood flows. No dams are located in the project area which would result in potential hazards related to dam failures. The risk of exposure to seiche, tsunami, or mudflows would be remote. There would be no impact.

FINDING: The proposed project would require a site improvement and grading permit through the Development Services Building Division that would address any potentially applicable erosion and sediment control. No significant hydrological impacts are expected with the development of the project either directly or indirectly. For this “Hydrology” category, impacts are anticipated to be less than significant.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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X. LAND USE PLANNING. <i>Would the project:</i>			
a. Physically divide an established community?			X
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?			X

Discussion: A substantial adverse effect on Land Use would occur if the implementation of the project would:

- Result in the conversion of Prime Farmland as defined by the State Department of Conservation;
 - Result in conversion of land that either contains choice soils or which the County Agricultural Commission has identified as suitable for sustained grazing, provided that such lands were not assigned urban or other nonagricultural use in the Land Use Map;
 - Result in conversion of undeveloped open space to more intensive land uses;
 - Result in a use substantially incompatible with the existing surrounding land uses; or
 - Conflict with adopted environmental plans, policies, and goals of the community.
- a. **Established Community:** The adjoining parcels are designated for residential land uses. The project would provide improved wireless cellular telecommunications within the El Dorado Hills areas. The project would not physically divide an established community therefore the impact would be less than significant.
- b. **Land Use Consistency:** The parcel is zoned Estate Residential Five-Acre (RE-5). County Code Section 17.14.210.5.b permits wireless communication facilities in residential zone districts with approval of a Special Use Permit by the Planning Commission, pursuant to the development standards of 17.14.210.F. These standards include screening, compliance with setbacks, and proper maintenance. The applicant has provided a project narrative explaining the project details, potential benefits to the community, and site selection. The applicant has designed the wireless telecommunications facility in compliance with County regulations, addressing aesthetics and health and safety concerns. As conditioned, and with adherence to County Code, impacts would be less than significant.
- c. **Habitat Conservation Plan:** The proposed project is not located in an area covered by a Habitat Conservation Plan (HCP) or a Natural Community Conservation Plan (NCCP). There would be no impact.

FINDING: The proposed use of the land would be consistent with the Zoning Code and General Plan with the issuance of a Special Use Permit. There would be no known significant impact from the project due to a conflict with the General Plan or zoning designation for use of the property. As conditioned, and with adherence to County Code, no significant impacts would be expected for the “Land Use Planning” category.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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XI. MINERAL RESOURCES. <i>Would the project:</i>			
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			X

Discussion: A substantial adverse effect on Mineral Resources would occur if the implementation of the project would:

- Result in obstruction of access to, and extraction of mineral resources classified MRZ-2x, or result in land use compatibility conflicts with mineral extraction operations.
- a, b. **Mineral Resources:** The project site has not been delineated in the General Plan as a locally important mineral resource recovery site. (El Dorado County Planning Department, El Dorado County General Plan Draft EIR (SCH #2001082030), May 2003, Exhibits 5.9-6 and 5.9-7). Review of the California Department of Conservation CGS Open-file Report 2000-03 Generalized Geologic Map showed that the project site is not within a mineral resource zone district. The project would construct the telecommunications facility within a 22x40 foot lease area. Because of the relatively small project footprint size, and the absence of any known important mineral resources, the proposed project is not anticipated to impact important mineral resources. No known impacts are anticipated.

FINDING: No impacts to energy and mineral resources are expected with the development of the wireless telecommunications facility either directly or indirectly. For this “Mineral Resources” category, there are no impacts.

XII.NOISE. <i>Would the project result in:</i>			
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X	
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?		X	
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?		X	
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise level?			X
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?			X

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Discussion: A substantial adverse effect due to Noise would occur if the implementation of the project would:

- Result in short-term construction noise that creates noise exposures to surrounding noise sensitive land uses in excess of 60dBA CNEL;
 - Result in long-term operational noise that creates noise exposures in excess of 60 dBA CNEL at the adjoining property line of a noise sensitive land use and the background noise level is increased by 3dBA, or more; or
 - Results in noise levels inconsistent with the performance standards contained in Table 6-1 and Table 6-2 in the El Dorado County General Plan.
- a. **Noise Exposures:** The proposed project will not expose peoples to noise levels in excess of standards established in the General Plan or Zoning Code. There would be short-term construction related noise, and the addition of monthly maintenance visit (s) and the sound from the equipment shelter that would house the RF equipment and stand-by 30 KW generator, would be considered permanent noise, however the noises associated with these activities would be less than significant, with the addition of a condition limiting the days and time of generator maintenance to weekday, day-time hours.
 - b. **Groundborne Shaking:** The project may generate ground borne vibration or shaking events during project construction, which is anticipated to take approximately 45 days. These potential impacts would be limited to project construction. Impacts are anticipated to be less than significant.
 - c. **Permanent Noise Increases:** Routine maintenance visits would occur approximately once or twice a month. The vehicle noise from the addition of the maintenance visit(s) would not be measurable and would not exceed the noise standards contained in the General Plan. The impacts would be considered less than significant.
 - d. **Short Term Noise:** Short-term noise impacts would be associated with excavation, grading, and construction activities. El Dorado County would require that all construction vehicles and equipment, fixed or mobile, be equipped with properly maintained and functioning mufflers. All construction and grading operations would be required to comply with the noise performance standards contained in the General Plan.

Construction of the facility would consist of extending the driveway around the existing accessory structure to the lease area, minimal grading for the lease area, setting the tower, placing ground equipment within the lease area, installing one equipment shelter, laying gravel, and installing a six-foot tall fence of chain link or other non-combustible material. These activities are anticipated to occur weekdays only over an approximately 45-day period during daylight hours and would not involve extensive use of heavy equipment that would be a substantial source of noise or vibration at the residence. Impacts would be considered short-term and therefore less than significant.

- e-f. **Aircraft Noise:** There are no airstrips or airports within the project vicinity. There would be no impact.

FINDING: As conditioned, and with adherence to County Code, no significant impacts to excessive noise are expected with the development of the wireless telecommunications facility either directly or indirectly. For this “Noise” category, the thresholds of significance would not be exceeded.

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XIII. POPULATION AND HOUSING. <i>Would the project:</i>			
a. Induce substantial population growth in an area, either directly (i.e., by proposing new homes and businesses) or indirectly (i.e., through extension of roads or other infrastructure)?			X
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?			X
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?			X

Discussion: A substantial adverse effect on Population and Housing would occur if the implementation of the project would:

- Create substantial growth or concentration in population;
- Create a more substantial imbalance in the County’s current jobs to housing ratio; or
- Conflict with adopted goals and policies set forth in applicable planning documents.

a-c. **Population Growth, Housing Displacement, and Replacement Housing:** No housing or people would be displaced as a result of the proposed project therefore there would be no impact to “Population and Housing”.

FINDING: The project would not displace housing. There would be no potential for a significant impact due to substantial growth with the communications facility either directly or indirectly. For this “Population and Housing” category, the thresholds of significance would not be anticipated to be exceeded.

XIV. PUBLIC SERVICES. <i>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</i>			
a. Fire protection?		X	
b. Police protection?			X
c. Schools?			X
d. Parks?			X
e. Other government services?			X

Discussion: A substantial adverse effect on Public Services would occur if the implementation of the project would:

- Substantially increase or expand the demand for fire protection and emergency medical services without increasing staffing and equipment to meet the Department’s/District’s goal of 1.5 firefighters per 1,000 residents and 2 firefighters per 1,000 residents, respectively;
- Substantially increase or expand the demand for public law enforcement protection without increasing staffing and equipment to maintain the Sheriff’s Department goal of one sworn officer per 1,000 residents;

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- Substantially increase the public school student population exceeding current school capacity without also including provisions to adequately accommodate the increased demand in services;
 - Place a demand for library services in excess of available resources;
 - Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
 - Be inconsistent with County adopted goals, objectives or policies.
- a. **Fire Protection:** The parcel is within the El Dorado Hills Fire Department District service area. The new, unoccupied facility would represent a minimal increase in the demand for structural fire protection at the project site. The Fire District responded with recommendations for the project, which will be incorporated as project conditions of approval. Impacts would be less than significant.
- b. **Police Protection:** Police services would continue to be provided by the El Dorado County Sheriff's Department. No new or expanded law enforcement services would be required. There would be no impact.
- c-e. **Schools, Parks and Government Services:** There are no components of operating the proposed project that would include any permanent population-related increases that would substantially contribute to increased demand on schools, parks, or other governmental services that could, in turn, result in the need for new or expanded facilities. There would be no impact.

FINDING: As discussed above, there would be no significant impacts to public services as a result of a wireless communication facility.

XV. RECREATION.			
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X

Discussion: A substantial adverse effect on Recreational Resources would occur if the implementation of the project would:

- Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
 - Substantially increase the use of neighborhood or regional parks in the area such that substantial physical deterioration of the facility would occur.
- a, b. **Parks and Recreational Services:** The project does not include any increase in permanent population that would contribute to increased demand on recreation facilities or contribute to increased use of existing facilities. There would be no impact.

FINDING: As discussed above, there would be no significant impacts to recreation as a result of a wireless communication facility.

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XVI. TRANSPORTATION/TRAFFIC. <i>Would the project:</i>			
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?		X	
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?			X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X
e. Result in inadequate emergency access?		X	
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			X

Discussion: A substantial adverse effect on Traffic would occur if the implementation of the project would:

- Result in an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system;
 - Generate traffic volumes which cause violations of adopted level of service standards (project and cumulative); or
 - Result in, or worsen, Level of Service “F” traffic congestion during weekday, peak-hour periods on any highway, road, interchange or intersection in the unincorporated areas of the county as a result of a residential development project of 5 or more units.
- a. **Traffic Increases:** The comments received from the Transportation Division do not indicate that the level of service (LOS) would be significantly impacted by the proposed project. Access to the site would be from the existing driveway. Impacts would be less than significant.
- b. **Levels of Service Standards:** The LOS established by the County would not be exceeded by the project, nor would the surrounding road circulation system be impacted. There would be no impact.
- c. **Air Traffic:** The site is not located near an airport. The 85-foot height, similar to some of the trees in the area, would not create an air traffic hazard. There would be no impact.
- d. **Design Hazards:** The design and location of the project is not anticipated to create any significant hazards. The Transportation Division analysis identified no issues for the project. There would be no impact.

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- e. **Emergency Access:** The project would not result in inadequate emergency access. The project was reviewed by the Transportation Division and the El Dorado Hills Fire Department to ensure that adequate access would be provided to meet County Fire Safe and County Design Improvement Standards Manual. With the inclusion of the Transportation Division and Fire Department’s standard conditions, impacts would be less than significant.
- f. **Alternative Transportation:** The project would not conflict with adopted plans, polices or programs relating to alternative transportation. There would be no impact.

FINDING: As discussed above, no significant traffic impacts are expected with the wireless telecommunications facility either directly or indirectly. For this “Transportation/Traffic” category, the thresholds of significance would not be exceeded.

XVII. UTILITIES AND SERVICE SYSTEMS. <i>Would the project:</i>				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g. Comply with federal, state, and local statutes and regulations related to solid waste?				X

Discussion: A substantial adverse effect on Utilities and Service Systems would occur if the implementation of the project would:

- Breach published national, state, or local standards relating to solid waste or litter control;
- Substantially increase the demand for potable water in excess of available supplies or distribution capacity without also including provisions to adequately accommodate the increased demand, or is unable to provide an adequate on-site water supply, including treatment, storage and distribution;
- Substantially increase the demand for the public collection, treatment, and disposal of wastewater without also including provisions to adequately accommodate the increased demand, or is unable to provide for adequate on-site wastewater system; or

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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- Result in demand for expansion of power or telecommunications service facilities without also including provisions to adequately accommodate the increased or expanded demand.
- a. **Wastewater Requirements:** Construction and operation of the project would not involve discharges of untreated domestic wastewater that would violate water quality control board requirements. There would be no significant impacts.
 - b. **Construction of New/Expansion of Existing Wastewater Treatment Facilities:** No new or expanded wastewater treatment facilities would be required for the proposed wireless communication tower. There would be no impact.
 - c. **Construction of New/Expansion of Existing Stormwater Drainage Facilities:** All required drainage facilities for the project would be built in conformance with the standards contained in the County of El Dorado Drainage Manual, as determined by Development Services during the grading and building permit processes. Stormwater runoff is anticipated to be minimal. Impacts would be considered less than significant.
 - d. **Sufficient Water Supply:** The proposed project does not require the use of a water supply. There would be no impact.
 - e. **Adequate Capacity:** The project does not involve the treatment of wastewater therefore the determining whether or not there is adequate capacity is not applicable to the project. There would be no impact.
 - f, g. **Solid Waste Disposal and Solid Waste Requirements:** Operation and continued maintenance of the cell tower and ground equipment shelter would not generate solid waste or affect recycling goals. There would be no impact.

FINDING: No significant utility and service system impacts would be expected with the wireless telecommunications facility either directly or indirectly. For this “Utilities and Service Systems” category, the thresholds of significance would not be exceeded.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:			
a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?			X
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
--------------------------------	---	------------------------------	-----------

Discussion:

a. No substantial evidence contained in the project record has been found that would indicate that this project would have the potential to significantly degrade the quality of the environment when using thresholds pre-established as benchmarks. These benchmarks are established by General Plan Policies, the Grading and Drainage Ordinances, and in Zoning Ordinance Sections 17.28.200 C. and Chapter 17.14.210. As conditioned, and with adherence to County permit requirements, this project would not be anticipated to have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of California history or pre-history. Any impacts from the project would be anticipated to be less than significant due to the design of the project and required standards that would be implemented by any required project specific improvements on the property.

b. The project would not involve development or changes in land use that would result in an excessive increase in population growth. Impacts due to increased demand for public services associated with the project would be offset by the payment of fees as required by service providers to extend the necessary infrastructure services. The project would not be anticipated to contribute substantially to increased traffic in the area and the project would not require an increase in the wastewater treatment capacity of the County. Due to the small size of the proposed project, types of activities proposed, and site-specific environmental conditions, which have been disclosed in the Project Description and analyzed in Items I through XVI, there would be no significant impacts anticipated related to agriculture resources, air quality, biological resources, cultural resources, geology/soils, hazards/hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, traffic/transportation, or utilities/service systems that would combine with similar effects such that the project’s contribution would be cumulatively considerable. For these issue areas, either no impacts, or less than significant impacts would be anticipated. By conforming to Zoning Ordinance regulations as well as the inherent visual screening provided by the design of a mono-pine wireless communications tower, the visual impacts of the project would be less than significant. The cumulative contribution to the viewshed would appear to be less than significant.

As outlined and discussed in this document, as conditioned and with compliance with County Codes, this project would be anticipated to have a less than significant chance of having project-related environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly. Based on the analysis in this study, it has been determined that the project would have less than significant cumulative impacts.

c. Based on the discussion contained in this document, no potentially significant impacts to human beings are anticipated to occur with respect to potential project impacts. The project would include standard conditions of approval required for screening and buffering the ground equipment and mono-pine wireless communication tower with an appearance substantially consistent with the existing surrounding vegetation. Adherence to these standard conditions would be expected to reduce potential impacts to a less than significant level. As discussed in the Noise section, short term noise increases in the project area as a result of project construction and operation would be reduced by standard Conditions of Approval regarding hours and days of construction and operation. Any future development of the project by any potential future carriers would require environmental review through the Special Use Permit revision process. As conditioned, and with adherence to County Code, impacts would be anticipated to be less than significant.

INITIAL STUDY ATTACHMENTS

- Attachment 1..... Location Map
- Attachment 2..... Plot Plan, Sheet A-1, April 8, 2014
- Attachment 3..... *RF Exposure Study*, Hammet and Edison, Inc., June 2, 2014
- Attachment 4..... *Oak Canopy Survey for the Property at 1521 Lake Vista Lane, El Dorado Hills El Dorado County, CA*, Natural Investigations Co, September 25, 2014

SUPPORTING INFORMATION SOURCE LIST

The following documents are available at El Dorado County Planning Services in Placerville.

- El Dorado County General Plan Draft Environmental Impact Report
- Volume 1 of 3 – EIR Text, Chapter 1 through Section 5.6
- Volume 2 of 3 – EIR Text, Section 5.7 through Chapter 9
- Appendix A
- Volume 3 of 3 – Technical Appendices B through H

- El Dorado County General Plan – A Plan for Managed Growth and Open Roads; A Plan for Quality Neighborhoods and Traffic Relief (Adopted July 19, 2004)

- Findings of Fact of the El Dorado County Board of Supervisors for the General Plan

- El Dorado County Zoning Ordinance (Title 17 - County Code)

- County of El Dorado Drainage Manual (Resolution No. 67-97, Adopted March 14, 1995)

- County of El Dorado - Grading, Erosion, and Sediment Control Ordinance* Adopted by the County of El Dorado Board of Supervisors, August 10, 2010 (Ordinance #4949)

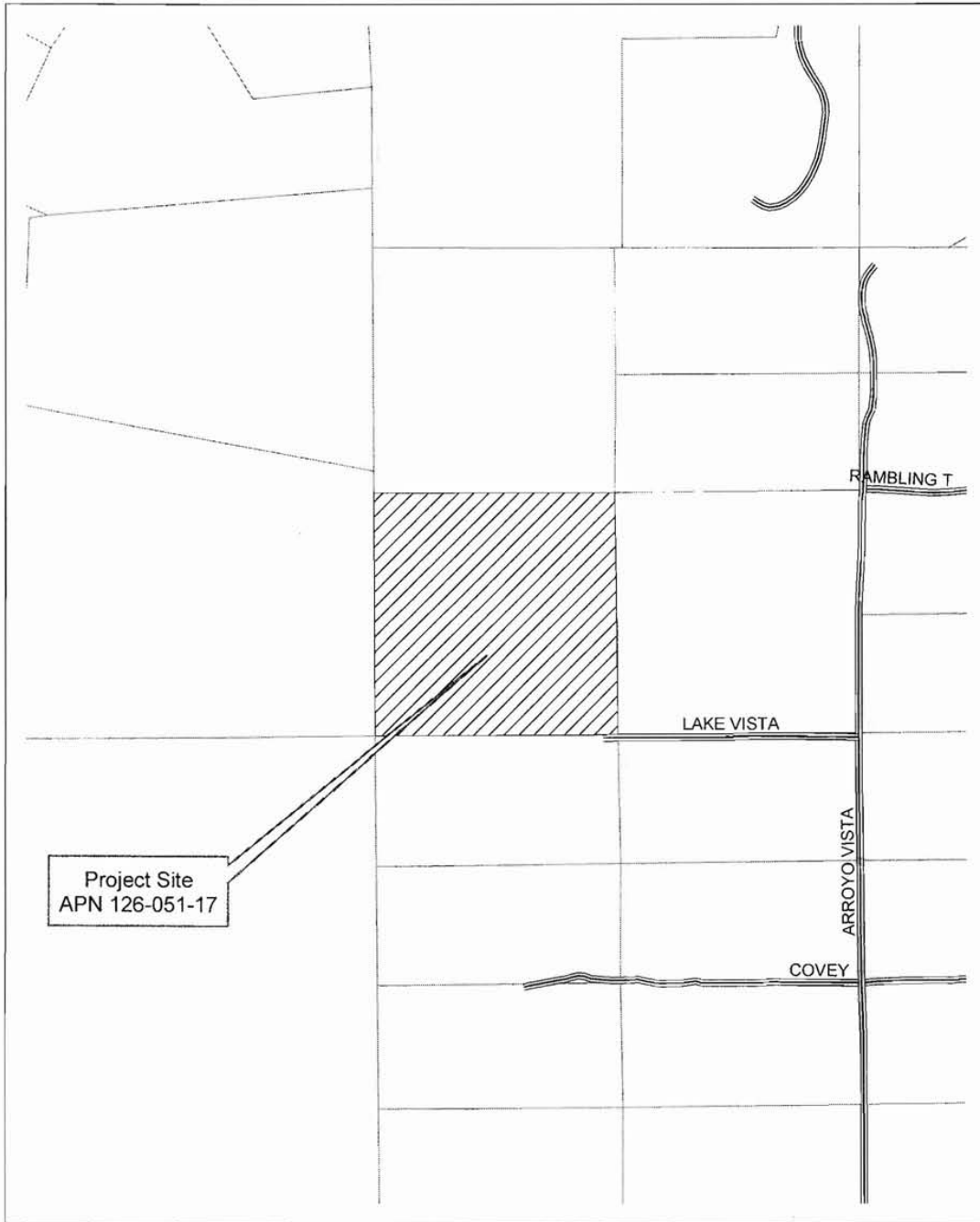
- El Dorado County Design and Improvement Standards Manual

- El Dorado County Subdivision Ordinances (Title 16 - County Code)

- Soil Survey of El Dorado Area, California

- California Environmental Quality Act (CEQA) Statutes (Public Resources Code Section 21000, et seq.)

- Title 14, California Code of Regulations, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act (Section 15000, et seq.)



File No. S14-0004
Location Map



ATTACHMENT 1



HAMMETT & EDISON, INC.
 CONSULTING ENGINEERS
 BROADCAST & WIRELESS

WILLIAM F. HAMMETT, P.E.
 STANLEY SALEK, P.E.
 ROBERT P. SMITH, JR.
 RAJAT MATHUR, P.E.
 ANDREA L. BRIGHT, P.E.
 KENT A. SWISHER
 NEIL J. OLIJ
 SAMMIT S. NENE
 BRIAN F. PALMER

ROBERT L. HAMMETT, P.E.
 1920-2002
 EDWARD EDISON, P.E.
 1920-2009

DANE E. ERICKSEN, P.E.
 CONSULTANT

REPORT TRANSMITTAL

June 2, 2014

To: Alan Heine A.HEINE@COMCAST.NET
 Cc: Peter Hilliard PHILLIARD@VOM.COM
 Carrier: Verizon Wireless
 Site No: 249699 "Salmon Falls Road"
 Location: 1521 Lake Vista Lane, El Dorado Hills

Description of attachment:

- RF Exposure Study
- Interference Study (IMD)
- Acoustic Noise Study
- Revised Study
 - RF Exposure Study
 - Interference Study (IMD)
 - Acoustic Noise Study
- Regulatory Measurement Report
 - RF Exposure Measurements
 - Acoustic Noise Measurements
- Protection Study (of Nearby AM Stations)

We appreciate the opportunity to be of service and would welcome any questions on this material. Please let us know if we may be of additional assistance.

Hammett & Edison, Inc.

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 Delivery: 470 Third Street West • Sonoma, California 95476
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R3UQ

ATTACHMENT 3

**Verizon Wireless • Proposed Base Station (Site No. 249699 “Salmon Falls Road”)
1521 Lake Vista Lane • El Dorado Hills, California**

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 249699 “Salmon Falls Road”) proposed to be located at 1521 Lake Vista Lane in El Dorado Hills, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

Verizon proposes to install directional panel antennas on a tall pole to be sited at 1521 Lake Vista Lane in El Dorado Hills. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission (“FCC”) evaluate its actions for possible significant impact on the environment. A summary of the FCC’s exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5,000–80,000 MHz	5.00 mW/cm ²	1.00 mW/cm ²
BRS (Broadband Radio)	2,600	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called “radios” or “channels”) that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the

**Verizon Wireless • Proposed Base Station (Site No. 249699 “Salmon Falls Road”)
1521 Lake Vista Lane • El Dorado Hills, California**

antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, “Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation,” dated August 1997. Figure 2 attached describes the calculation methodologies, reflecting the facts that a directional antenna’s radiation pattern is not fully formed at locations very close by (the “near-field” effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the “inverse square law”). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Verizon, including zoning drawings by HMH Design Group, dated February 28, 2014, it is proposed to install nine Andrew Model SBNHH-1D65B directional panel antennas on a new 85-foot steel pole, configured to resemble a pine tree, to be sited about 270 feet southwest of the residence located at 1521 Lake Vista Lane in El Dorado Hills. The antennas would be mounted with 4° downtilt at an effective height of about 78 feet above ground and would be oriented in groups of three toward 20°T, 130°T, and 240°T. For the limited purposes of this study, it is assumed that the maximum effective radiated power in any direction would be 10,200 watts, representing simultaneous operation at 4,360 watts for AWS, 1,600 watts for PCS, 2,360 watts for cellular, and 1,880 watts for 700 MHz service. There are reported no other wireless telecommunications base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.0054 mW/cm², which is 0.90% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of any other residence nearby* is 2.0% of the public exposure limit. It should be noted that these results include several “worst-case” assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

* Located at least 430 feet away, based on photographs from Google Maps.

**Verizon Wireless • Proposed Base Station (Site No. 249699 "Salmon Falls Road")
1521 Lake Vista Lane • El Dorado Hills, California**

No Recommended Mitigation Measures

Due to their mounting location, the Verizon antennas would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that Verizon will, as an FCC licensee, take adequate steps to ensure that its employees or contractors receive appropriate training and comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by Verizon Wireless at 1521 Lake Vista Lane in El Dorado Hills, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2015. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.



William F. Hammett
William F. Hammett, P.E.
707/996-5200

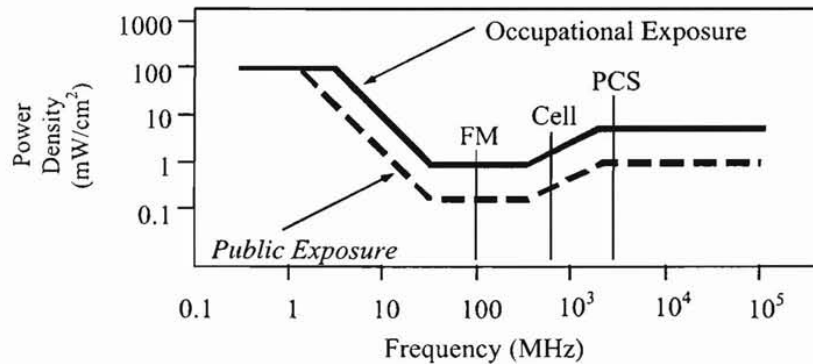
June 2, 2014

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements (“NCRP”). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, “Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency Applicable Range (MHz)	Electromagnetic Fields (<i>f</i> is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√ <i>f</i>	<i>1.59√f</i>	√ <i>f</i> /106	<i>√f/238</i>	<i>f/300</i>	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.

HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

FCC Guidelines
Figure 1

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm²,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm²,

- where θ_{BW} = half-power beamwidth of the antenna, in degrees, and
 P_{net} = net power input to the antenna, in watts,
 D = distance from antenna, in meters,
 h = aperture height of the antenna, in meters, and
 η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

$$\text{power density } S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}, \text{ in mW/cm}^2,$$

- where ERP = total ERP (all polarizations), in kilowatts,
RFF = relative field factor at the direction to the actual point of calculation, and
D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

6124 SHADOW LANE
CITRUS HEIGHTS, CA 95621

SEPTEMBER 25, 2014

Mr. Alan Heine
916-220-5814
aheine@onairllc.com

LOT 6 ASSET
PLANNING DEPARTMENT

OAK CANOPY SURVEY FOR THE PROPERTY AT 1521 LAKE VISTA LANE, EL DORADO HILLS EL DORADO COUNTY, CA.

INTRODUCTION AND METHODS

An arborist survey / oak tree canopy survey was performed for the project area at 1521 Lake Vista Lane, El Dorado Hills, CA. (Property)(Exhibit 1), at the request of the County of El Dorado (County). This Arborist Survey / Oak Tree Canopy Survey followed the County's Biological Resources Study and Important Habitat Mitigation Program Guidelines (Guidelines). I performed the canopy survey in my capacity as a certified arborist (Int'l Society of Arboriculture license #WE-6725A) on September 23, 2014. Arborist survey methods followed standards of the International Society of Arboriculture (ISA) and American National Standards Institute, Inc. The following texts were consulted for floral identification, as needed: Pavlik (1991), Hickman (1993), Stuart and Sawyer (2001), Lanner (2002), and University of California at Berkeley (2014a,b).

Tree width was measured using a girth tape, according to the Guidelines: "*The measurement of the diameter of the tree in inches, specifically four (4) feet six (6) inches above natural grade on the uphill side of the tree. In the case of trees with multiple trunks, the diameter of all stems (trunks) at breast height shall be combined to calculate the diameter at breast height of the tree.*"

Where needed, aerial photographs of the property were groundtruthed during the site visit to determine which canopy shapes and colors corresponded to species of oak trees (genus *Quercus*), versus other types of vegetation. Where needed, the canopy cover was measured using geographical system software (ArcGIS 10.3, ESRI, Inc.) by heads-up digitizing ortho-rectified aerial photography, including annotations made in the field. ArcGIS was used to calculate total acreage of the oak canopy.

RESULTS

The project area is dominated by mixed oak woodland vegetation community. Interior live oak and blue oak are the dominant tree species. The tree inventory is presented as Exhibit 2. No trees within the project area were detected that exceeded 36 inches DBH. No individual landmark or heritage trees were detected. Based upon groundtruthing and geographical information system analysis of ortho-rectified aerial photography, the study area contains approximately 10% oak tree (*Quercus* spp.) canopy (Exhibit 2).

FINDINGS AND RECOMMENDATIONS

Project implementation does not require the removal of any oak trees; the project was designed to avoid this resource. Several blue oak trees will need to be pruned for vertical clearance of equipment.

The Property is subject to Canopy Retention and Replacement because the Property, although it is not greater than 1 acre, contains at least 10 percent oak canopy cover. Because the existing tree canopy is at least 10%, the tree canopy retention standard is 90%. About 2% of this oak canopy cover needs to

be removed, but only by pruning; no oak mortality is expected (if pruned correctly). Thus, the oak retention standard is satisfied and no mitigation is required.

Pruning of oak trees should be performed by a certified arborist or other knowledgeable tree care professional.

No Candidate, Listed or Special Status Plant or Animal Species were observed or expected to occur on or adjacent to the project site. It is my opinion that a Biological Resources Study and Important Habitat Mitigation Program is not necessary for development of this Property.

CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological survey (or Arborist Report), and that the facts, statements, and information presented herein are true and correct to the best of my knowledge and belief.



Signed: _____ Dated: September 26, 2014

REPORT AUTHOR

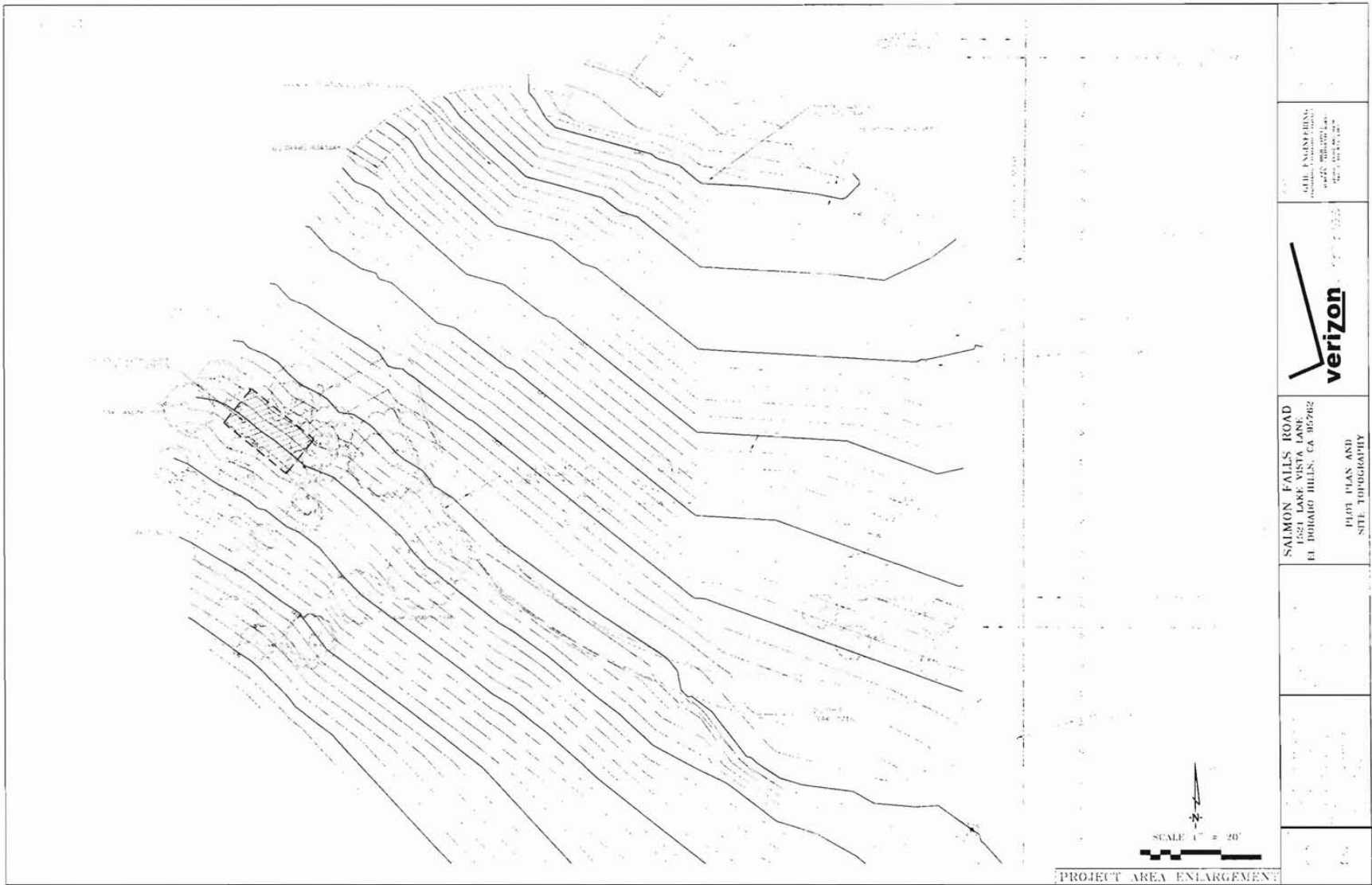
G. O. Graening, PhD, MSE

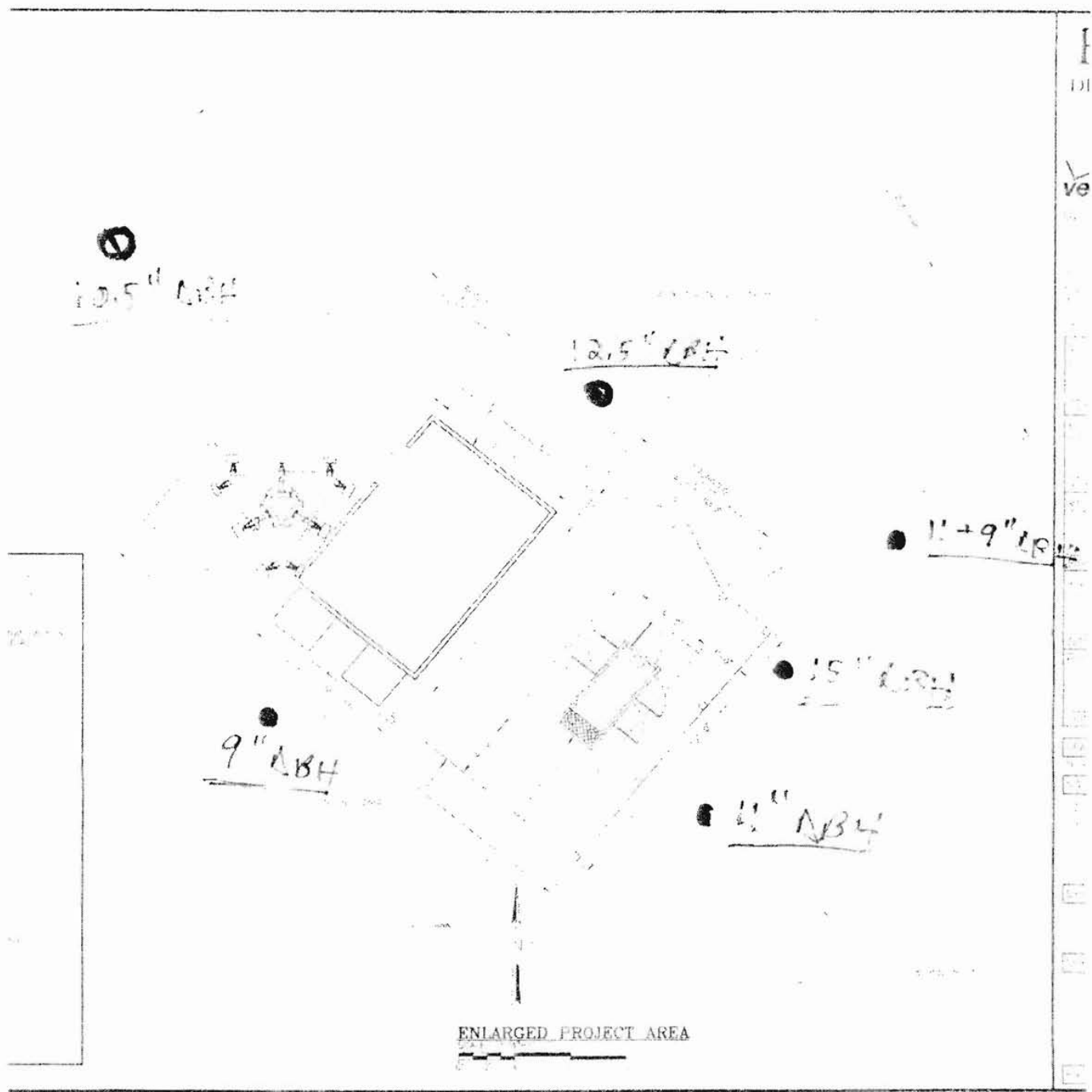
Dr. G. O. Graening is a consulting arborist certified by the International Society of Arboriculture (Certification # WE-6725A) since 2003. Certification may be verified on the Internet at the ISA website (<http://www.isa-arbor.com/certification/verifyCredential/index.aspx>). Dr. Graening also holds a Ph.D. in Biology and a Master of Science degree in Biological and Agricultural Engineering. Dr. Graening has 13 years of experience in environmental assessment and research, including the performance of numerous arborist surveys, appraisals, and design of tree mitigation plans.

REFERENCES

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EXHIBITS





● Oak tree locations & DBH
 (give date & diameter size)

● Preliminary
 year-to-year