

August 29, 2018

Doug Dolan  
Dolan Realty Advisors, LLC  
144 W. Lockwood Ave., Suite 200  
Webster Groves, MO 63119

RE: 75' (extendible to 85') Monopole at W 151<sup>st</sup> & S 80<sup>th</sup>, IL (Sabre job no. 404472, dated: 3/16/18)

Dear Mr. Dolan,

As shown the above referenced structural design report, this monopole was designed for a Basic Wind Speed of 89 mph (115 mph Ultimate) with no ice and 40 mph with 3/4" ice, Structure Class II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G, "Structural Standard for Antenna Supporting Structures and Antennas".

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. *Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Towers & Poles.* The fall zone of this structure will be less than or equal to 85 feet.

Sincerely,

Robert E. Beacom, P.E., S.E.  
Engineering Supervisor

