entrex
communication services, inc.

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July 25, 2022

Ms. Kristen Stelzer
Arcola Towers
PO Box 2150
Middleburg, VA 20118

Re: Proposed 195' Monopole for Mt. Jackson, VA Site

Dear Ms. Stelzer,

The monopole for this site shall be designed in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-H "Structural Standard for Antenna Supporting Structures and Antennas" by a tower manufacturer to meet a 45 ft fall radius.

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft, resulting in the portion of the monopole above leaning over and remaining in a permanently deformed condition. The monopole shall be designed such that the shaft section at elevation 150 ft will buckle before any other section on the monopole resulting in a fall zone of 45 ft

Please note that this letter only applies to the above referenced monopole.

Sincerely,

Camille Shabshab, PE
Vice President