

## APPENDIX J: THE IMPACT AND RISK ASSESSMENT FOR EACH ALTERNATIVE

Beaufort West Wind Farm (Pty) Ltd ('Beaufort West Wind Farm') / is proposing to install one (1) Radio Mast on the authorised 132kV/400kV Linking Station development area (authorised under DFFE reference numbers: 14-12-16-3-3-2-925-1 & 14-12-16-3-3-2-925-2) / (12-12-20-1784-2 & 12-12-20-1784-1), situated on the Remaining Extent of Portion 1 of Farm No. 15 of Trakaskuilen (C0610000000001500001), located located 60km south of the town of Beaufort West in the Prince Albert Local Municipality (Central Karoo District Municipality), on the Beaufort West Cluster of wind developments, Western Cape Province. Since it is to be located on an authorised Linking Station no site or layout alternatives are applicable.

The preferred property and site alternative is on Portion 1 of Farm No. 15 of Trakaskuilen (C0610000000001500001) located on the Beaufort West Cluster of wind developments, approximately 60km south of the town of Beaufort West in the Prince Albert Local Municipality, within the Central Karoo District Municipality of the Western Cape Province.

No other locations (i.e., project sites) were considered for the placement of the Radio Mast, as this placement is dependent on the location of Mainstream's authorised Beaufort West (12-12-20-1784-1-AM3) and Trakas (12-12-20-1784-2-AM3) Wind Farm projects. As mentioned, the proposed project will service the above-mentioned authorised wind farm projects (including their associated electrical infrastructure). If the project does not receive EA, then the existing electricity supply to the area as well as future economic development will be limited and compromised.

The radio mast is required by Eskom in order for the Linking Station to be able to communicate via Radio frequency to other Linking stations in the area.

The radio mast will be made from tapered steel lattice with either a square (4 leg) or triangular (3 leg) structure. The radio mast will be approximately 90m in height and will be placed within the substation footprint for the authorised 33kV/132kV Main Transmission Substation (MTS) (i.e. will be built on top of the authorised MTS). See figure 2 for visual impression of a radio mast below.

In terms of infrastructure services, no additional services are required for the mast and the intention is to use the already authorised buildings for use of ablutions, water, electricity etc.

There are no design / technology alternatives for the radio mast as Mainstream were provided with the Scope of Works (SoW) for the radio mast from Eskom and must adhere to this (must adhere to Eskom Standard). Eskom advised that the mast needs to be at least 85m in height. The requirements / specifications for the radio mast being proposed (up to 90m tapered steel lattice with either square, 4 leg, or triangular, 3 leg) is what was requested by Eskom, based on their requirements / standards (i.e., Eskom requested this). This is based on specific requirements following a comms study which Eskom undertook. There is no fibre on the Eskom line and no fibre alternatives. The requested mast thus needs to be a radio mast. There will be no guy wires used and the radio mast will be a self-supporting structure (as it typically is).