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September 30, 2019

**VIA EMAIL AND FEDEX**

Chairperson Serop Torossian  
Vice Chair Kathy Bray  
Commissioners Raj K. Sodhi-Layne,  
Debra McKenzie, Peter Vang,  
and Brad Hardie  
c/o Kao Vang  
Planning Commission  
City of Fresno  
2600 Fresno Street  
Fresno, California 93721

Re: Verizon Wireless Response to Appeal of Application P19-00974  
Telecommunications Facility, 3199 East McKinley Avenue  
Planning Commission Agenda October 16, 2019

Dear Chairperson Torossian, Vice Chair Bray and Commissioners:

We write on behalf of Verizon Wireless to urge you to uphold the approval by the Planning and Development Director of a wireless facility camouflaged as a pine tree in a commercial zone (the "Approved Facility"). The appeals filed Christy Casanova and Debbie Poblano ("Appellants") raise no substantial evidence to warrant denial of the Approved Facility. Because the appeals are based entirely on concern over radio frequency ("RF") emissions, they must be rejected because the Approved Facility will comply with federal RF exposure guidelines. Verizon Wireless has provided substantial evidence to show that the Approved Facility satisfies all City requirements for wireless facilities and meets all findings for a conditional use permit. We urge you to deny the appeal and uphold the Director's approval.

**I. The Project**

The Approved Facility has been thoughtfully designed to minimize any impact on the surrounding area. Verizon Wireless proposes to conceal its panel antennas within a 60-foot freestanding facility camouflaged as a pine tree. The treepole will be located next to a storage unit building within a commercial zone, 230 feet away from East McKinley Avenue. Antennas will be concealed within faux foliage and branches, and branches will extend beyond and above the antennas, providing a realistic tapered crown.

Antennas will be covered with pine needle socks for further concealment. The treepole will be placed within a 540 square foot leased area that will also contain radio and network equipment. The equipment area will be surrounded by an eight-foot cinder block wall.

.A report by Hammett & Edison, Inc., Consulting Engineers, attached as Exhibit A, verifies that the Approved Facility will comply with Federal Communications Commission (“FCC”) radio frequency exposure guidelines.

**II. The Approved Facility Meets All Findings for Approval of a Conditional Use Permit.**

As confirmed by the Director’s approval, the Approved Facility satisfies all findings for a conditional use permit. Fresno Code of Ordinances § 15-5306. Wireless facilities are allowed in the community commercial zone, and a camouflaged “monopine” is one of the design options that the Director may approve, consistent with *Policy and Procedure No. 33, Wireless Telecommunication Facilities*. The Approved Facility falls well under federal RF exposure limits and will be secure within the eight-foot cinder block wall, posing no adverse impact to public health safety, or welfare. In fact, the Approved Facility will provide an important public benefit through improved connectivity for residents, visitors and emergency response personnel. With its camouflage design and placement away from roadways in a commercial area, it poses no detriment to surrounding properties, and it is compatible with the adjacent commercial land uses.

In sum, the Approved Facility satisfies all findings for approval of a conditional use permit, and the Commission should deny the appeal and affirm the Director’s approval.

**III. The Approved Facility Complies with Federal RF Exposure Guidelines, and Concern over RF Emissions Cannot Be the Basis for Denial.**

Appellants base their appeals solely on concern over the RF emissions generated by the Approved Facility. However, the Commission may not consider the environmental effects of radio frequency emissions as a ground for denial of the Approved Facility because it will comply with the FCC’s RF exposure guidelines. *See* 47 U.S.C. § 332(c)(7)(B)(iv). The Hammett & Edison radio frequency exposure report demonstrates that the maximum calculated exposure for anyone at ground level will be 8.8 percent—or 11 times below—the FCC’s public limit. The maximum calculated exposure at the second floor level of any nearby residence at least 280 feet distant will be 3.0 percent—or 33 times below—the FCC’s public limit.

Because the Approved Facility complies with the FCC’s exposure guidelines, the City cannot consider any concerns over RF emissions as a factor for evaluating the Approved Facility. These concerns raised by appellants must be dismissed.

**IV. There is Substantial Evidence for Approval, and Appellants Provide No Substantial Evidence for Denial.**

Denial of a wireless facility application must be based on substantial evidence. 47 U.S.C. §332(c)(7)(B)(iii). As interpreted by federal courts, this means that a local government's decision to deny a wireless facility application must be based on requirements set forth in the local code and supported by evidence in the record. *See Metro PCS, Inc. v. City and County of San Francisco*, 400 F.3d 715, 725 (9th Cir. 2005) (denial of application must be "authorized by applicable local regulations and supported by a reasonable amount of evidence.") While a local government may regulate the placement of wireless facilities based on aesthetics, mere generalized concerns or opinions about aesthetics or compatibility with a neighborhood do not constitute substantial evidence upon which a local government can deny a permit. *See City of Rancho Palos Verdes v. Abrams*, 101 Cal. App. 4th 367, 381 (2002).

Focusing solely on the RF emissions of the Approved Facility, which cannot be a factor for denial, Appellants have provided no evidence – let alone the substantial evidence required by federal law – to support denial. In contrast, Verizon Wireless has provided ample evidence that the Approved Facility complies with all City requirements. This is demonstrated by the photosimulations and project plans showing compliance with City standards, and the Hammett & Edison RF exposure report confirming that the Approved Facility will operate well under FCC radio frequency exposure guidelines.

**Conclusion**

Verizon Wireless has worked diligently to identify the ideal location and design for a camouflaged wireless facility to serve the surrounding area. The Approved Facility meets all findings for approval of a conditional use permit and complies with federal RF exposure guidelines. Bringing improved Verizon Wireless service to the area is essential to reliable communications with emergency services providers, and to the health, safety, and welfare of residents and visitors. We strongly encourage you to affirm the Director's approval and deny the appeal.

Very truly yours,



cc: Douglas Sloan, Esq.  
Bonique Emerson  
Kao Vang

**Schedule of Exhibits**

Exhibit A: Radio Frequency Exposure Report by Hammett & Edison, Inc., Consulting Engineers

**Verizon Wireless • Proposed Base Station (Site No. 385937 “McKinley & First”)  
3199 East McKinley Avenue • Fresno, 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. 385937 “McKinley & First”) proposed to be located at 3199 East McKinley Avenue in Fresno, 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 the Mayfair Self Storage facility, located at 3199 East McKinley Avenue in Fresno. 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 limit for exposures of unlimited duration at several wireless service bands are as follows:

Wireless Service Band	Transmit Frequency	“Uncontrolled” Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm <sup>2</sup>	5.0 mW/cm <sup>2</sup>
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
CBRS (Citizens Broadband Radio)	3,550 MHz	1.0	5.0
BRS (Broadband Radio)	2,490	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
600 MHz	617	0.41	2.05
[most restrictive frequency range]	30–300	0.20	1.0



**Verizon Wireless • Proposed Base Station (Site No. 385937 “McKinley & First”)  
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**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 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 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 construction drawings by Streamline Engineering and Design, Inc., dated July 5, 2019, it is proposed to install nine CommScope Model NHH-65B directional panel antennas on a 55-foot steel pole, configured to resemble a pine tree,\* to be sited near the southern end of the Mayfair Self Storage facility, located at 3199 East McKinley Avenue in Fresno. The antennas would employ no downtilt, would be mounted at an effective height of about 51 feet above ground, and would be oriented in groups of three toward 30°T, 150°T, and 270°T, to provide service in all directions. The maximum effective radiated power in any direction would be 27,900 watts, representing simultaneous operation at 12,030 watts for AWS, 5,000 watts for PCS, 5,500 watts for cellular, and 5,370 watts for 700 MHz service. There are reported no other wireless telecommunications base stations at the site or nearby.

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\* Foliage atop the pole puts the overall height at about 60 feet.



**Verizon Wireless • Proposed Base Station (Site No. 385937 “McKinley & First”)  
3199 East McKinley Avenue • Fresno, California**

**Study Results**

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.086 mW/cm<sup>2</sup>, which is 8.8% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of any nearby building<sup>†</sup> is 5.6% of the public exposure limit. The maximum calculated level at the second-floor elevation of any nearby residence<sup>‡</sup> is 3.0% 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.

**No Recommended Compliance Measures**

Due to their mounting locations and height, the Verizon antennas would not be accessible to unauthorized persons, and so no 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 3199 East McKinley Avenue in Fresno, 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.

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<sup>†</sup> Located at least 100 feet away, based on photographs from Google Maps.

<sup>‡</sup> Located at least 280 feet away, based on photographs from Google Maps.



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**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, 2021. 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.



A handwritten signature in blue ink that reads "William F. Hammett". The signature is written over a horizontal line.

William F. Hammett, P.E.

707/996-5200

September 24, 2019

