

Exhibit 3



February 21, 2018

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Beaverton Planning Commission
Commissioner Kim Overhage, Chair
Commissioner Jennifer Nye, Vice Chair
Commissioner Scott Winter
Commissioner Terry Lawler
Commissioner Kaitlin North
Commissioner Adam Matar
Commissioner Gerry Uba

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City of Beaverton
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Planning Division

Re: Verizon Whitford Wireless Facility at 7400 SW Scholls Ferry Road

At the January 24, 2018 hearing, the public hearing was continued and the record was reopened for Verizon to provide additional evidence. The public also had an opportunity to provide additional evidence. On February 14, 2018, the record closed and Verizon submits this final rebuttal to address the Commissioners' stated concerns and how the evidence relates to those concerns.

MAJOR ADJUSTMENT

- Major Adjustment for height. **One hundred feet is the minimum height necessary to achieve coverage/capacity objectives and to permit the use of the property as a wireless facility site.** The coverage and capacity analysis in Exhibit 3 contains both narrative explanations and graphic maps explaining why 100 feet, not 80 feet, is the minimum height needed to address the coverage and capacity gaps for in building coverage.
- The Whitford site is centrally located in proximity to 5 other sites. Exhibit 3, pp. 6-8. The sites surrounding the Whitford site are at or nearing capacity and will have difficulty providing the service the residents need. Uncontroverted expert testimony by Verizon's RF engineer and an OR registered professional engineer demonstrates that a height of 80 feet will not address the capacity needs of the 5 nearby sites.

- Exhibit 3, pp.1-2, 6-8. These maps address offloading capacity from the surrounding sites. The green on these maps is the needed in-building coverage/capacity. The yellow is in-vehicle outdoor coverage and the grey is poor received signal for outdoor users. 100 feet provides much more green in-building coverage than 80 feet, which is the coverage/capacity objective, because residents and businesses expect in-building service. 80 feet in height leaves much more grey area, where there is poor service, even outdoors.
- The Whitford site is also designed to add in-building and in-vehicle coverage where there is poor or no service today. Uncontroverted expert testimony by Verizon's RF engineer and an OR registered professional engineer demonstrates that a height of 80 feet will not meet the coverage needs in the area immediately surrounding the Whitford site.
 - Exhibit 3, pp. 6, 9-10 show a stark graphic depiction of the in-vehicle (yellow) and in-building (green) coverage that 100 feet provides. At 80 feet, the predominant colors are grey (poor service, even outdoors) and yellow (outdoor, in vehicle coverage), with a much smaller area of green in-building coverage. The coverage map at 100 feet contains a much wider area of green and yellow, and much less grey area. This addresses the demand for in building coverage that users need.
 - Exhibit 3, pp. 1-4, and p. 10 offer narrative explanation of the coverage maps and the need for the 100-foot height.
- There are no other feasible locations where an additional tower could supply the coverage and capacity that would be lost by reducing the proposed tower height from 100 to 80 feet on the Whitford site. Other locations were sought for this tower and had setback challenges of their own and availability issues. Exhibit 18, the Alternative Sites Analysis, demonstrates that there are not preferred or plentiful alternative sites in this residential search ring area for the Whitford tower. **The same would be true in seeking to site an additional tower elsewhere, if the major adjustment were not granted.**
- The area around the church and along Scholls Ferry Rd. is known for poor wireless coverage. On November 16, 2017 Verizon sent out a text request to its customers with billing addresses in the Denny-Whitford and Garden Home area asking if people supported the installation of a new wireless facility at 7400 SW Scholls Ferry Rd. 414 people responded back in support of the facility with only 12 individuals opposed. Exhibit 12.

- The major adjustment criteria ask if the proposed modification equally or better meets the intent of the standard to be modified or the proposal incorporates building, structure, or site design features or some combination thereof that compensate for the requested adjustment.
 - The intent of the standard limiting tower height to 80 feet is to mitigate the visual impacts of this use. The tall trees are a feature of the site that has been incorporated into the site design to mitigate the visual impacts. The proposed location of the monopole is screened from the rights-of-way and surrounding development by the church and numerous existing trees. While the monopole will be visible from all directions, most of the body of the structure will be obscured by existing mature trees, so that only the top of the monopole is visible, which will be painted a matte green to blend with the backdrop of trees. See Exhibit 2.
- There was a concern expressed at the January hearing about whether the collocation space on the 100-foot tower would be usable by another carrier. **It is important to note that only one tower is being proposed for this location.** BMC 60.70.35.17 requires that the tower be designed for a minimum of one additional antenna array. Ex. 7, p. 13 shows the tower designed with 2 additional collocation opportunities, with the antenna height of the second array placed at 84 feet, which is still above the 80-foot average tree line. There was testimony by Kimberly Allen at the January 24th hearing that other carriers use equipment and frequencies that can travel greater distances and penetrate objects, like tree tops, more effectively than those used by Verizon, who could be able to use a lower height. Other carriers also experience coverage and capacity gaps in specific directions, depending on the layout of their networks and may not need to direct antennas where the tree line is highest. The staff report also concluded that this collocation capacity requirement had been met.

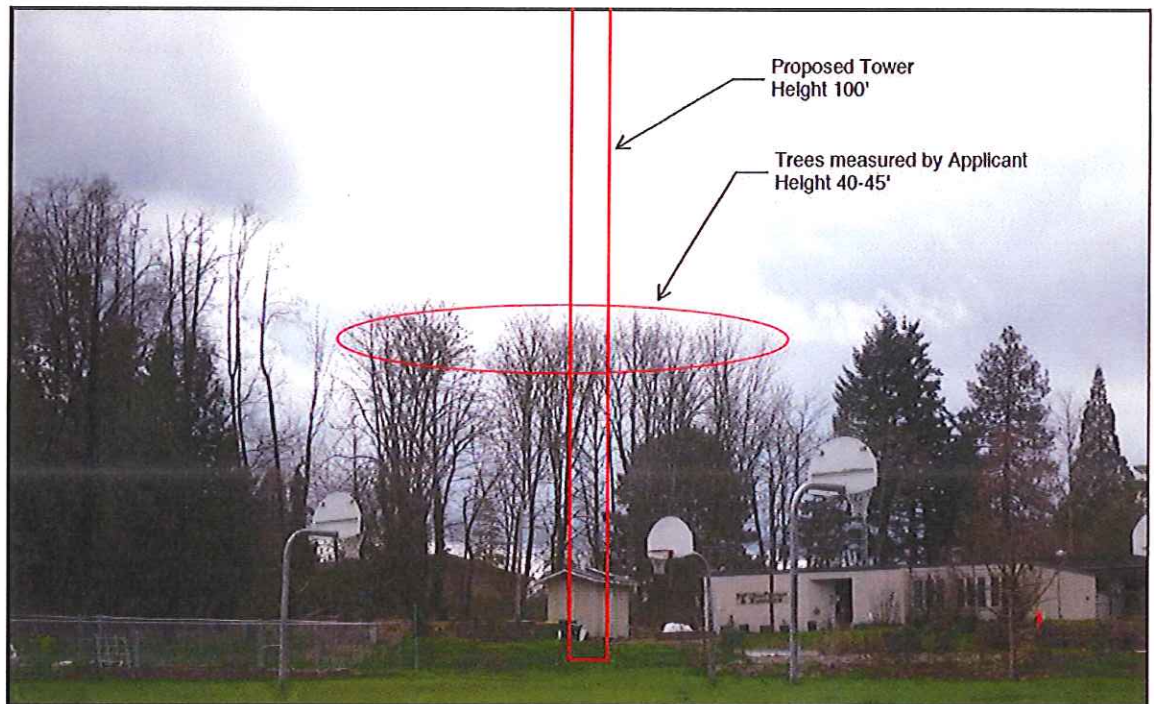
VARIANCE

- BMC 60.70.35.14(A) and (B) requires a tower setback of the height of the tower plus 5 feet from the neighboring property line. The policy objective of the standard is to protect neighboring properties from a falling tower. A variance to decrease the 105-foot tower setback to 44'10" is available if the applicant can demonstrate that such an Adjustment or Variance would reduce the visual impacts of the tower on adjacent property because of vegetation, topography, intervening buildings, or other site-specific factors.
 - Ex. 1, p.14. The location of the tower on the property was chosen because it was the best location on the property to both minimize visual impacts and provide the needed network capacity and coverage. Locating the tower in other areas in the back of the church would increase its visibility

to the public, take away space from the already limited parking, impact traffic flow, and make it more difficult for radio signals to clear the trees to the south. The 105% height of the tower setback makes almost all other areas onsite infeasible for a new tower, because of the location of the church and the driveway to the back of the church. There is a small location in the front of the church where the tower might meet setback requirements, but it would become the prominent view from the street and could disrupt foot traffic into the church. Placement at the proposed location on the site takes maximum advantage of the buildings and mature vegetation that reduces the visual impacts on adjacent property.

- The 105-foot setback requirement is based on the assumption that a 100-foot tower could fall its full length and damage adjacent property. This assumption is based on older tower designs and does not consider breakpoint technology. In an extreme weather event exceeding 120 MPH winds, this newer engineering design relieves the load on the tower by bending top 40 feet of the pole over on itself. **The top 40 feet contains the biggest wind load, which is the antenna array. Once the top bends over on itself, the wind load is relieved. What remains is a 60 foot steel pole, set in a concrete foundation, with no significant remaining wind load, which is highly unlikely to fall.**
 - Exhibit 15 is a written structural analysis of the proposed tower design from Adrian McJunkin, a registered professional engineer and president of the engineering firm, Western Utility/Telecom, Inc. His resume is included at the end of the exhibit.
 - Mr. McJunkin explains the assumptions for his analysis and provides uncontroverted expert testimony on the unlikely nature of tower failure, or of any portion of the tower ever striking the ground. His professional conclusion on p. 2 is that the structural failure of a monopole would rarely involve any portion striking the ground. **He states that it is “highly unlikely that a ‘structural failure’ would include anything more than a visible bending, or warping, of the base or pole section.”**
- There was also a concern expressed at the hearing that, in the event of a catastrophic event, reducing the setback to 44 feet 10 inches could result in a portion of the tower striking a tree on the subject property, which could fall across the undeveloped right of way and onto the nearest neighbor’s home.

- The graphic below, submitted by Jeff Depuis, one of the opponents of the site, is a good illustration of the varying heights of the trees onsite, relative to the proposed tower height. While the trees measured at the southern portion of the site are 40-45', the trees in the photo to the left and right are noticeably taller, and illustrate the need for a 100-foot tower to clear the taller trees pictured.



- Concern was expressed that the undeveloped right of way to the south of the property may be developed at some point and that the future roadway should be considered in the setback calculations. BMC 60.70.35.14(A) measures the setback to the property line, not into the right of way.
- - As staff testified at the hearing, and as the Beaverton Capital Improvement Plan shows, there is no plan or funding to develop an extension of Garden Home Road in that right of way at any time certain.
 - There was opposition expressed by neighbor Mike Ameele to developing that right of way at the hearing.
 - Verizon has agreed to a condition of approval to engineer the tower so no portion will fall across the subject property lines.

POST-HEARING PUBLIC COMMENT

- Health effects. Most of the written comments received post hearing addressed environmental or health effects from the proposed tower. Under the Telecommunications Act, the City of Beaverton is prohibited from considering the environmental effects (including health effects) of the proposed site if the site will operate in compliance with federal regulations. 47 U.S.C. Section 332(c)(7)(B)(iv). Verizon has submitted as Exhibit 4, a Non-Ionizing Electromagnetic Exposure Analysis (NIER) demonstrating the facility's compliance with FCC emissions limits. Therefore, this issue is preempted under federal law and any testimony or documents introduced relating to the environment or health effects of the proposed site should be disregarded in this proceeding.

CONCLUSION

The uncontroverted weight of evidence in the record demonstrates that all of the applicable criteria for approving the request for Major Adjustment and Variance have been met. The policy objectives of the height limit standards can be achieved using the mature vegetation and existing structures, which are features of this site, to provide screening for significant portions of the tower structure, thus mitigating the visual impact. The design of the tower using breakpoint technology achieves the policy objective of the setback requirement that a falling tower not impact a neighbor's property.

Thank you for this opportunity to supplement the record to provide additional evidence on some areas of concern.

Sincerely,



Kim Allen, Wireless Policy Group, LLC Representative for Verizon Wireless