

January 29, 2025

Mr. Scott Emerson
Smartlink
10 Church Circle
Annapolis, MD 21401

RE: Proposed 140' Sabre Monopole for PD31 Bethany Crest, OR

Dear Mr. Emerson,

Upon receipt of order, we propose to design and supply the above referenced Sabre monopole for a basic wind speed of 98 mph with no ice and 30 mph with 1.5" ice, Structure Class II, Exposure Category C and Topographic Category 1 in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-H, "Structural Standard for Antenna Supporting Structures, Antennas and Small Wind Turbine Support Structures". This design will also meet the requirements of the 2022 Oregon Structural Specialty Code. The monopole will be designed to support the following equipment:

1. Two (2) NNHH-45C-R4 antennas, one (1) CMA-UBTULBULBHHP-6517-17-21-21 antenna, three (3) AIR6472 B77G B77M antennas, two (2) MA-2L4M-45F8-A1 2P-A antennas, one (1) 120726 antenna, three (3) 4490 B5/B12A, three (3) AIR6472 B77G B77M RRH, three (3) 4494 B14/B429, three (3) 4890 B25/B66 and two (2) Raycap DC9-48-60-24-8C-EV on three (3) 10' THD V-Booms at 136', with six (6) PWRT-606-S DC trunks and two (2) RFFT-48SM-001 fiber lines
2. Two (2) NNHH-45C-R4 antennas, one (1) CMA-UBTULBULBHHP-6517-17-21-21 antenna, three (3) AIR6472 B77G B77M antennas, two (2) MA-2L4M-45F8-A1 2P-A antennas, one (1) 120726 antenna, three (3) 4490 B5/B12A, three (3) AIR6472 B77G B77M RRH, three (3) 4494 B14/B429, three (3) 4890 B25/B66 and two (2) Raycap DC9-48-60-24-8C-EV on three (3) 10' THD V-Booms at 126', with six (6) PWRT-606-S DC trunks and two (2) RFFT-48SM-001 fiber lines
3. Two (2) NNHH-45C-R4 antennas, one (1) CMA-UBTULBULBHHP-6517-17-21-21 antenna, three (3) AIR6472 B77G B77M antennas, two (2) MA-2L4M-45F8-A1 2P-A antennas, one (1) 120726 antenna, three (3) 4490 B5/B12A, three (3) AIR6472 B77G B77M RRH, three (3) 4494 B14/B429, three (3) 4890 B25/B66 and two (2) Raycap DC9-48-60-24-8C-EV on three (3) 10' THD V-Booms at 116', with six (6) PWRT-606-S DC trunks and two (2) RFFT-48SM-001 fiber lines

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, and assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will yield at the location of the highest combined stress ratio, designed to be at the 80' level. This is likely to result in the portion of the monopole above folding over onto the portion below. In the unlikely event of total separation, this would result in collapse within a radius of 60 feet.

Sincerely,

Keith J. Tindall, P.E., S.E.
Vice President, Telecom Engineering

