

ST PETER'S CHURCH, CASTLE PARK

LIGHTING

7th August 2019

1 Context

A new lighting scheme is intended for the ruins of St Peter's Church in Castle Park. It is planned for renewed public access to at least parts of the interior of the Church, and improved security and navigation of the public realm around the perimeter. This will all contribute to better enjoyment of this part of Castle Park, and interpretation of the important historical context.

Although this work initially is being done free of charge, we want to ensure that it is done professionally and to a high standard so that you benefit from our work and can rely on it just as you could if you were paying for it at market rates. Therefore the information contained in this report can only constitute design advice if we are appointed (even if no fee initially) using a standard form of agreement such as the ACE – of which we can send a copy, in due course.

After a site visit on 1st August 2019 (with Russ Leith, Teresa Crichton and Andy Gordon), Max Fordham have been asked to propose an outline lighting strategy, initially for the tower only, for the purposes of costing and developing into a Bristol City Council-led, CIL-funded project.

The existing Church building has what appears to be a functional 100A 3 phase metered electrical supply, which would be sufficient for the lighting scheme.

There exists precedent of cables and light fittings being mounted on the existing structure (possibly without the requisite consents):



Subject to further funding availability, a wider scope of lighting the entirety of the Church and adding other multi-media elements is also desired, and is discussed briefly here.

2 Suggested Scheme

With a view to controlling costs, it was agreed that the scope should initially including lighting only the tower.

We understand that soft capping to exposed tops of walls has been agreed with Historic England, which represents an opportunity to route new cables and locate luminaires out of sight from ground level, with good line-of-sight to the tower on 3 sides. We therefore suggest that fittings to light the north, east and south sides of the tower might be located on the tops of walls.



Above: possible locations for fittings. Below: rough indication of illumination from those points.

Fittings should be mounted close to the tower lighting upwards, to provide sculpting of the stonework without being visible. However, this will be limited by a) the available mounting locations and b) the number of fittings available within the budget: as a steeper angle is likely to require a greater number of fittings.

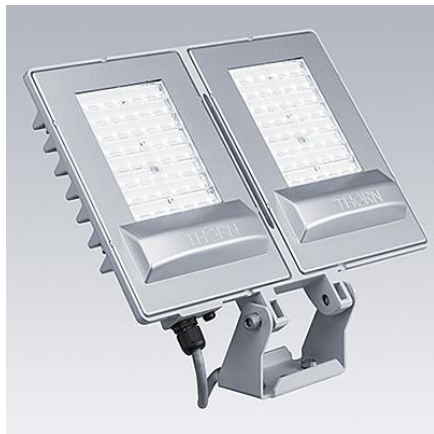
Fittings should provide an output of at least 2k lumens (ideally dimmable) and a default of warm white but ideally with options for other colour temperatures.

Fittings should be IP67 rated for external use, and fully adjustable in direction angle in all axes.

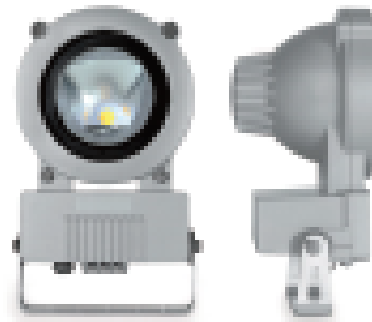
Dimming control may be best as a DALI (Digital Addressable Lighting Interface) system. Whilst this comes at a cost, it is industry-standard and highly flexible for use with many control products for dimming, colour changing and occupancy-sensing.

Mounting at the tops of walls renders fittings generally out of sight but also relatively difficult to access for maintenance and this should be borne in mind. We assume the soft capping will need inspection and maintenance from time to time, and the same access methods should be used for light fittings.

Fittings such as Thorn's LEDFit 90 or Sylvania Targ Round 43W could work. We have not been able to obtain a quotation yet, at this stage £500/fitting should be allowed for supply only.



L: Thorn LEDFit 90



R: Sylvania Targ Round

The front of the tower is flush with the exterior line of the Church, so there are no discreet vantage points to light the tower. Previously, floodlights have been mounted on the existing area lighting columns - however these detract from the column appearance and may not be acceptable. We therefore suggest that a pair of in-ground fittings are located a few metres back from the west end.

This part of the tower is also more exposed to view at the lower levels, so lighting needs to be more extensive. We estimate that a minimum of 4 in-ground fittings along this face of the tower will be required.

The fittings need to be drive-over, and ideally aim-able.

The Thorn EFACT 9L90 is an example of the type of fittings we are considering:



Generally all up-lighting will need to consider sky-glow requirements to avoid additional light pollution. This may require fittings to be carefully aimed where possible, and with the majority of light at the lower section of the parts of the tower being lit.

3 Summary of Tower Lighting

Item	Quantity	Budget Cost	Notes
Aimable surface-mounted floodlight	6-8 off	£750 each incl install	To be mounted on tops of walls. Aimable, ideally DALI dimmable, IP67 minimum.
In-ground uplighters	4 off	£750 each incl install	Along west end say 2 pairs either side of entrance.
New LV power cabling	150m	£750	Length indicative. Cables externally rated: FP or armoured.
Controls cabling	150m	£750	Length indicative.
Control system	1 off	£1,000	Budget allowance for DALI power supply, timeclock, dusk sensor, dimming control.
Total Budget		£7-8k	

4 Wider Scope

Lighting the Church Exterior

The lighting of the remainder of the Church building generally, could be done in a number of ways:

- In-ground fittings around the perimeter lighting upwards, close to the Church - requires numerous fittings.
- Floodlights mounted in around the perimeter at a distance, either on existing columns or against walls. The location of these could be restricted by needing to avoid vandalism.
- Not lighting the exterior but lighting the Church from inside, allowing the interior walls to glow through the windows & gaps. This would allow fittings to be surface-mounted at ground level discreetly and with lower risk of tampering or vandalism – but doesn't light the outside of the Church.

We had discussed including tall lighting columns within the Church to cantilever over the wall and light the outside downwards. On further consideration this does not seem appropriate as the effect of lighting down a textured wall is less satisfying, and the columns would be visible, possibly intrusive, and may impact future uses of the interior of the Church.

For the purpose of budgeting, say 20no additional fittings at an average of £750 each i.e. ca. £15k

Lighting the Oval Window

The unique oval window opening was discussed as a potential specific feature to highlight. This could be done in a number of ways and the cost could be wrapped up in the budget figure above.

Lighting a Sculpture Gallery

As a separate exercise, allowing say 3 local dimmable amiable spotlights (ground mounted near sculptures) i.e. ca. £2k per sculpture, would be a reasonable starting point. Potential for vandalism needs careful consideration, which may mean further consideration into mounting spotlights on the existing Church Structure.

Soundscape

The installations at Gloucester Cathedral included both PIR-triggered localised audio effects, and downloadable apps for virtual tours including audio items.

The software was by far the most costly – although it was extensive and included many screens and interactive elements as well as audio recordings. An allowance of ca. £50k as a minimum for this was required on that project. As discussed, it may be potentially less costly to host a recording on a website, with a QR code on an external sign to link to the audio file. We are not in a position to advise on signage, web hosting or audio production costs.

A localised speaker triggered by a PIR to play back a recording was around £2k, so a budget allowance for 4no of these in different locations would be £8-10k.

Wider Public Realm

It is important to take the opportunity to improve navigation and security in general around the Park, to ensure visitors can access the Church easily and safely. We understand that this separate to the scope of any Church works.

Budget Summary

Based on the above, an allowance of ca. £15k for general lighting of the Church, and a further £8-20k for soundscape and other multimedia is suggested, subject to further briefing, specialist input and design work.