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Chartered Structural Engineers

25003/PJE/2025

Frank Donghi – Technical Manager
Ovesco
2 Station Street
Lewes
East Sussex BN7 2AD
frank@ovesco.uk.uk

27th January 2025

Dear Frank

Re: Photo Voltage Roof Panels at Pine Grove Enterprise Centre, Crowborough.

We visited the site on 21st January 2024, to assess the capacity of the roof to support the additional loading of photovoltaic panels on the roof. We were asked to carry out the survey on behalf of Ovesco.

The building is L-shaped on plan with a central glass roof. The building is oriented with the longer building running north-west to south-east (Building section 1), and the shorter section of roof running north-east to south-west (Building section 2).

We accessed the roof space of Building 2 which is split into two parts. The first part is a concrete floor supports the plant room of the building. The second part has an inverted roof space with a timber suspended ceiling below. The plant room roof space is around 18m long by 5m wide. There is an integrated steel frame with the concrete floor and the roof is supported off this steel frame. There are circular hollow sections of steel around 150mm diameter which have steel angles welded to them which in turn support the rafters. The rafters are 47x145 and assumed to be good grade C24. The rafters span around 3.1m on the slope, apart from the north section of roof that adjoins the glass roof, where they span 3.3m. We entered the inverted roof space where the rafter span was around 3.1m, also supported off the steel frame. The rafters have been installed with different centres, with the maximum centre of around 830mm.

We were only able to access Building 1 from the second floor as the roof is vaulted.

Both buildings are steel frame with the same construction. We are not concerned about the extra loading to the steel frame. Therefore, the weakest members are the existing rafters.

We analysed the rafters, looking at the maximum rafter spacing, and limited the spans to 3.1m. They are satisfactory to carry the additional loading of the PV panels. However, we recommend that the area where the north roof abuts the glass roof is unsatisfactory for additional loading where the span is 3.3m. Please see attached calculations.

In additional we would not recommend fitting PVs where the soffit overhangs, as the rafters are cantilevered.

Yours sincerely

Paul James Ellis MSC CENG MISTRUCTE

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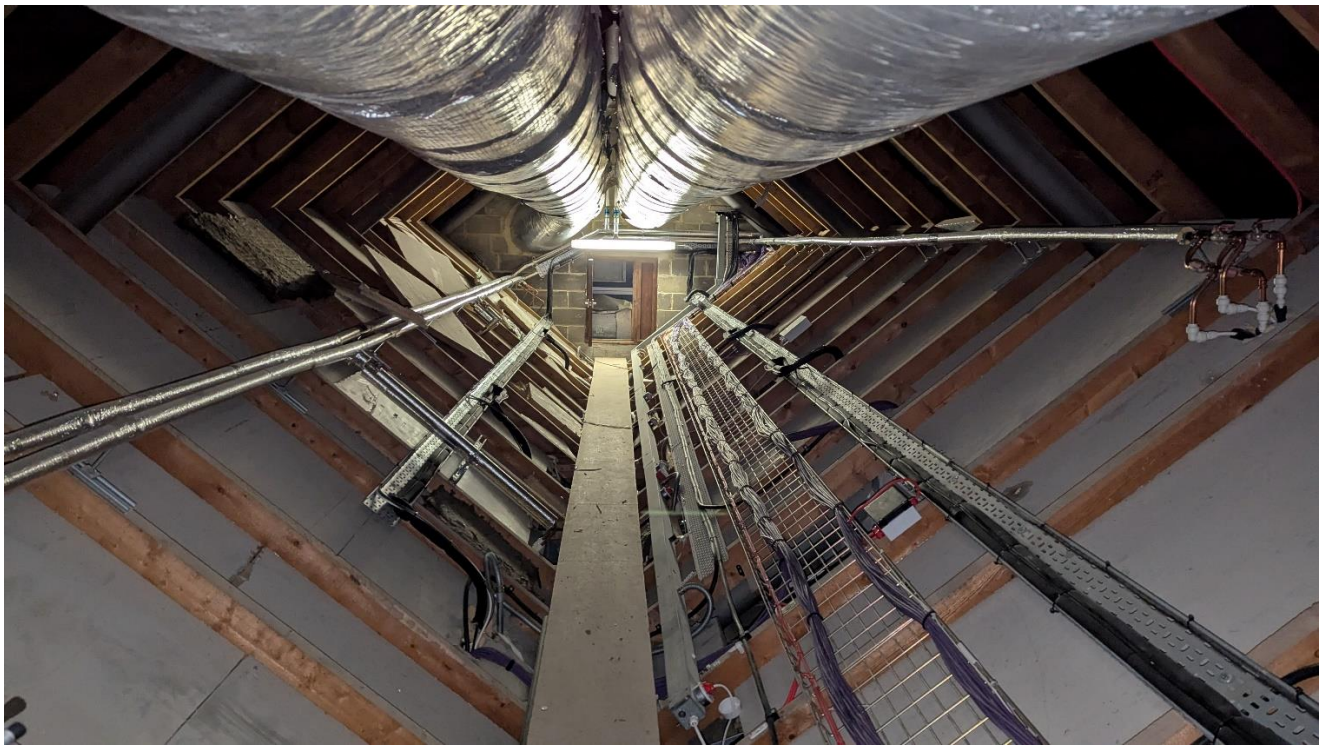
Appendix



T: +44 01273 470088 E: contact@ellisstructures.com
49b Cliffe High Street, Lewes, East Sussex BN7 2AN

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