

Certificate No.: - EVENTEC/STR/097
Issued to: - Event Lighting

Structural Design Certificate

Project Name: - Line Array Tower
Structure Dimensions: - 2.65m (L) × 1.5m (W) × 6.3m (H)

We, Event Structural, certify that the design, subject to the limitations listed within this certificate, is in accordance with the relevant provisions of the standard codes of Australia, accepted engineering practices, and principles.

Please note that further review will be required if the design is modified in any way. This certificate shall not be construed as relieving any other party of their responsibilities, liabilities, or contractual obligations. This certificate is applicable only for this structure and relies upon all other risk assessments, WHS requirements, and job safety statements associated with the project.

Event Structural is not responsible for the operational safety of the structure and the public. We have been engaged for structural engineering compliance not how the end user engages with the structure, that is solely the responsibility of the client and event organiser.

Please note that this certificate pertains solely to the structural design of the project. It does not include on-site inspections or any other aspects of the setup or construction process. For any event or application, this certificate must be accompanied by an on-site inspection certificate specifying the venue, dates, ballast requirements, and wind conditions.

1. Condition Description:

- Terrain condition: Flat/ Soil bearing capacity minimum 100 kPa
- Structure shall be placed on flat land where no deformation on soil.
- Proper pre inspection to be carried out for all elements.
- Extreme weather condition to be avoided if announced by the state.
- Entire structure shall be erected and check the geometry before adding any external loads.
- If there are any practical issues, shall contact structural engineer for an alternative.

2. Structure Type:

Temporary Structure / Stand alone.

3. Referred Standard Codes:

- AS/NZS 1170.0 - 2002: Structural Design Actions – General Principles
- AS/NZS 1170.1 - 2002: Structural Design Actions – Permanent, imposed and other actions
- AS/NZS 1170.2 - 2011: Structural Design Actions – Wind Actions
- AS/NZS 1664.1 - 1997: Aluminium structures
- AS4100 - 2020: Steel Structures

4. Material Properties:

Material	Aluminium	Steel
Density (t/m^3)	2.707	7.85
Young's Modulus (MPa)	62000	200000
Poisson's Ratio	0.36	0.25
Thermal Coefficient	2.34×10^{-5}	11.7×10^{-6}




Table 1: Material properties

5. Design Limitation.

- 5.1. Ballast may be required depending on the weight and surface area of the line array.
(Please engage a structural engineer for advice on specific requirements)
- 5.2. Maximum load capacity: 480kg.
- 5.3. The ground should be flat enough to avoid the outer plane overturning.
- 5.4. Proper final check should be done by the qualified person who has trained for erection.
- 5.5. Certified rigging technicians must install and sign-off on all rigging.

6. Extreme Weather Condition Management

All wind, cyclone, flood, and any type of natural hazards should be well identified before erecting. Highly advisable to study the wind pattern during period of structure on ground. Further, in case identified of abnormal wind pattern due to any reason such artificial wind tunnel, should be informed the Engineer.

-  Wind less than 80 km/h (normal and no any action needed)
-  Wind 80 km/h to 85 km/h (everyone should be standby including the crew and ready for evacuate)
-  Wind above 85 Km/h (immediate evacuation needed)

APPENDIX I – VIEWS OF THE STRUCTURE



Pradeep L. Thanthirige

*Chartered Engineer (Civil / Structural / Geotechnical)
Registered Professional Engineer (NSW/VIC/QLD)
Design Building practitioner (NSW/VIC/QLD)*

Senior Structural Engineer

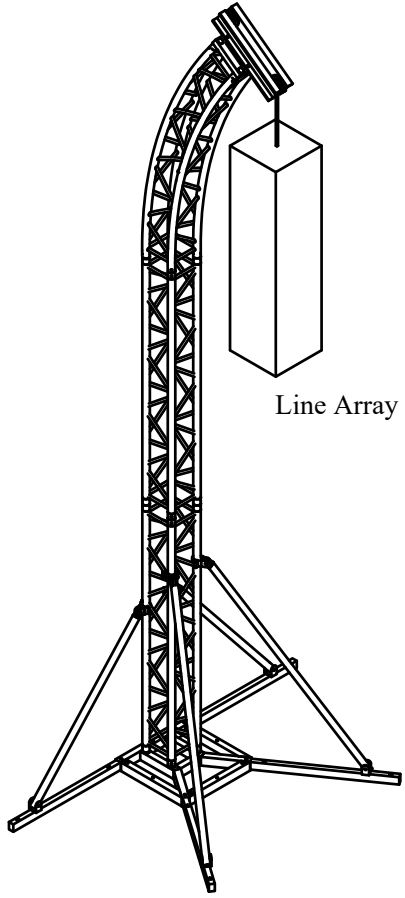


Kai Liang

*GradIEAust
MEng (Civil and Structural)*

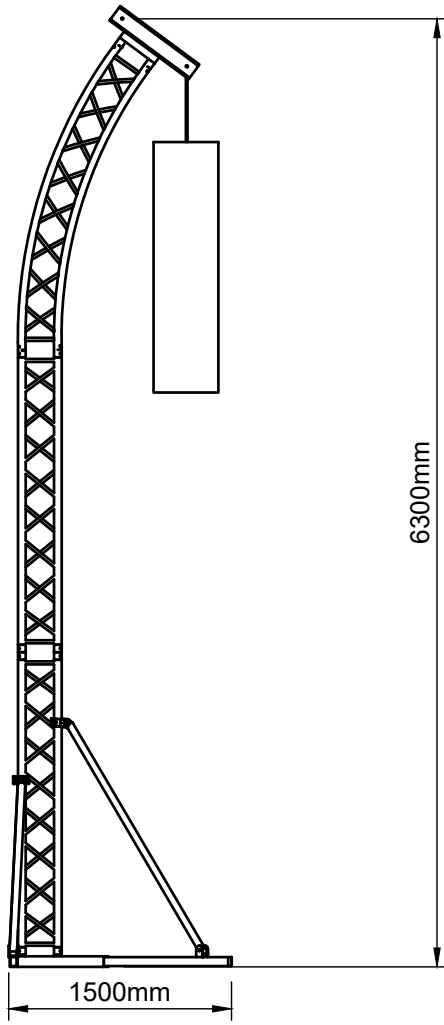
Structural Engineer

APPENDIX I



Line Array

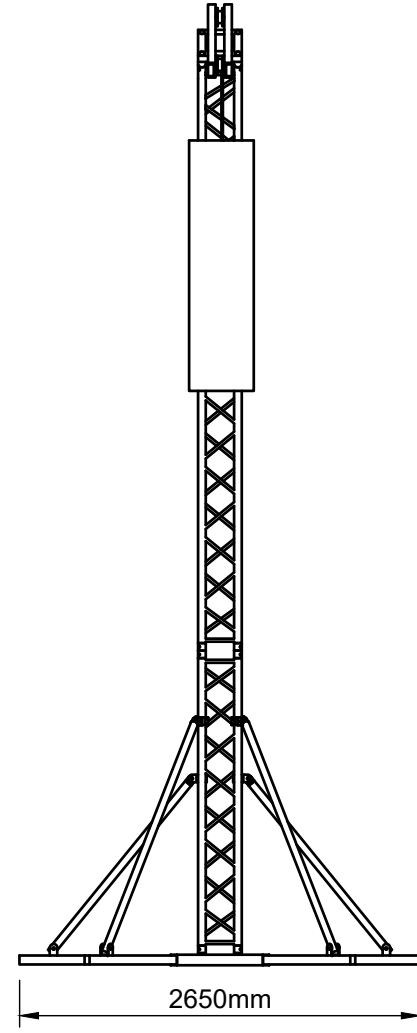
3D VIEW



6300mm

1500mm

SIDE VIEW



2650mm

FRONT VIEW