

RE: PLANNING APPLICATION FOR STONEHENGE VISITOR CENTRE

Dear Sir or Madam

I am writing regarding the proposed Stonehenge visitor centre.

Firstly, it is good to see that progress is being made. However, I have four concerns relating to the detail of the design submitted, one concern related to the overall purpose of the visitor centre, and I also have my own suggestion for an inspiring and memorable alternative design.

(My own design is essentially in the form of two buildings. It could be completed in two phases, with one phase per building. The first, simpler phase could be completed in time for the 2012 Olympics. The first phase would essentially be functionally equivalent to the submitted design, but without the problems listed below.)

My concerns do not address the aesthetics of the proposed design. I see that there have been comments in the press already. You cannot please everybody!

Concerns relating to the proposed design:

1. The proposed design comprises two rectangular buildings, with a sloping canopy above. There is a concern that the shape of this will funnel the airflow, such that the wind speed between the buildings will be somewhat greater than that of the ambient windspeed. The unexpected windspeed changes and turbulence in this area will make for an unpleasant experience for visitors, and may indeed be dangerous for elderly or infirm persons, who may struggle to stand upright. Suggest that wind tunnel testing be done on a scale model, or for Computational Fluid Dynamics (CFD) analysis is performed, before approval is given.
2. In a strong wind, the canopy would act like a huge wing. A considerable amount of lift would be generated. The structural design would need to be adequate.
3. The canopy is supported on a number of skinny vertical posts. There does not appear to be any cross bracing. There needs to be an adequate level of analysis performed, to show that the structure will not oscillate in a high wind. Presumably the vertical posts will be fairly stiff structurally, and so any oscillations would tend to build up, rather than be damped down. If the oscillations are of large magnitude, or are of smaller magnitude but occur frequently, then it may well be that metal fatigue and consequent structural damage can result. We only have to consider the case of the Tacoma Narrows bridge to see that catastrophic structural damage can occur due to a not particularly strong wind (40 m.p.h.):

[http://en.wikipedia.org/wiki/Tacoma_Narrows_Bridge_\(1940\)](http://en.wikipedia.org/wiki/Tacoma_Narrows_Bridge_(1940))

But we now know how to make structures that do not resonate! Or do we:
Millennium Bridge in London:

<http://www.sciencedaily.com/releases/2005/11/051103080801.htm>

4. The graphic of the design shows a number of what appear to be rectangular holes in the canopy. Stresses will be concentrated at the corners of these holes, and any cracks due to flexing is likely to start from here, as happened with the Comet airliner. Making the holes round, or at least rounded would solve that particular problem. (Are they windows or are they holes? If they are just holes, they will not provide much protection from the rain.)

Concern relating to the purpose:

Of course, every visitor centre provides certain facilities, such as a café, a shop, toilets etc. But we have to realise that Stonehenge is unique.

Form follows function. It is generally understood that Stonehenge has "something to do with the sky". The summer solstice sunrise, and the winter solstice sunset alignments are well recognised. Surely the visitor centre should have a demonstration of this phenomenon, as a key part of its function. To do so, it needs to incorporate a model of Stonehenge (since the original is broken) within a planetarium.

By studying the form of Stonehenge, we can see its function. It was very much more than just "something to do with the sky". This was its core purpose and function! You can see the explanation here:

On the YouTube website, search for "Stonehenge Astronomical Observatory", or click:
<http://www.youtube.com/watch?v=aJo59iF18mY>

My proposed design:

The core of the design is a model of Stonehenge, ideally a full scale replica. It need not be a slavishly copied replica, but could be a dramatic sculpture using modern materials, such as stainless steel. It needs to be functionally equivalent.

Above and around it, there would be a planetarium dome, on which the movement of the sun, moon, stars and planets would be projected. It would act as a huge cinema screen, with an immersive experience, and would also show a video of items of interest, such as artefacts, archaeological work, interviews, and simulations.

Of course the ceiling of the planetarium dome needs to be protected from the weather. There is a wonderful opportunity therefore to reconstruct another remarkable ancient monument, in its original gleaming white colour.

To one side, and also in part wrapping around the planetarium, there would be a single storey building to house all of the other facilities, such as the café and shop, and additional exhibit space. This building could be constructed rapidly. (as an option, the roof would be covered with solar panels, making it carbon neutral in operation.)

An outline description can be read on the Downloads page here:

<http://www.brontovox.co.uk/>

I hope that my suggestions are helpful. I just would like to see the best possible outcome for the visitor centre. There is no reason why the architects who are already commissioned should not adopt my design. The first phase is not so hugely different from their own in terms of outline. As a concerned member of the public, I just want to see it built!

Sincerely
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