Verizon Wireless Cellular Tower- Merrychase Drive Special Use Permit S14-0011



82:42 POR. SECS. 4 & 9, T. 9N, R.9E, M.D.M. CAMERON PARK NORTH UNIT NO. 5 Tax Area Code D-93 1% 100 P. 38 P.41 GREENWOOD 47/146/2 9 1.00 4 DRIVE MERRYCHASE EXHIBIT B 47/146/1 E 0.40 A N 7 # 38'00'E 5 (1)47/147/1 10 0.259 A (5) 00" 31'00"M 47/147/2 (1) 0.481 A 3 BK.108 z 3 20. 10 2 0 444.48 \$ 76" 12'01" W. FREEWAY 50 00* 4Z NO LUG BK.109 u Assessor's Map Bk. 82 - Pg. 42 County of El Dorado, California NOTE - Assessor's Block Numbers Shown in Ellipses Assessor's Parcel Numbers Shown in Circles THIS MAP IS NOT A SURVEY, II is prepared by the El Darado Co. 01-22-2002 Assessor's office for assessment purposes only.



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EXIT 34

CRAZY HORSE RD

Project Site

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Exhibit C- General Plan Land Use Map

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0 60 120 240 Feet

US HWY 50

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Verizon Wireless Cellular Tower- Merrychase Drive Special Use Permit S14-0011



Verizon Wireless Facility Special Use Permit S14-0011



Exhibit E- Aerial Photo and Surrounding Uses

Map prepared by Mat Patalinas El Densis County Censiopment Services Pla

0 110 220 440 Feet



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*** FOOTHILL ASSOCIATES

ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

March 9, 2015

Mark Lobaugh Epic Wireless Group, Inc. 8700 Auburn Folsom Road, Suite 400 Granite Bay, CA 95746

RE: Merrychase Verizon Arborist Report

Dear Mr. Lobaugh:

This letter updates the previous arborist report letter dated September 17, 2014 to reflect the new site plan, which includes a pre-cast concrete wall surrounding the utility enclosure in place of a chainlink fence.

Foothill Associates surveyed all trees within the parcel that contains the proposed construction of the wireless communications facility located at 2550 Merrychase Drive in Cameron Park, California. The property is privately owned and is associated with the adjoining European Performance auto repair business. El Dorado County General Plan Policy 7.4.4.4 states that an oak woodland is "one or more groupings of live trees, where the dominant species of the live trees within the grouping are native oaks." Since there are no groupings of oaks on the parcel and it is located in a developed area, this site would not be considered oak woodland, and therefore not subject to oak tree canopy cover retention requirements. However, the oak trees on the site are protected under General Plan Policy 7.4.5.2 and cannot be removed without a Tree Removal Permit.

The Arborist Survey was conducted on August 12, 2014, by ISA-Certified Arborist Kirk Vail (WE-4575A. All trees were labeled with a pre-printed metal tag, and examined to determine their species type, diameter at breast height (DBH), and height. A diameter tape was used to verify each trunk diameter at the industry standard of 54 inches above grade. The measurement from the trunk to the end of the longest lateral limb was used as the dripline radius (DLR). The health and structure of each tree was rated on a 5-point scale from poor to good.

A total of three trees, consisting of 2 blue oaks (*Quercus douglasii*) and 1 blue oak/valley oak hybrid (*Quercus x jolonensis*) were surveyed in with the subject property. Tree data is shown in **Table 1** below and approximate tree locations are shown in **Figure 1** enclosed.

EXHIBIT I

590 Menlo Drive, Suite 5 🔹 Rocklin, California 95765 🔹 Telephone (916) 435-1202 🛸 Facsimile (916) 435-1205 🍨 www.foothill.com

Tree Tag	Species	DBH (inches)	DLR	Health	Structure	Height (feet)	Notes
141	Blue Oak hybrid	35	35	Fair-Good	Fair-Good	43	Blue oak bark, valley oak leaf; eastern branches pruned back by owner; eastern half of root system likely removed during bank cutting; epicormic branching; shrubs planted near base.
142	Blue Oak	23,16,10	20	Good	Fair-Good	38	Growth form leaning north due to shading of adjacent interior live oak which has been removed; some landscaping around base.
143	Blue Oak	28	25	Fair-Good	Fair-Good	30	On border of western property; eastern root system likely removed by bank cutting; crown slightly reduced, some branches cut, no obvious signs of stress.

Table 1 – Tree Data	Table	1-	Tree	Data
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All of the trees are in Fair-Good to Good health. None of the trees are recommended for removal. Tree #141 is unusual in that it appears to be a hybrid of blue oak and valley oak. It is showing stress with epicormic branching (water sprouts), which would be expected as it appears to have lost a large portion of the root system due to previous development to the east. Additionally, the soil in the root zone of the trees is compacted from use as a parking area. Tree #142 has an asymmetrical canopy and has grown towards the north because of shading by an existing interior live oak tree which has now been largely removed. The landscaping at the base and construction on all sides does not appear to have impacted its health. Tree #143 appears reasonably healthy despite its apparent loss of half its root system from bank cutting.

The wireless facility will only impact Tree #141. As **Figure 1** shows, the proposed utility enclosure will encroach on the southern portion of the canopy and, hence, its root system. As shown in **Figure 1**, most of the encroachment within the canopy of this tree is due to the pre-cast concrete wall that surrounds the facility. The permanent impact of this wall should be minor since excavation is only required for the pilaster footings. Since the wall panels must be lifted into place, there is potential for temporary conflict with the canopy. Pruning for temporary construction access should be kept to a minimum. Instead limbs should be tied back to allow temporary access. Additionally, planting of screening shrubs may have minor impacts on the root system. Native or drought-tolerant shrubs should be selected and only on-surface drip irrigation should be used to avoid trenching and minimize additional water in the root zone of the oak.

The shelter slab and generator slab are located at the far edge of the enclosure and expected to have only minor impacts to the root system. In addition, a five-foot-wide utility underground easement is also proposed along the west side of the tree canopy. Trenching for utility installation has the potential to significantly impact the tree, therefore boring is recommended for utility installation under the canopy.

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To minimize the potential impacts to Tree #141's root system, the following tree protection measures are recommended:

- Utilize boring techniques to install utility lines within the area under the canopy to avoid severing vital roots. If boring is impossible, all trenching near Tree #141's root system should be done by hand under the supervision of an ISA-Certified Arborist;
- Cut roots cleanly at the edge of excavation. Do not pull or tear roots. If roots are split during construction, follow root back and cut cleanly above split;
- No parking, portable toilets, dumping or storage of any construction materials, or unnecessary grading, or excavation, trenching, or other infringement should be done within the dripline;
- No signs, ropes, cables, or any other item shall be attached to the tree, unless recommended by an ISA-Certified Arborist;
- Where temporary construction access is required, limbs should be tied back rather than pruned to the greatest extent possible;
- Pruning of living limbs or roots over 2 inches in diameter shall be done under the supervision of an ISA-Certified Arborist; and
- Select native or drought-tolerant plants for screening and use on-surface drip irrigation to eliminate trenching within the root zone.

If you have any questions regarding this report please don't hesitate to contact me at (916) 435-1202 or email <u>mbranstad@foothill.com</u>.

Sincerely,

Meredon

Meredith Branstad ISA-Certified Arborist #WE-6727A

Enclosure: Figure 1 — Tree Locations

#FOOTHILL ASSOCIATES





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RF EMISSIONS COMPLIANCE REPORT

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Verizon Wireless

Site: Merrychase 2550 Merrychase Dr. Cameron Park, CA 95682

Latitude/Longitude: 38.65694/-121.00049

August 27, 2014

Report Status:

Verizon Wireless Is under 5% Threshold

Prepared By:

1980 - Standard Standard († 1980) 1980 - Standard Standard († 1980) 1980 - Standard Standard († 1980)

Waterford Consultants, LLC

EXHIBIT K

201 Loudoun Street SE, Suite 300 Leesburg, VA 20175 Voice (703) 596-1022 www.waterfordconsultants.com



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ENGINEERING STATEMENT CONFIRMING COMPLIANCE With Radiofrequency Radiation Exposure Limits

Compliance Statement

Subject site COMPLIES with Radiofrequency Radiation Exposure Limits of 47 C.F.R. § § 1.1307(b)(3) and 1.1310

Technical Framework: Basis for Compliance Statement

Criteria for evaluation are listed in Table 1 of 47 C.F.R. § 1.1310. Calculations using input data provided to Waterford by client or client's representative numerically confirm the subject site can operate at a 100% duty cycle without creating situations that exceed MPE limits in areas of uncontrolled access. Because the subject facility is commercial infrastructure, general public access to the immediate vicinity of the equipment is likely to diminish the quality of wireless service available to the community. For that reason, whether signage is, or is not required as a safety precaution, Waterford recommends placement of signage at the subject site for the purpose of improving network reliability by discouraging public access.

Power density decreases significantly over a short distance from any antenna. Specifically with respect to directional panel antennas, the design, oriented in azimuth and elevation as documented, reasonably precludes potential to exceed MPE limits at any location other than directly in front of the antenna. Areas in front of the antenna that are restricted by barriers, would require climbing or are otherwise beyond the reach of a standing individual of average height are not considered accessible. Analysis or measurement of instantaneous energy levels is performed for use as proof of compliance with FCC rules and regulations applicable to non-occupational persons, those individuals who are not authorized to access portions of the antenna support structure above ground level. To assess time-weighted exposure to occupational personal working within secured areas of the site, on the supporting structure, or in the immediate proximity of the antenna equipment is a separate study requiring detailed ergonomic information.

Regulatory Framework

The FCC requires licensees to assure that persons are not exposed to radiofrequency electromagnetic energy power densities in excess of the applicable MPE (Maximum Permissible Exposure) limit. These rules apply to both Occupational Personnel and the General Population. Applicable FCC rules are found at 47 C.F.R. §§ 1.1307(b)(3) and 1.1310. The FCC rules define two tiers of permissible exposure that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure.

General Population / uncontrolled exposure limits apply to those situations in which persons may not be aware of the presence of electromagnetic energy, where exposure is not employment-related, or where persons cannot exercise control over their exposure.

Occupational / controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment, have been made fully aware of the potential for exposure, and can exercise control over their exposure.

Maximum Permissible Exposure ("MPE") is defined in OET 65 as being 100% of the exposure limit for the situation or tier of permissible exposure. The time averaged maximum permissible exposure to radiofrequency electromagnetic energy (RF), shown in Table 1 of Appendix A, expressed in milliwatt-minutes per square centimeter, is the same value for both tiers. FCC intention regarding time averaged exposure is expressed in this quote from page 10 of OET 65:

"Another feature of the exposure guidelines is that exposures, in terms of power density, E2 or H2, may be averaged over certain periods of time with the average not to exceed the limit for continuous exposure.11 As shown in Table 1 of Appendix A, the averaging time for occupational/controlled exposures is 6 minutes, while the averaging time for general population/uncontrolled exposures is 30 minutes. It is important to note that for general population/uncontrolled exposures it is often not possible to control exposures to the extent that averaging times can be applied. In those situations, it is often necessary to assume continuous exposure.

As an illustration of the application of time-averaging to occupational/controlled exposure consider the following. The relevant interval for time-averaging for occupational/controlled exposures is six minutes. This means, for example, that during any given six-minute period a worker could be exposed to two times the applicable power density limit for three minutes as long as he or she were not exposed at all for the preceding or following three minutes. Similarly, a worker could be exposed at three times the limit for two minutes as long as no exposure occurs during the preceding or subsequent four minutes, and so forth.

¹¹ Note that although the FCC did not explicitly adopt limits for peak power density, guidance on these types of exposures can be found in Section 4.4 of the ANSI/IEEE C95.1-1992 standard."

At the entry to any area in excess of 100% General Population MPE, access controls must be put in place and maintained to restrict access, preventing occupancy by the general population. For persons who have been properly trained and meet the definition of being Occupational Personnel, access to areas at the Occupational MPE limit may be granted for six minutes, so long as the preceding six minute period and the following six minute period are free from exposure; the worker is not exposed to any RF energy. Subject to other site security requirements, Occupational Personnel trained in RF safety and equipped with personal protective equipment designed for safe work in the vicinity of RF may be granted access. Controls such as physical barriers to entry imposed by locked doors, locked passageways, or other access control mechanisms may be supplemented by alarms that notify site management of a breach in access control. Controls may include administrative policies and procedures requiring proof of personal protective equipment (e.g. RF attenuating eyewear, wearable RF shielding), RF training requirements to obtain site access cards, presentation of appropriate RF awareness training certifications to security personnel, requirement to wear a personal RF monitor, or other measures that control access.

FCC regulations regarding Radiofrequency radiation exposure, expressed in 47 CFR § 1.1310 are further clarified with respect to the value of 5% of exposure limits for the subject transmitters in the following section of 47 CFR § 1.1307 (b):

⁽³⁾ In general, when the guidelines specified in § 1.1310 are exceeded in an accessible area due to the emissions from multiple fixed transmitters, actions necessary to bring the area into compliance are the shared responsibility of all licensees whose transmitters produce, at the area in question, power density levels that exceed 5% of the power density exposure limit applicable to their particular transmitter or field strength levels that, when squared, exceed 5% of the square of the electric or magnetic field strength limit applicable to their particular transmitter. Owners of transmitter sites are expected to allow applicants and licensees to take reasonable steps to comply with the requirements contained In §1.1307(b) and, where feasible, should encourage co-location of transmitters and common solutions for controlling access to areas where the RF exposure limits contained in § 1.1310 might be exceeded.

Following these FCC requirements, predictive modeling was performed. That modeling indicates power density levels from client transmitters do not exceed 5% of the power density MPE limit applicable to their transmitters.

Qualifications of Waterford

With more than 40 team-years of experience, Waterford Consultants, LLC [Waterford] provides technical consulting services to clients in the Radio Communications and antenna siting industry. Waterford retains professional engineers who are placed in responsible charge of the processes for analysis.

Waterford is familiar with 47 C.F.R. § § 1.1307(b)(3) and 1.1310 along with the general Rules, Regulations and policies of the FCC. Waterford processes incorporate all specifications of FCC Office of Engineering and Technology, Bulletin 65 ("OET65"), from the website: Uwww.fcc.gov/oet/rfsafety,U and follow criteria detailed in 47 CFR § 1.1310 "Radiofrequency radiation exposure Limits".

Within the technical and regulatory framework detailed above, Waterford created sophisticated computer modeling tools that operate on data provided by Waterford clients through the Waterford web portal. In developing these tools, Waterford chose each program step encoded into computer modeling tools according to recognized and generally accepted good engineering practices. Permissible exposure limits are band specific, and the Waterford computerized modeling tools correctly calculate permissible exposure based on the band(s) specified in the input data. Only clients and client representatives are authorized to provide input data through the Waterford web portal. In securing that authorization, clients and client representatives warrant the accuracy of all input data.

Waterford Consultants, LLC attests to the accuracy of the engineering calculations. Waterford also attests that the results of those engineering calculations are correctly summarized in this report.

Certification

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the law.

TEVEN NAS AIFR-ANDERSO A 040202583

Steven Nast Baier-Anderson Registered Professional Engineer Commonwealth of Virginia Reg. No. 0402-025832 August 27, 2014

2014.08.27 09:33:19 -04'00'

PROJECT SUPPORT STATEMENT

DEVEPLOMENT APPLICATION FOR VERIZON SITE "MERRYCHASE"

APN 082-421-05-10

2550 MERRYCHASE DR., CAMERON PARK, CA. 95682

INTRODUCTION

Verizon Wireless is seeking to improve communications service in the El Dorado County area near Cambridge Road and Hwy 50. Verizon would like to increase coverage and capacity in the area by constructing a new telecommunications facility in to improve service for both current and potential customers. Additionally, this network development will increase public safety within these areas and bring wireless service to areas that currently have poor capacity service.

This tower will help alleviate an area of poor coverage and inadequate capacity within this service area, which causes reoccurring lost calls and ineffective service. This site will relieve inadequate capacity in the area due to high cell phone usage along Hwy 50 and will also improve service in the town of Cameron Park. The proposed location of the tower is set within an unutilized portion of this parcel and will be designed to comply with all County of El Dorado's wireless design guidelines. The proposed Verizon Communications facility will be located within a 31' x 34' block walled compound, painted to match the existing automotive repair facility onsite and will include a row of vines planted along the north and west perimeters to provide additional decorative screening. The project will include: (1) proposed 16'10.5" x 11'6" equipment shelter, 6'x13' pad for a 30kw emergency standby generator and a 85' stealth, broadleaf monotree designed to blend in with the existing oak trees nearby. This tower will accommodate (4) sectors with (2) antennas per sector with "antenna socks", (2) remote radio units (RRU's) per sector. This tower has been designed to accommodate future collocation by other carriers.

The parcel select selected for this communication is owned by, Marc and Debbie Hoover and totals 0.70 acres. The location for this project is situated approximately 153' from Merrychase Rd.

This unmanned facility will provide service to area travelers, residents and businesses 24 hours a day, 7 days a week. This site will also serve as a back up to the existing landline service in the area and will provide improved mobile communications, essential to modern day commerce and recreation.

ALTERNATIVE SITE ANALYSIS

Numerous alternative sites were explored during the due diligence phase of this project. The following sites were reviewed and ultimately rejected for a variety of reasons.

<u>Church of the Foothills vacant parcel:</u> This site was rejected for a variety of reasons including proximity to power and being further west than was desired by Verizon RF.

<u>PG&E Colocation, 2380 Merrychase Dr.</u>: This site was rejected as PG&E will no longer allow antennas above the conductors. Below conductors is too low.

<u>Church of the Foothills 3939 Cambridge Rd</u>: Rooftop mounted antennas would not provide adequate antenna height for this proposed site. Also very limited space for ground equipment.

<u>2522 Merrychase Dr., Lighting Unlimited retail store</u>: This parking lot site would have resulted in loss of parking stalls and had limit room for the proposed cell site.

Project Support Statement – Verizon Merrychase Site

SAFETY BENEFITS OF IMPROVED WIRELESS SERVICE

Mobile phone use has become an extremely important system for public safety. Along roads and highways without public call boxes, mobile phones are often the only means for emergency roadside communication. Motorists with disabled vehicles (or worse) can use their phone to call in and request appropriate assistance. With good cellular coverage along important roadways, emergency response is just a phone call away. Furthermore, as a back up system to traditional landline phone service, mobile phones have proven to be extremely important during natural disasters and other catastrophes.

Verizon has taken the responsibility for back-up service very seriously. As such, Verizon has incurred increased expense to install a standby diesel generator at this facility to insure quality communication for the surrounding community regardless of any disaster or catastrophe.

CONVENIENCE BENEFITS OF IMPROVED WIRELESS SERVICE

Modern day life has become increasingly dependent on instant communications. Whether it is a parent calling their child, spouse calling a spouse, or general contractor ordering materials to the jobsite, wireless phone service is no longer just a convenience. It has become a way of life and a way of business.

COMPLIANCE WITH COUNTY DEVELOPMENT STANDARDS

This project has been carefully designed to comply with all applicable standards.

COMPLIANCE WITH FCC STANDARDS

This project will not interfere with any TV, radio, telephone, satellite, or any other signals. Any interference would be against the Federal Law and would be a violation Verizon Wireless' FCC License. In addition, this project will conform to all FCC standards.

TECHNOLOGY AND CONSUMER SERVICES THE CARRIER WILL PROVIDE ITS CUSTOMERS

Verizon offers its customers multiple services such as, voice calls, text messaging, mobile email, picture/video messaging, mobile web, navigation, broadband access. Wireless service enhances public safety and emergency communications in the community. In rural areas such as the subject location, cellular phone service can cover much larger geographic areas than traditional landline phone service.

FUTURE COLLOCATION OPPORTUNITIES

The proposed site has been designed to allow for future co-location opportunities with other carriers. The land lease provides sufficient space for additional service providers and the tower and its foundation are designed for future equipment. This tower will eliminate the need for multiple towers within the same general vicinity as it has been designed to accommodate up to (3) carriers and their associated ground equipment.

LIGHTING

Unless tower lighting is required by the FAA the only lighting on the facility will be a shielded motion sensor light by the door on the equipment shelter for servicing the equipment.

NOISE

The standby generator will be operated for approximately 15 minutes per week for maintenance purposes, and during power outages and disasters.

HAZARDOUS MATERIAL

A Hazardous Material Business Plan will also be submitted upon project completion, and stored on site after construction

ENVIRONMENTAL SETTING

The site is set within a parcel that is zoned RE-5 Rural Residential and is consistent with application design standards in the area and environment.

MAINTENANCE AND STANDY GENERATOR TESTING

Verizon installs a standby diesel generator and batteries at many of its cell sites. The generator and batteries serve a vital role in Verizon emergency and disaster preparedness plan. In the event of a power outage, Verizon communications equipment will first transition over to the back-up batteries. The batteries can run the site for a few hours depending upon the demand placed upon the equipment. Should the power outage extend beyond the capacity of the batteries, the back-up generator will automatically start and continue to run the site. This two state back-up plan is an extremely important component of Verizon communications sites. Back-up batteries and generators allow Verizon communications sites to continue providing valuable communications services in the event of a power outage, natural disaster or other emergency.

A standby generator will be installed at the site to ensure quality and consistent coverage in the event of a power outage or disaster. This generator will be run for approximately 15 minutes per week for maintenance purposes, and during power outages and disasters.

A technician will visit the site approximately twice a month to check the facility and perform any necessary maintenance.

CONSTRUCTION SCHEDULE

The construction of the facility will be in compliance with all local rules and regulations. The typical duration is two months. The crew size will range from two to ten individuals.





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