Sabre Industries™
Towers and Poles

March 1, 2017

Ms. Jennifer Brown
Parallel Infrastructure

RE: Proposed 150' Sabre Monopole for Bronner Road Madison, WI

Dear Ms. Brown,

Upon receipt of order, we propose to design and supply the above referenced Sabre monopole for a Basic Wind Speed of 90 mph with no ice and 40 mph with 3/4" radial 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. This is likely to result 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 radius for the monopole design described above is less than 49 feet.

Sincerely,

WISCONSIN
ROBERT E. BEACOM
E-41670-006
SIOUX CITY IA
PROFESSIONAL ENGINEER

3/1/17

Robert E. Beacom, P.E., S.E.
Senior Design Engineer