Planning
Memorandum

To: Sean del Solar
From: Tripp May
Reviewed by: Jonathan L. Kramer
Date: August 5, 2014
RE: P14-0013 (Verizon Wireless)
842 Nordahl Road (North County Baptist Church)

The City of San Marcos ("City") requested a review of the Verizon Wireless ("Verizon") permit request to construct and operate a new mono-broadleaf wireless site at the North County Baptist Church located at 842 Nordahl Road. AT&T currently operates a mono-broadleaf site on this property.

Current Project

Verizon Wireless proposes to install one new 35 foot above ground level ("AGL") mono-broadleaf to support eight panel antennas, one microwave dish antenna, and eight remote radio units ("RRUs"). The mono-broadleaf will envelope the tower-mounted equipment and include faux-broadleaf antenna socks on the proposed panel antennas. Additionally, Verizon proposes to install faux-bark cladding on the pole to mimic a broadleaf tree trunk.

To house the base station equipment, Verizon proposes to install a new trellis-topped enclosure on the hillside below the mono-broadleaf. Within this enclosure, Verizon proposes to install one diesel back-up power generator, two radio equipment cabinets, two battery cabinets, two DC power surge suppressors, and three GPS antennas.

We note that the plans submitted contain numerous redacted areas throughout. We recommend that the City deem this aspect incomplete because it cannot rely on partial information. For example, Verizon may seek to modify this site in the future under its Section 6409(a) rights (discussed below), but Verizon cannot demonstrate whether the proposed change will result in a substantial one unless it discloses the full scope of its projects. Additionally, such incomplete information would likely hamper the City's code enforcement capabilities. We therefore recommend that the City require unredacted plans as a best practice and matter of course.

Section 6409(a) Analysis

As a threshold matter, the City must determine whether Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, codified as 47 U.S.C. § 1455(a)

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("Section 6409(a)"), governs this permit request. Generally, Section 6409(a) requires that local governments "may not deny, and shall approve," certain requests to collocate with or modify an existing wireless tower or base station so long as that request will not "substantially change the physical dimensions" of the existing facilities.[1] Thus, Section 6409(a) may be outcome-determinative.

To determine whether Section 6409(a) applies, the Town must apply the two-prong test to the permit request as described below. The statute applies only when:

(1) the applicant requests to collocate, remove, or replace transmission equipment from an existing tower or base station; and

(2) the proposed project will not "substantially change the physical dimensions" of that tower or base station.

Critically, Section 6409(a) applies only when the applicant demonstrates both prongs are true. The statute does not apply when the applicant desires to construct an entirely new wireless communication facility or when the applicant desires to modify an existing site that substantially changes the physical dimensions of the existing tower or base station. Thus, local governments should always apply these prongs in the stated order.

Prong 1: Did the Applicant Submit an "Eligible Facilities Request"?

First, the applicant must demonstrate that its proposed project constitutes an eligible facilities request. Section 6409(a) defines an "eligible facilities request" as a permit application to collocate, remove, or replace transmission equipment on an existing wireless tower or base station. However, the statute does not define either a "wireless tower" or "base station."

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[1] Section 6409(a) states in full:

(a) FACILITY MODIFICATIONS.—

(1) IN GENERAL.—Notwithstanding Section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.

(2) ELIGIBLE FACILITIES REQUEST.—For purposes of this subsection, the term "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves—

(A) collocation of new transmission equipment;

(B) removal of transmission equipment; or

(C) replacement of transmission equipment.

(3) APPLICABILITY OF ENVIRONMENTAL LAWS.—Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.

The FCC defines a wireless "tower" as "any structure built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities."[2] A "base station" generally means a system of transmission equipment components in the same fixed location to transmit and receive communication signals.

Here, Verizon did not demonstrate that it submitted an eligible facilities request because it proposes to construct an entirely new site rather than collocate, replace, or remove transmission equipment from the existing AT&T wireless tower or base station. Verizon proposes to construct a new wireless tower (the mono-broadleaf) and a new base station (the equipment enclosure) rather than build upon the existing AT&T facilities, and the words in Section 6409(a) explicitly require the new equipment to modify the existing wireless tower or base station. The two separate sites would share an address and potentially an access route, but not much more.

Accordingly, we recommend that the City conclude Verizon did not submit an eligible facilities request because it proposes an entirely new and separate site rather than one that collocates, replaces, or removes transmission equipment from the existing AT&T wireless tower or base station. The City should therefore also conclude that Section 6409(a) does not apply to this permit request.

Prong 2: Does the Applicant Propose to "Substantially Change the Physical Dimensions of the Existing Wireless Tower or Base Station"?

Even when an applicant submits an eligible facilities request, Section 6409(a) does not mandate approval unless the request will not substantially change the physical dimensions of the wireless tower or base station. Therefore, even if Verizon submitted an eligible facilities request, Section 6409(a) would not apply because the new and separate mono-broadleaf and equipment enclosure would substantially change the physical dimensions of the AT&T site.

As of the date of this memorandum, no authoritative source has articulated any standard to determine whether a proposed design constitutes a substantial change in the physical dimensions of an existing wireless tower or base station. Without an authoritative statutory definition, local governments may apply the phase "substantial change in physical dimensions" in a manner consistent with its plain dictionary meaning. Merriam-Webster defines "substantial" as "large in amount, size, or number; important or essential." The phrase "physical dimensions" fairly includes weight, height, width, visibility, depth and/or density. Thus, a substantial change would likely occur when an applicant seeks a large, important, or essential change in the weight, height, width, visibility, depth and/or density of its facilities or equipment.

[2] *See Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B)*, Declaratory Ruling, 24 FCC Rcd. 11157 (adopted 2009).

Additionally, local governments may elect to follow nonbinding and informal policy guidance from the Federal Communications Commission's ("FCC") Wireless Telecommunications Bureau ("Informal Guidance"), which sets out four individually sufficient criteria for a substantial change.[3] Under the Informal Guidance standard, a substantial change occurs when:

> **[1]** [t]he mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or
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> **[2]** [t]he mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or
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> **[3]** [t]he mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or
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> **[4]** [t]he mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

However, the Informal Guidance does not represent the formal policy of the FCC and therefore does not carry the force of law and does not preempt local standards consistent with the plain meaning of "substantially change the physical dimensions."[4] Indeed, the Informal Guidance seems particularly unreliable given that it considers only increases in physical dimensions when the plain words in Section 6409(a) explicitly refer to "remov[als]" which are decreases. Nevertheless, a local

[3] *See* Wireless Telecommunication Bureau Offers Guidance on Interpretation of Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, *Public Notice*, DA 12-2047 (rel. Jan. 25, 2013).
[4] *See Christensen v. Harris Cnty.*, 529 U.S. 576, 587–88 (2000) (citing *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944)).

government may consider these factors when it evaluates whether a given eligible facilities request "substantially changes the physical dimensions of the existing wireless tower or base station."

Here, the Verizon proposal would substantially change the physical dimensions of the existing AT&T site under any definition of that phrase because it would effectively double the physical dimensions. The proposal also necessarily involves more than four new equipment cabinets and excavation outside the AT&T lease area. Accordingly, we conclude that the Verizon proposal would substantially change the physical dimensions of the existing AT&T site even if Verizon submitted an eligible facilities request.

Section 6409(a) Summary

In sum, we conclude that Section 6409(a) does *not* apply to this permit request because Verizon did not submit an eligible facilities request. Accordingly, we recommend that the City process this permit application under its established standards and procedures for wireless permits.

Significant Gap and Alternative Sites Analysis

Under federal law, a State or local government (1) must allow a wireless service provider to close a "significant gap" in the provider's own service, but (2) may require the provider to adopt the "least intrusive means" to close the gap. The provider bears the burden to demonstrate that a significant gap exists and, regardless of whether a significant gap exists, that its proposal represents the least intrusive means to achieve its service goals. This section discusses both issues.

Significant Gap Analysis

To determine whether a significant gap in service exists, the applicant must show that a permit denial would actually or effectively prohibit that particular applicant from providing its own service.[5] This fact-specific analysis depends on the particular circumstances of each individual case.

In this case, Verizon likely demonstrated a significant gap in its service because the signal propagation maps submitted with the permit request contain objectively verifiable signal measures and show weak signal coverage throughout an area that includes residential, major commercial, and public uses adjacent to major thoroughfares. For example, the map titled *Existing Coverage* shows that Verizon currently provides between less than -95 dBm (red) and less than -105 dBm (blue) to the

[5] *See MetroPCS, Inc. v. City and Cnty. of San Francisco*, 400 F.3d 715, 733–35 (9th Cir. 2005).

areas along Highway 78 and Nordahl Road, which includes a Costco, Kohl's, Walmart, and several restaurants where people tend to congregate in large numbers. Although the Telecommunications Act of 1996 does not guarantee perfect or seamless coverage, and that similar coverage levels in different areas may not constitutes a significant gap, we conclude that this low coverage level in this particular area and under these particular circumstances rises to a significant gap in Verizon's service.

Least Intrusive Means Analysis

Regardless of whether a wireless service provider demonstrates a significant gap in its own service, a State or local government may require it to adopt the least intrusive means to achieve its service goals. In this context, the "least intrusive means" means the location and design most consistent with the local values that a permit denial would serve.

In this case, Verizon likely did not propose the least intrusive means to reasonably achieve its service goals because it proposes to add an entirely new structure rather than collocate with an existing tower only several yards away. Verizon did not submit (at least to this office) any rationale for why it selected this property or why it elected to design a new and separate mono-broadleaf. We recommend that the City require Verizon to submit a written analysis of its site selection process.

In addition, should the City and Verizon elect to proceed with this kind of design, several conditions should be imposed to ensure the highest quality design. San Marcos Municipal Code Section 20.465.050(A) articulates the local design values for facilities such as the one proposed. Essentially, the applicant must conceal or camouflage the site to the maximum extent technically feasible. Accordingly, a design that could feasibly conceal or camouflage the site better or completely would constitute the least intrusive means.

To conceal and camouflage the proposed site to the maximum extent feasible, we recommend that the City require Verizon to comply with the design conditions as follows:

1. Verizon shall construct, and at all times maintain, the mono-broadleaf so that the faux branches completely envelop all tower-mounted equipment;

2. Verizon shall install, and at all times maintain, faux-broadleaf "antenna socks" on all tower-mounted equipment, which includes without limitation the panel antennas, microwave dish antennas, RRUs, DC power surge suppressors, and any other tower-mounted equipment;

3. Verizon shall paint all mounts, brackets, and equipment on the mono-broadleaf flat browns and greens to mimic natural broadleaf colors;

4. Verizon shall not mount any external cables on the mono-broadleaf trunk;

5. Verizon shall install, and at all times maintain, three-dimensional bark cladding on all portions of the trunk and branches of the mono-broadleaf; and

6. Verizon shall install the lowest branches no less than twelve feet AGL.

These proposed conditions will substantially reduce the visual intrusiveness of the proposed design. In the event that Verizon proposes a different design, we may provide different recommended conditions.

RF Emissions Evaluation

The FCC completely occupies the field of RF safety standards in the United States. The City legally cannot establish or require RF safety standards, whether more strict, more lenient, or the same as the FCC standards. The FCC does, however, permit the City to determine whether a proposed wireless project meets the federal safety standards found at 47 C.F.R. §§ 1.1307 *et seq.* ("FCC Rules") and FCC Office of Engineering and Technology Bulletin 65 ("OET 65") RF safety requirements.

Under the FCC Rules, certain types of wireless projects are deemed "categorically excluded" and not subject to further RF evaluation. A wireless project is categorically excluded when the antenna supporting structure is not a building or shared to perform some other function, and the lowest portion of the transmitting antenna is at least ten (10) meters AGL.

In this case, the proposed antennas do not qualify as categorically excluded because Verizon proposes to mount the antennas less than 10 meters AGL. Therefore, an additional analysis is necessary to determine whether the proposed antennas will demonstrate planned compliance with the FCC Rules.

Verizon submitted an EME report from Waterford Consultants, LLC, dated July 11, 2014, which contains emissions data sufficient to allow us to independently evaluate its conclusions. Based on the proposed Verizon frequency and transmitter power disclosed in the Waterford Report, a controlled-access zone will extend approximately 47 feet from the face of the antennas at approximately the same height.

The fact that a site creates a controlled access zone does not necessarily mean that it violates the FCC Rules. Rather, a controlled access zone means that the carrier

must affirmatively restrict public access to that area so that members of the general population (including trespassers) cannot unknowingly enter and be exposed to radio emissions in excess of those allowed by the FCC.

To comply with FCC Rules and OET 65, we recommend that the City require, as conditions of approval, the following:

1. Verizon shall install and at all times maintain in good condition an "RF Notice" and "Network Operations Center Information" sign at the access point(s) to the mono-broadleaf and base station equipment enclosures. Verizon shall install the signs required under this condition so that a person may clearly see and understand the sign before he or she enters either the mono-broadleaf or the base station area;

2. Verizon shall install and at all times maintain in good condition an "RF Notice" on the base of the mono-broadleaf trunk. Verizon shall install the signs required under this condition so that a person may clearly see and understand the sign as he or she approaches the mono-broadleaf;

3. Verizon shall ensure that all signage complies with FCC OET Bulletin 65 or ANSI C95.2 for color, symbol, and content conventions. All such signage shall at all times provide a working local or toll-free telephone number to its network operations center, and such telephone number shall be able to reach a live person who can exert transmitter power-down control over this site as required by the FCC.

If Verizon complies with the above conditions described in this memorandum, then the City will have no basis to deny or further condition the project on the basis of RF emissions. However, given that the proposed design very likely does not represent the least intrusive means, we reserve the right to amend these recommendations to fit the characteristics of the finally proposed design.

Conclusion

We conclude that the City should not advance this project through the review process because (1) Verizon does not disclose the equipment within its base station enclosure as needed to measure whether future modifications will trigger Section 6409(a) rights, and (2) Verizon did not demonstrate that it proposed the least intrusive means. We recommend that the City require Verizon to investigate less intrusive alternative designs as discussed in this memorandum.

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