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March 16, 2022

Matt Kline
Hemphill LLC
1305 N. Louisville Ave.
Tulsa, OK 74115

Ref: **Scope of Work: Tower Fall Zone Letter**
Site Name – 1640 Westridge
80' Proposed Monopole Tower
ACGI# 21-1127
Jurisdiction: City of McKinney, TX
Site Address: McKinney, Collin County, Texas
Site Coordinates: 33.197833°, -96.752278°
Applicable Code: IBC 2018 and ASCE 7-16, Risk Category II, TIA-222-H
Design Parameters: 106 mph basic wind speed, Exposure "C"

This letter is provided in reference to the above-mentioned site for the tower fall radius:

1. This tower will be designed using the following minimum wind speed criteria as defined by TIA-222-H for City of McKinney, TX:
 - a) 106 mph 3-second-gust basic wind speed with no ice.
 - b) 50 mph 3-second-gust wind speed with 0.25" ice.

The "3-second-gust wind speed refers to a wind measured at 33 ft. above the ground. Equations in TIA-222-H Standard take into account that the wind speed escalates with the increasing height of the tower.
2. This monopole will be intentionally designed to accommodate a theoretical fall radius of 40 ft. The upper 40' of the pole will be designed to meet the wind loads of the design, however, the lower portion of the pole will be designed with a minimum 80% extra capacity. Assuming the pole will be fabricated according to the design and well maintained, in the event of a failure due to extreme wind and excessive compression loading (winds in excess of the design wind load), it would yield/buckle at the 40' elevation.
3. The tower will be designed by ISE, Inc. and manufactured by Valmont (Larson) to meet the fall zone radius of 40 ft. from its base and to meet or exceed industry standards defined by TIA-222-H, "Structural Standard for Antenna Supporting Structures and Antennas" (TIA-222-H Standard) and respective local jurisdiction requirements.
4. The structure will be designed using extreme wind and ice conditions. The wind speeds specified by TIA-222-H Standard are 50-years wind speeds. That is they have only a 2% statistical chance of occurring in any given year. The tower will only be stressed to 58.0% with extreme load condition. In our opinion the possibility of a tower collapse is very unlikely.

If you have any other questions or concerns regarding our recommendations, please contact us.

Sincerely,
Chiyu Zhang, P.E
TX PE # 128187

03/16/2022

