

**HERTFORDSHIRE COUNTY COUNCIL  
ENVIRONMENT SCRUTINY COMMITTEE**

Agenda item no:

**5**

**TUESDAY 25 JUNE 2002 AT 10.30AM**

**LIGHT POLLUTION AND CONSERVATION AREAS**

*Report of the Director of Environment*

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**1. Purpose of the Report**

Following a request by the Vice Chairman of the Committee, to enable consideration to be given to whether there are issues which require scrutiny in relation to light pollution and its impacts upon Conservation Areas.

**2. Summary**

There has been a growing recognition of the adverse effects of light pollution in recent years – on the environment, humans and wildlife. Sensitive locations, such as Conservation Areas, can be particularly prone to its impacts. There are a range of mechanisms through which pollution can be regulated, principally through the responsibilities of planning authorities for new development proposals and by highway authorities in designing and managing highway/street lighting.

**3. Conclusion**

The Committee are asked to consider whether they wish to scrutinise any of the issues raised in this report, and if so, by what method.

## 4. Background

### *Conservation Areas*

- 4.1 District councils have a duty to designate as Conservation Areas any ‘areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance’. Designation introduces a general control over the demolition of unlisted buildings and provides the basis for policies designed to preserve or enhance all the aspects of character or appearance that define an area’s special interest.

### *Light Pollution*

- 4.2 In recent years there has been growing recognition that excessive, poorly designed and badly aimed lighting may have adverse effects. Excessive lighting on rural roads, village streets and in other areas of the countryside can lead to skyglow which shuts out the splendour of the night sky. Glare from excessively bright or poorly aimed lights causes dazzle, with safety implications for motorists and pedestrians, particularly the elderly. Light spill or trespass may impinge directly on the home, destroying its sense of privacy and interfering with people’s ability to sleep. There is also a subtle, cumulative effect on the character of rural landscapes that tend to blur the distinction between urban and rural areas.
- 4.3 The loss of colour rendition caused by some types of lamp, particularly sodium lamps, is a factor. Low pressure sodium lamps, which have very poor colour rendition, are particularly common on rural roads and in village streets. Their orange light blurs the pale dimness of moonlight, which has a subtle white tinge, and adds to the loss of people’s appreciation and understanding of the countryside at night (though they do have the least ecological impact and visually they may have less of an impact than white light). The activities of astronomers are affected most by sky glow, but light trespass and glare may also cause severe disruption if they are close by (low pressure sodium light can be filtered out, it is the spectrum from white light sources that cause problems). There are no longer professional observatories in many parts of the country, and there is specific concern of the impacts on education and science.
- 4.4 The detailed ecological effects of artificial lighting are not fully understood, but research<sup>1</sup> has shown that wildlife suffers many of the same effects as human beings by light pollution. Day lengths, which influence the activities of plants and animals, may become altered or extended. Impacts are most prevalent among insect populations and nocturnal mammal species, although nesting or roosting birds may also be affected, and natural diurnal rhythms may be disrupted in a wide range of animals and plants. For example, all bat species are deterred from using roosts in barn conversions – even if they have

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<sup>1</sup> Outen, AR, *The Possible Ecological Implications of Artificial Lighting*, Hertfordshire Environmental Records Centre, 1994.

been specifically accommodated – if entrances are subsequently floodlit, whilst some species are deterred if even the adjacent area is floodlit.

- 4.5 Lighting structures can be particularly intrusive in historic settlements. Archaeology, historic features, buildings and settlements create a strong sense of place and are vulnerable to the cumulative impact of development and associated lighting. English Heritage and the Royal Fine Art Commission have concerns about the impacts of lighting on the setting of historic buildings and monuments. Poor lighting of historic buildings and settlements may adversely affect their heritage value, for instance by obliterating striking architectural details or the colour of building materials. Good lighting should enhance the built heritage and facilitate public enjoyment of the cultural and historic features of our settlements. Some of the problems associated with light pollution can be felt in particularly sensitive locations, including Conservation Areas.
- 4.6 The principle means of controlling light pollution problems are through the planning system in regulating development, though highway authorities have an important role to play in bringing forward sensitively designed street lighting schemes, including use of cowling and limiting days and hours of use where appropriate. Unlike noise and other pollution, excessive light is not recognised as a statutory nuisance<sup>2</sup>.

## **5. The Planning System**

- 5.1 There are a number of ways in which the planning system can influence lighting proposals and reduce light pollution. At the national level, there is currently no specific Government policy guidance on light pollution, though Planning Policy Guidance Note (PPG) 23: Planning and Pollution Control recognises that local planning authorities should take the effects of lighting into account in preparing policies. PPG17: Sport and Recreation recognises the need to place suitable restrictions on sport-related floodlighting schemes and PPG15: Planning and The Historic Environment, whilst making no reference to light pollution, does recognise that sensitive lighting can enhance historic environments and states that high pressure sodium lights (with controlled light spillage) may be preferable in sensitive areas as they provide a white light with a more natural rendition of colour.
- 5.2 Good practice guidance is contained within the Government's document 'Lighting in the Countryside: Towards Good Practice', which is aimed at planning authorities, statutory consultees, highway authorities, developers, the lighting and landscape professions, lighting manufacturers and retailers, and members of the public. Development plans can help ensure that there are policies which seek to ensure that development proposals take full account of lighting issues. Lighting installations associated with development requiring

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<sup>2</sup> Although individuals who are affected by light may have recourse through private nuisance actions, which are primarily a matter for civil law.

planning permission can be controlled through normal development control process and attaching conditions to planning permissions.

### ***The Structure Plan***

- 5.3 The forthcoming consultation by the County Council on Alterations to the Structure Plan to roll it forward to 2016 includes a proposed new policy on 'light pollution'. Amongst other matters, this policy requires the lighting requirements of development proposals not to have an adverse impact on those environmental assets identified in the Plan. Those assets include Conservation Areas.
- 5.4 The new policy supports the Institution of Lighting Engineers 'Environmental Zones' approach to lighting areas sensibly and controlling pollution, set out in its document "Reduction of Light Pollution (1994: Revised Version)", and asks district councils to consider integrating the approach into their local plans. The document establishes four Environmental Zones, each zone having a different approach to the provision of external lighting. These zones establish 'Obtrusive Lighting Limitations for External Lighting Installations' and include the effects of 'Sky Glow' and light into windows. The document also includes 'source intensity', the potentially obtrusive direction of light outside the area being lit. The four environmental zones are defined as follows:
- E1 "National Parks", "Areas of Outstanding Beauty" or other "dark landscapes"
  - E2 Areas of "low district brightness" (e.g. in a rural location but outside a zone E1);
  - E3 Areas of "medium district brightness" (e.g. in an urban locations);
  - E4 Areas of "high district brightness" (e.g. in an urban centre with high night-time activity).

Conservation Areas could be located in any of these four zones.

### ***Local Plans***

- 5.5 Most Local Plans/emerging Local Plans in the County contain policies which seek to ensure adequate lighting in new developments for health and safety reasons. Only Dacorum Borough Council has currently identified those areas of the districts falling within the four Institution of Lighting Engineers Environmental Zones. All local plans contain policies on protection of Conservation Areas and this protection includes the impact of lighting schemes and pollution.

### ***Development Control***

- 5.6 The majority of developments and their associated lighting schemes are considered by district councils in considering applications for planning permission. The installation of both domestic and commercial exterior

security lights to existing buildings is normally exempt from planning control. Conditions can be attached to planning permissions controlling a range of lighting issues – hours of illumination, light levels, column heights, specification and colour treatment for lamps and luminaries, the need for horizontal cut-off, no distraction to the highway, levels of impact on nearby dwellings, and so on. The County Council considers the same issues for those developments for which it is planning authority. However, while any one application may be permitted with appropriate conditions, a gradual increase in overall impact due to the cumulative effect of numerous applications can arise in any given area. This is very difficult to manage or control.

- 5.7 Clearly, light pollution is an important factor considered by district councils in considering proposals for development within Conservation Areas and for improvements in Conservation Areas in general. Generally speaking, exterior floodlights attached to unlisted buildings, even though in Conservation Areas, do not require planning permission.

### ***Listed Building Controls***

- 5.8 There are some external fixtures that require listed building consent when they affect the character of a listed building. These fixtures include security and other floodlighting. PPG15 advises that only undamaging and visually unobtrusive positions for such fixtures should be agreed. A lighting installation may require listed building consent, if within the curtilage of a listed building or if, for example, the intensity or colour of the light may be deemed to alter the specific character of the building or that of its setting.

### ***Advertisement Controls***

- 5.9 Local authority (district councils) consent is required to display advertisements, although a wide range (including some illuminated ones) are exempt from control. Local authorities can seek to discontinue advertisements where they are considered to cause substantial injury to amenity or a danger to the public. Injury to amenity is a particularly important factor in Conservation Areas.

## **6. General Good Practice Guidance/Supplementary Planning Guidance**

- 6.1 There are a range of good practice guidance documents produced nationally by the Department for Transport Local Government and the Regions for road lighting and the Institution of Lighting Engineers and the Chartered Institution of Building Services Engineers on good lighting practice generally. The County Council has an emerging good practice guidance document ('Reduction of Light Pollution Policy') which seeks to bring together the main messages from national guidance, which it is hoped could be taken up by all local authorities and applied to all developments in Hertfordshire. This document gives guidance on a wide range of lighting issues – whether the feature needs to be lit, the form of lighting to be installed, how light should be

directed, what lamps should be used, how long lighting installations should be left on, guidelines for limiting light pollution from exterior lighting (promoting the ILE's Environmental Zones), lighting of specific developments, and so on. All of the general aspects of lighting good practice are particularly relevant to sensitive locations and sites, such as Conservation Areas (though there is currently no specific guidance on lighting in Conservation Areas).

## **7. County Council Development**

- 7.1 In preparing schemes for schools the County Council requires its design consultants to comply with recommendations within the current Department for Education and School guidance, which sets out some basic guidance for exterior lighting, including 'the avoidance of light trespass, which is light causing a nuisance to people and dwellings in neighbouring areas; and light pollution which affects the local environment and atmosphere'.
- 7.2 With regard to County Council development generally, the Corporate Design Standards have been reviewed, and new standards are about to be issued. There are no current plans to update the front line Service Division standards, where standards on lighting and minimising light pollution would be addressed. The County Council is to appoint a different provider of property services in 2002 and there will be an opportunity to review its standards and specifications at that time.

## **8. Street Lighting**

- 8.1 Street lighting is not controlled by the planning system but is subject to appraisal procedures of highway authorities. County Council policy on highway lighting is detailed in Roads in Hertfordshire which:
- supports the Institution of Lighting Engineers 'Environmental Zones' which must be considered in the design process;
  - states that high-pressure sodium lighting (white-ish light source) shall be used in Conservation Areas (the output from the lantern is easier to control and the light source does give some degree of colour rendering and as such gives a 'better feel' to an area). However, high pressure sodium and mercury lamps (which emit ultra violet light) appear to have the greatest ecological impacts.

- 8.2 The County Council consults Conservation Officers on proposed street lighting schemes in special cases, such as town centre enhancements and special projects (e.g. the Hemel Hempstead Conservation Area Project). In addition, other parties such as English Heritage are consulted where listed buildings are involved. The consultation process can involve discussion and agreement over the design of fittings (lanterns, columns and other associated street furniture) and location of equipment. It is only on rare/special occasions that specific specialists such as lighting engineers get involved in consultation processes. For example, electronic imaging processes could be used to show what the scheme would look like to enable the public to visualise the size and details of the equipment.
- 8.3 Whilst most modern highway lighting units have improved design and optics, it is estimated that in Hertfordshire around 50% of the highway lighting stock has poor optical control from a light pollution point of view. This is because much of the stock is over nine years old. It cannot be addressed by simply changing the lanterns on the columns, as the column spacing will not enable those sections of the highway to be illuminated to the correct standard. Conservation Areas are currently not given priority in programmed improvements to the road lighting stock. However, a ranking system for street lighting refurbishment is currently being developed as part of our Asset Management Plan which, whilst structural integrity of the column will be the most significant factor, will also take on board other issues such as the environment and Conservation Areas.

## **9. Conclusion**

- 9.1 The Committee are asked to consider whether they wish to scrutinise any of the issues raised in this report, and if so, by what method.

## **10. Financial Implications**

- 10.1 None at this stage.

### *Background papers used by the author in compiling this report*

Lighting in the Countryside: Towards Good Practice – DTLR July 1997.

Dacorum Borough Local Plan 1991-2011 Deposit Draft.

Reduction of Light Pollution Policy – Environment Department, Hertfordshire County Council.

Report for Item 3 ‘Structure Plan Roll Forward to 2016 – Pre Deposit Consultation, Environment Committee Structure Plan Panel, 5 October 2001.

HEF 1999 report on light pollution.