

Our Ref: 10256_JD_L001

12th July 2023

FAO: Andrew Haslock
Fleet Air Arm Museum
RNAS Yeovilton
BA22 8HT

Issued via email to andrew.haslock@nrmn.org.uk

Dear Mr Haslock

RE: Cobham Hall Roof Structural Assessment for Solar Panels

We write in relation to the above following your instruction, and our subsequent site meeting/inspection dated Thursday 6th July 2023. We understand that you would like to install solar panels on the South elevation of Cobham Hall roof and would like an assessment of the roof to confirm that it is able to support the additional weight without any strengthening works.

Limitations

The following limitations of this letter report are to be noted:

- Our inspection was visual in nature, i.e no opening up was undertaken, and we therefore cannot comment on any elements hidden or inaccessible during the inspection.
- Our inspection focused on the principal structure only. Secondary fixtures and fitting, including doors, windows etc were not particularly inspected unless considered defective through progressive defects with the principal structure.
- The report is not meant for the purpose of detailing or specifying any remedial works. Further design, inspection, reporting and/or detailing may be necessary should any remedial works be required. Inspection does not comment on non-structural items such as services/asbestos, conservation status or ecological impacts, which fall outside the remit of this report.

Cobham Hall can be described as a steel portal frame building, which stores some of the museum's exhibitions such as helicopters, planes and other military items. On plan, the roof area measures approximately 100m x 60m. We understand that the building was constructed circa 2000 and no obvious signs of strengthening works appear to have been carried out since its original construction. However, additional roof sheets have been added on top of the original sheets roof due to leaks.

The roof comprises lightweight corrugated roof sheets laid at a pitch of approximately 15 degrees. The sheets are supported by C section galvanised steel purlins at 1.5m centres, which span onto steel portal rafters at approximately 6m centres. The rafters span on to columns located at the eaves and edge of the mezzanine floors, which are located on both sides of the building at approximately 3m above ground level.

After visiting site, we have carried out a desktop appraisal of the current roof structure based on the information available. At the time of writing this report no information was known about the weight of the panels so a typical weight of 0.2kN/m² was used in our analysis. Our analysis found that there is enough capacity in the roof structure to support the proposed panels over the first 10m (from the eaves) on the South side. Therefore, we envisage the panels being installed over the mezzanine floor and up to 2.5m past the internal mezzanine column. Since we did not know the exact product and weight, we would recommend that once a product has been selected, Brody Forbes are consulted to confirm that the roof can support it prior to ordering.

We hope this letter report provides you with the information provided however please do not hesitate to contact us should you require any further assistance.

We enclose our digital image record 10256-DIR, which should be read in conjunction with this letter report.

Yours sincerely



Jonathon Darch
BSc (Hons) Civil & Coastal Engineering GMICE
For and on behalf of Brody Forbes Ltd

Kevin Milton Managing Director
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