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Our Ref: CARE/14/004
Your Ref:

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Dear Poppy,

Cambridge, Kings College Chapel (Diocese of Ely)
Proposed new lead roof and solar panels

Thank you for seeking the Church Buildings Council's advice over a proposed new roof and solar panels at Kings College Chapel. This was considered at the recent meeting of the Council following a site visit on 2 November 2021. Its advice is set out below.

The Council thanked the college for an informative and enjoyable site visit. The Council understands that the 2018 QI report for the chapel highlighted significant problems of continuing and rapidly worsening failure of the vast lead roof. The Council also understands that the college has taken steps to address carbon emission reduction within its built estate, with new buildings and refurbishment projects of existing buildings now required to make improvements in energy performance.

The current proposals for the chapel involve the renewal of the failing lead roof as well as the installation of PV panels on the north and south slopes. The Council was happy to defer the proposal to replace the lead roof and any associated repairs to the DAC. The Council was also content to defer the details of the scaffolding and temporary roof to the DAC.

The Council was impressed with the aspirations of college with respect to its commitment to net-zero carbon and supported the principle of the installation of PV panels on the chapel roof. It noted that the prominence of the college, not only in the United Kingdom but worldwide, places it in a strong position to showcase its commitment to net-zero carbon and to lead by example. The successful installation of the panels could potentially give other organisations the confidence to investigate their own similarly bold initiatives. As the climate crisis worsens, there will be an increasing need to install energy saving and energy producing devices within historic building stock and these interventions should be perceived as positive. The Council

suggested that the chapel may wish to consider some type of interpretation showing the positive implications of having the solar panels, this could include a counter showing how much energy they generate. This would also further highlight their importance.

Currently, the lead roof and its lead rolls are visible from the ground both in the college and from the busy street below. It was acknowledged, at the site visit, that the panels will also be visible, through and above the perforated parapet from ground level. However, the glimpses of the panels from the ground level should not have to dominate the views of the chapel, particularly if the panels are made from non-reflective materials and the scale of the lead bays is maintained.

The Council noted that the College is up to date with the rapidly changing designs and concepts for energy capture via PV panels and suggested that a detailed mock-up be created once the appropriate panels had been chosen. The mock-up would show the details of the panels including the proposed ridge detail, at least one horizontal lap and two side vertices laps, and the formation of the gutter. The fixing details for the rails proposed for the fixing of the solar panels also need to be shown on these models to ensure that the fixings will not cause long term damage to the lead covering. The Council suggested that once the full-scale model is agreed, at least one bay should be constructed or laid over the existing lead roof which will help to assess the impact of the panels on the views from ground level. The Council indicated that the most prominent view is from the south cloister and Kings Parade which runs to the east of the chapel and college. The mock-up panel should therefore be placed on the eastern most area of the south roof slope. If successfully implemented, the Council would anticipate that this scheme would be presented as an exemplar for PV panels on ecclesiastical and other historic buildings.

The Council agreed that the best place for the PV panels is on the college roof, due to its height and surface area, and not elsewhere on the estate. However, it asked for further information on the benefits of having panels on the north slope and whether it would generate enough energy to justify it. It also highlighted the Council's guidance on solar panels which can be found here: https://www.churchofengland.org/sites/default/files/2021-09/Solar_Panels_and_Faculty_Guidance_0.pdf

The Council noted that there is also a proposal to harvest rainwater from the roof and praised the college for thinking about future higher rainwater levels. It noted the Chapel's Ecclesiastical Exception only includes the footprint of the chapel and does not include surrounding land. However, depending on the means for storage of the rainwater, the Council may have a view on the potential impact on the setting of the Chapel. It is understood that the details of this have not yet been decided and that an underground tank may also be an option.

The Council asked to see the case again once the college has had time to consider its advice and develop the proposals.

Yours sincerely

Jacinta Fisher

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