

**NIER**

**SECTION 20-5.1(4)(a)(iii)**



October 2, 2017

Alejandra Stinson  
PI Tower Development, LLC c/o LendLease Americas, LLC  
909 Lake Carolyn Parkway  
Suite 260  
Irving, TX 75039

Re: Parallel Site Name/Number: VA-Hampton-Wythe-PIVA033  
Site Address: 1821 Cemetery Lane, Hampton, VA 23661

BC Architects Engineers, PLC has been commissioned to review the potential risk or hazard of RF or electromagnetic exposure which would result from the Parallel/T-Mobile installation located in Hampton, Virginia.

Per FCC regulations regarding Human Exposure and Electromagnetic Radiation levels, the limit for prolonged, extended, or continuous exposure to RF at PCS frequencies is set at 1,000 microwatts per square centimeter for public applications. This value represents the amount of power in microwatts, which reaches a surface area of one square centimeter. The FCC limit is the most stringent of limits established by public and professional organizations and has the highest margin of safety of all limits. In establishing these limits, standards bodies add significant safety margins such that systems could operate at the limit. This is done to ensure public safety.

RF exposure levels for the T-Mobile installation with a typical 3-sector facility will approximately 3.8 microwatts per square centimeter ( $mW/cm^2$ ) at a distance of 148' from the antennas. This distance corresponds to the center height of T-Mobile's antennas. This is the closest distance to the antennas where the public would be exposed to the highest levels of RF energy. At this distance, the RF levels are 263 times below the FCC regulated limits for RF exposure of approximately 1,000 microwatts per square centimeter.

Electromagnetic energy at PCS frequencies is in the Non-Ionizing Electromagnetic Radiation (NIER) range. Ionizing frequency ranges damage human tissue. Non-ionizing frequency ranges do not damage human tissue.

Thousands of extensive studies have been conducted on exposure to RF energy. To date, no studies have indicated that PCS frequencies have a detrimental effect on human health. The results of these studies are public knowledge and are independent of T-MOBILE and any other wireless carrier's own interests.



The Telecommunications Act of 1996 stipulates that RF exposure and safety is a non-issue at PCS frequencies and power levels. Further, the FCC website states the following:

*"Calculations corresponding to a "worst-case" situation (all transmitters operating simultaneously and continuously at the maximum licensed power) show that, in order to be exposed to RF levels near the FCC's guidelines, an individual would essentially have to remain in the main transmitting beam and within a few feet of the antenna for several minutes or longer. Thus, the possibility that a member of the general public could be exposed to RF levels in excess of the FCC guidelines is extremely remote."*<sup>1</sup>

In conclusion, the T-Mobile installation does not represent an increased health risk to the immediate community. Furthermore, the T-Mobile installation will operate at 1000 times below the most stringent of RF safety limits for public exposure and meets FCC requirements regarding RF exposure and safety.

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Morin".

Christopher D. Morin, PE  
Principal Member of BC Architects Engineers, PLC



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<sup>1</sup> Source = <http://www.fcc.gov/cgb/consumerfacts/rfexposure.html>