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Our Ref: M24301.01

## **ENGINEERING CERTIFICATION**

**Re: Structural Certification of Retaining Wall**

**Site: 52 Paradise Road, Smiths Lake NSW 2428**

Matrix Thornton Consulting Engineers has inspected the sandstone log retaining wall located at the above address. The wall is constructed using sandstone log units, each measuring 500x500x2000 mm, with a maximum retaining wall height of 2500 mm. The sandstone blocks are arranged in a batter formation of 11 degrees, corresponding to a 100 mm horizontal shift for every 500 mm of vertical height. The layout of the retaining wall is detailed in the as-built drawings prepared by Zenith Surveying Services, dated 31/10/2024.

### **Design Assumptions & Compliance**

- The wall retains gravel and porous material with well-drained backfill.
- The wall is designed to support a maximum surcharge of 5 kPa.



**Certification:** *I am satisfied that the sandstone log retaining wall at 52 Paradise Road, Smiths Lake NSW 2428, as detailed in the as-built drawings, is structurally adequate to support the expected permanent and imposed loads associated with the wall. The retaining wall complies with the structural provisions of the National Construction Code (NCC) 2022 and the following relevant Australian Standards:*

- AS 1170.1:2021 – *Structural Design Actions – Permanent, Imposed, and Other Actions*
- AS 1170.2:2021 – *Structural Design Actions – Wind Actions*
- AS 4678:2002 – *Earth-Retaining Structures*
- AS 5104:2005 – *General Principles on Reliability for Structures*
- AS 2758.4:2010 – *Aggregates and Rock for Engineering Purposes – Gabion and Rock Structures*

As the certifying engineer, my qualifications and experience comply with the requirements for a Professional Engineer as defined in the National Construction Code (NCC) 2022, Volume 1 & 2, Part A5.2, Section (1)(e) and Schedule 3.



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Chartered Professional Engineer  
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