

21_003 DS 01 07 April 2021

Rev A 13 April 2021

Proposed Public Art Installation

Stairfoot

STRUCTURAL DESIGN STATEMENT

- 1.0 Sawyer Consulting Engineers Ltd have been appointed by Lenny and Whale to carry out structural design checks on a proposed public art installation at Stairfoot.
- 2.0 Sawyer Consulting Engineers Ltd have prepared structural calculations to demonstrate the structural stability of the proposed public art installation. Reference should be made to the structural calculations, reference 21_003_SC_01 rev A dated April 2021
- 3.0 A summary of the structural requirements of the proposed installation is provided on sketch reference 21_003 SK001 rev A, dated April 2021.
- 4.0 The public art installation is to comprise independent, decorated timber poles, projecting to a maximum height of 3.8 metres above ground level. The timber poles are to provide support to highly decorated sculptured elements made from fibreglass and set at the head of the post. The posts are to be cast into concrete pad foundations.
- 5.0 The timber poles should have a minimum diameter of 175mm and be from timber equivalent to minimum stress grade C16. Where timber poles are provided with a taper over their length, they should be carefully selected and installed so the larger cross section is provided toward the base of the bole. The pole diameter at its base should not be less than 175mm. Timber poles should be treated to provide long term durability in the external environment. Decorative coatings to the timber posts should be compatible with the treatment provided to the timber.
- 6.0 The concrete pad foundations to each of the timber posts should be of minimum plan dimension of 1.2 metres x 1.2 metres, with the timber pole set centrally in the pad foundation. The pad foundation should extend to a minimum depth of 1.2 metres below ground level and be founded on natural, undisturbed ground with a minimum allowable pressure of 50kN/m². Where suitable formation is not found at the founding depth, the engineer should be consulted for further guidance.
- 7.0 Concrete to the pad foundation should be designated mix FNDN2 (or better).
- 8.0 Timber posts should be cast into the concrete base, and project into the concrete a minimum depth of 1100mm, leaving 100mm concrete cover between the base of the post and the bottom face of the pad foundation.