

FLOODLIGHTING

A GUIDE TO THE
INSTALLATION OF
FLOODLIGHTING

THE ROLE OF THE DAC

The DAC is an advisory body. Where a PCC submits a List B application for the Archdeacon's permission, or submits a petition for the grant of a faculty by the Chancellor, the DAC will refer to the appropriate policy document when advising the relevant parties. The DAC's intention is that such policies will make it clear to parishes what is likely to gain the committee's immediate support.

Where a PCC submits an application which is not in line with the DAC's policy, the PCC will need to explain why that deviation is necessary, so that the Archdeacon or Chancellor (as appropriate) can consider this when reaching their decision.

INTRODUCTION

The CBC's guidance on external lighting (see below) notes that a floodlighting scheme "can be an important tool in ensuring the visibility and longer term sustainability of the church building in the community" and it provides good advice about how to design a scheme which will light your building to its best advantage. However, it also notes that "parishes should think carefully about what they want to achieve and how else it could be done without embarking on a floodlighting programme".

[At the time the CBC guidance note was written, the Church of England had set a target of 80% reduction in carbon footprint by 2050; that target has now been reduced to net zero by 2030].

PROCESS

Before a faculty petition for the introduction of external lighting is submitted, the DAC's standard procedure will be as follows:

- The parish will provide a basic outline of what they want to do and why;
- The DAC will arrange an evening floodlighting visit – DAC Lighting/Electrics Adviser, Church Buildings Adviser, and one or two other appropriate members of the Committee to attend – to meet with parish representatives (usually vicar and churchwardens) and their electrical contractor;
- The electrical contractor (who must be NICEIC, ECA or NAPIT full scope registered) will bring a light and long cable so that all parties can see the effect of lighting in different places to avoid light pollution, light spill to neighbouring properties and roadways, glare to visitors etc.

When a faculty petition is submitted it should be supported by:

- A plan of the church and churchyard, and photographs, to show where the new fittings/equipment are to be positioned, cabling routes and depths;
- The lighting contractor's specification and quotation giving full details of the equipment, and how it is to be installed;
- Catalogue illustrations of light fittings/guards;
- Confirmation that the church architect/surveyor is content with the proposals;
- Confirmation that the Local Planning Authority has been consulted;
- Details of the occasions and the times of day when it is proposed to use the floodlighting

LIGHTING: FACTORS WHICH THE DAC WILL CONSIDER

Outdoor lighting might be required for a variety of needs, including safety, but it should be used wisely. When presented with an application for the introduction of external lighting, the factors which the DAC will take into account include the following:

2.1

What is the purpose of the external lighting?

- a - If it is to emphasise that the church is a living building within the community, could this be achieved by leaving some internal lights on for a period of time at night? Or having a lit noticeboard?
- b - If it is to mark special festive occasions, such as Christmas, could temporary floodlighting be set out (even with trailing leads) rather than installing fixed and expensive lighting which the church would be tempted to use more often?
- c - If it is required for health and safety reasons, for example to mark kerbs, steps or paths, have the parish considered the use of reflective paints or luminous markers?
- d - If it is for security, then light using well positioned sensors is often better for detecting intruders than lights which permanently create shadows for someone to lurk in.

2.2

Will the light be directed only where needed?

- a - Only light the exact space and in the amount required for particular tasks. Consider pointing floodlights downwards, or make use of barn door attachments, to reduce wasted stray or upward light.
- b - Avoid dazzle – the visual impairment from a light source, such as a floodlight that shines onto a church porch doorway, or a high level path light directed outwards from a porch. This is especially dangerous where there are tripping hazards.

2.3

Will the light be on only when needed?

Lights rarely need to be on for long periods of time. Consider the use of controls such as timers or motion detectors to ensure light is dimmed when possible and off when not needed. Depending on the locality, lights may need to be off after 11pm.

2.4

Will the light be kept to a suitable level?

- a - Light should be no brighter than necessary for the task or purpose intended. Two lower power shielded downlights can be better than poorly angled higher power lights which simply create glare. Avoid the temptation to over-light because of the higher luminous efficiency of LEDs.
- b - Consider also the impact of contrast: as we are drawn to light, when a church is externally lit too strongly – and this includes the interior of the porch – the feeling on entering a less bright interior can be that of discomfort or even disappointment; in other words, it can reduce ‘welcome’.

2.5

Will the light be the correct colour (known as ‘colour rendering’)?

- a - Cool blue light produces more sky glow because it has a significantly larger geographic reach and is most harmful to wildlife and human health. Blue-rich white light sources are known to increase glare and compromise human vision, especially in the aging eye; they create potential road safety problems for motorists and pedestrians alike. LEDs (Light Emitting Diodes): lights or bulbs should be warm white, max. 3000°K (and preferably 2700°K), even though they may be less energy efficient than cool white ones.
- b - The light should show the church as closely as possible in its natural colours.

2.6

How will the proposed lighting affect, or be affected by, existing lighting in the locality? Are adjacent buildings already floodlit? Is there street-lighting?

ENERGY CONSUMPTION: FACTORS WHICH THE DAC WILL CONSIDER

General Synod has called for all parts of the Church to be 'Net Zero Carbon' by 2030.

The "Practical path to net zero carbon" envisages a reduction in energy consumption, not an unnecessary increase. In the face of predicted over-demand on our generating and distribution infra-structure, we must reduce all energy consumption, even when it considered as 'necessary'. Any proposals for new or additional floodlighting must demonstrate that the proposed installation will not increase the church's existing level of energy consumption in order for the DAC to be able to recommend the proposals. If deemed appropriate, the DAC can require the parish to complete an energy audit before any faculty petition can be recommended. (Any increase in energy consumption could potentially be offset by energy saving measures elsewhere in the church/site).

Faculty Jurisdiction (Amendment) Rules 2022. The CBC will issue guidance on reducing carbon emissions, to be known as the "net zero guidance". From 1st July 2022, the Rules will:

- 3.2.1 - require any List B application where the proposal is covered by net zero guidance to explain how the applicant has had due regard to that guidance in formulating the proposal
- 3.2.2 - require any faculty petition where the proposal is covered by net zero guidance to explain how the petitioner has had due regard to the guidance in formulating the proposal
- 3.2.3 - require the DAC, when completing its Form 2 Notification of Advice in faculty proceedings, to state whether the DAC thinks that the applicant's explanation is adequate and, if it thinks it is not, its reasons for thinking that.

LIGHT POLLUTION: FACTORS WHICH THE DAC WILL CONSIDER

“Light pollution is a generic term referring to artificial light which shines where it is neither wanted nor needed” (<https://nightblight.cpre.org.uk/what-is-light-pollution>).

There are three types of possible light pollution which the DAC will take into account:

- skyglow – the pink or orange glow caused by a scattering of artificial light by airborne dust and water droplets
- glare – the uncomfortable brightness of a light source
- light intrusion – light spilling beyond the boundary of the property on which a light is located, often affecting neighbouring properties

IMPACT ON WILDLIFE

Light pollution can have a considerable impact on wildlife by interrupting natural rhythms including migration, reproduction and feeding patterns.

Man-made light is known to cause confusion to migrating birds, often with fatal outcomes, and exhaustion to birds confused by apparently extended “daylight” hours.

Bats. An assessment should be made by a suitably licensed bat surveyor as to whether or not bats are present. It is a requirement of legislation that Natural England be informed of any operation that may affect bats or their roost, even when the bats are apparently absent. (Contact the Bat Conservation Trust on 0845 1300 228 for a free visit from a bat warden).

IMPACT ON NEIGHBOURS

Light can cause distress to humans too, including disrupted sleep, and general nuisance. Recent studies suggest that exposure to light at night can disrupt the body’s production of melatonin, a brain hormone which has a role in resetting the body’s biological clock. In fact, Section 102 of the Clean Neighbourhoods and Environment Act (2005) makes ‘exterior light emitted from premises so as to be prejudicial to health or a nuisance’ a criminal offence. Has there been any local consultation?

DARK SKY

The North York Moors National Park is an International Dark Sky Reserve. Does the church fall within this area?

<https://www.northyorkmoors.org.uk/discover/dark-skies/what-does-international-dark-sky-reserve-mean>

5.0

RELATED ELECTRICAL ISSUES TO CONSIDER

5.1

If an external electrical socket is to be installed it should be supplied from a switched fused connection point inside the building, on the other side of the wall. This will provide protective isolation for working on the socket and/or turning off the appliance from inside, and it denies a power source to any persons (thieves, vandals) bringing power tools for their own mischief.

5.2

Cable runs:

- a - If they need to be buried, they may disturb graves or archaeological remains and so the DAC's Archaeological Adviser may need to be consulted. Steel wire armoured cable would be required where the cabling is buried or at low level where mechanical protection is necessary.
- b - If they need to be attached to the building, the church's architect will need to be consulted. Cabling should be as visually unobtrusive as possible, if necessary coloured to match the building fabric and of an outer sheath material not affected by environmental factors such as mechanical impact and UV light.

OTHER GUIDANCE AND RESOURCES

6.1

CBC Guidance Note: Floodlighting

https://www.churchofengland.org/sites/default/files/2018-12/CCB_Floodlighting_Sep-2012.pdf

6.2

Historic England Guidance: Lighting historic buildings

<https://historicengland.org.uk/advice/technical-advice/building-services-engineering/external-lighting-of-historic-buildings/>

6.3

Consistory court judgements

Re St. Michael & All Angels Blackheath Park [2020] ECC Swk 1

A helpful judgement from the Diocese of Southwark which considers: whether the installation of floodlighting will add to the carbon footprint (even when a church is on a green tariff); floodlighting is not something which is necessary; the fact that only a comparatively small amount of electricity will be used is not a justification.

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CONTACT

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