

Local Development Framework – Supplementary Planning Document (SPD) on External Artificial Lighting – Report on Representations following public consultation

Portfolio Area: Councillor Nigel Harley, Enterprise and Culture
Councillor Roger Walters, Environment and Sustainability

Report Presented by: Stuart Kay

Background Papers: Braintree Local Development Scheme
Draft External Artificial Lighting Supplementary Planning Document

Corporate Implications: Please refer to table at end of report

Options:

1. To adopt the draft SPD on open space without modification.
2. To approve the draft SPD on open space with modification.
3. Not to approve the draft SPD.

Risks: The SPD is intended to assist in securing external artificial lighting schemes which will minimise light pollution and impacts on the natural environment to an acceptable level. Where it is not possible to achieve this through negotiation on Section 106 Agreements, and applications are refused the main risk is that the guidance set out in the SPD is not supported on appeal and the lighting schemes have greater or unacceptable impacts. There is also a small risk that the Secretary of State may direct that the Council should not adopt the SPD.

Executive Summary

Public consultation took place over a six week period between 6 June and 17 July 2009 in accordance with statutory requirements, and covered both the SPD and the accompanying Sustainability Appraisal. Both documents were placed on the Council's website and were available for public inspection at the main Council Offices and local libraries. 224 organizations were consulted on the documents and statutory notices published. 88 representations on the SPD were received from 14 organisations and individuals, and 2 representations were made on the draft Sustainability Appraisal. These are summarised in Appendix 1 to this report, together with comments and recommended responses. The main issues raised related to the need for planning permission, obtrusive light, installation of lighting, location in relation to neighbouring uses, specific factors to be taken into account and information required to support planning applications.

The SPD forms part of the local development framework, but does not have development plan status. It is not subject to independent examination and can be adopted by a resolution of this Panel (or the Council) following consideration of the representations received and indicating how the issues raised are addressed in the Document.

Decision

It is recommended that:-

1. the Panel considers the representations made and how the issues raised should be addressed in the document as set out in Appendix 1 to this Report.
2. the document is modified in accordance with the recommendations in Appendix 1 and adopted as a Supplementary Planning Document.

DRAFT SUPPLEMENTARY PLANNING DOCUMENT: EXTERNAL ARTIFICIAL LIGHTING
DRAFT SUSTAINABILITY APPRAISAL

REPORT ON CONSULTATION RESPONSES

INTRODUCTION

1. The preparation of the External Artificial Lighting Supplementary Planning Document expands upon existing Braintree Local Plan Review Policies RLP 65 *External Lighting*, RLP 135 *Floodlighting of Sports Facilities* and RLP 90 *Layout and Design of Development* which relate to the provision of external artificial lighting in Braintree District.

2. Public consultation took place over a six-week period between 6th June and 17th July 2009 in accordance with statutory requirements, and covered both the SPD and the Sustainability Appraisal. Both documents were placed on the Council's website and were available for inspection at the main Council Offices and local libraries. 224 organisations were consulted on the documents and statutory Notices published.

3. Comments on the SPD were received from 14 organisations and individuals as follows: 5 from statutory consultation bodies – Coal Authority, East of England Regional Assembly, East of England Development Agency, Natural England and Sport England, 2 from parish councils, 1 from the County Council, 1 from a developer, 1 from Essex Wildlife Trust, 1 from the British Astronomical Association and 3 from individuals. Comments on the Draft Sustainability Appraisal were received from Sport England and one individual.

4. In total 88 representations were made and are summarised in Appendix 1 to this report, together with comments and recommended responses. A draft of the SPD updated to include the recommended changes is attached as Appendix 2. The main issues raised relate to the need for planning permission, obtrusive light, installation of lighting, location in relation to neighbouring uses, specific factors to be taken into account and information required to support planning applications.

Need for planning permission – there is confusion over when planning permission is required to install a lighting scheme. For example many home security devices and temporary use of lighting do not require planning permission. Minor amendments are suggested as a result.

Obtrusive Light – There were many suggestions for including greater detail on what constitutes obtrusive light. Whilst there are some changes proposed, there is a need to maintain a balance to the SPD and not to include an excessive amount of background material.

Installation of lighting – the correct installation can be critical in avoiding light pollution, and changes are recommended which give advice securing the correct installation, although installation of lighting equipment is not generally a planning issue.

Location in relation to neighbouring uses – some changes were suggested and are recommended to ensure that consideration is given to areas of special protection and the impact of sports lighting on the surrounding countryside.

Specific factors to be taken into consideration – in response to representations changes are recommended which cover public art, decorative lighting, sports lighting, 'power down' of lighting after hours and timer controlled lighting.

Information to support planning applications – changes are recommended to incorporate elements of the Validity Checklist into the SPD.

5. The recommended changes to the Draft SPD in response to the representations are shown underlined. Additionally, changes have also been made to paragraphs 2.6 – 2.7, 3.1 – 3.2 and 4.3 – 4.4 of the draft document to provide greater clarity following the changes that had been suggested and recommended.

6. The SPD forms part of the local development framework, although it does not have development plan status. It is not subject to independent examination and can be adopted by a resolution of the panel following consideration of the representations received and indicating how the issues raised are addressed in the Document. The Secretary of State can direct local planning authorities not to adopt documents or require them to be modified. Following adoption the authority must make the following information available:

- An adoption statement
- The adopted SPD
- A statement setting out how representations were dealt with
- A statement summarising how sustainability issues have been integrated into the document and how the sustainability appraisal and consultation has been taken into account and the reasons for choosing the document, as adopted, in the light of other reasonable alternatives.

The adoption statement and the statement setting out how the representations were dealt with must be published on the Council's website, and the adoption statement has to be sent to any person who has asked to be notified of the adoption of the SPD.

Corporate Implications				
Financial:	Costs of preparing, printing, sustainability appraisal and community involvement to be met from existing base budget and planning delivery grant.			
Legal:	Legal Services have been consulted on the Draft SPD.			
Equalities & Diversity:	Taken into account in the preparation of the SPD and the community involvement. No equality impact assessment has been undertaken.			
Customer Impact:	Residents will benefit from a reduction in light pollution arising from the guidance which will be used in assessing applications for planning permission.			
Environment & Climate Change:	The SPD will lead to a reduction in light pollution and adverse impacts on wildlife. Any reduction in lighting, in both intensity and duration, may reduce the carbon footprint of Braintree District.			
Consultation/Community Engagement:	Local Committees	No	Partners	Yes
	Public	Yes	Staff	Yes
Key Decision:	Yes			
Public/Private Report:	Public			
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APPENDIX ONE

REPRESENTATIONS RECEIVED ON THE DRAFT SUPPLEMENTARY PLANNING DOCUMENT: EXTERNAL ARTIFICIAL LIGHTING

FOREWORD

Representation No. 60967/25 (Cllr James Abbott)

At end of para 3 explain 'obtrusive light' by adding at end "- that causes direct nuisance or glare to people, disturbs wildlife or causes light pollution (sky glow)."

Officer Response

Obtrusive light is defined in Appendix 5 (Glossary) as "any light, which illuminates areas beyond that which needs to be lit, can be considered to be a form of light pollution. The extent to which it is perceived as being a nuisance will often depend on the background light from other sources and the intensity of the light." **It is recommended that Appendix 5 be amended by deleting "can be considered to be a form of light pollution" and inserting "that causes nuisance or glare to people, disturbs wildlife or causes light pollution, including sky glow."**

Representation No. 321764/58 (David Paul, British Astronomical Association)

The third paragraph refers to suppliers, who are not responsible for installation - should refer to installers of lighting. Suggest substituting "installers" for "suppliers" in the second sentence.

The second sentence should also be reworded to read:

"Reputable manufacturers and installers of such systems should be prepared to provide appropriate technical specifications to demonstrate that their product provides only the appropriate amount of light and only in the right place and at the appropriate times for the intended use, thus avoiding obtrusive light ((.e. that which causes direct glare, nuisance, sky glow and affects on local wildlife). Installation contractors especially should be fully conversant with manufacturer's guidelines and lighting industry guidelines regarding optimum installation to avoid turning otherwise environmentally friendly lighting schemes into something obtrusive."

Officer Response

It is accepted that this paragraph should also refer to installers, although suppliers will also be able to provide appropriate technical specifications. Rather than being placed in the Foreword, it would be more appropriate to include the suggested wording in the main body of the Document. **It is recommended that:**

(a) The third paragraph is amended by inserting ", installers" between "manufacturers" and "and suppliers".

(b) Add new paragraph to Section 4: "4.6 Reputable manufacturers and installers of external artificial lighting systems should be prepared to provide appropriate technical specifications to demonstrate that their product provides only the appropriate amount of light and only in the right place and at the appropriate times for the intended use, thus avoiding obtrusive light (i.e. that which causes direct glare, nuisance, sky glow and effects on local wildlife). Installation contractors especially should be fully conversant with manufacturer's guidelines and lighting industry guidelines regarding optimum installation to avoid turning otherwise environmentally friendly lighting schemes into something obtrusive."

INTRODUCTION - QUESTION 1

Representation No. 274137/1 (EERA)

Has no specific comment to make. All proposals for development, including lighting, should be determined with regard to East of England Plan Policy ENV7 (Quality in the Built Environment). Consideration of the potential impact of lighting schemes on the natural environment is supported and, where appropriate, the use of low-energy or energy efficient fixtures should be encouraged.

Officer Response

It is agreed that reference should be made to regional policy in Section 2. **It is recommended that a new paragraph be inserted after paragraph 2.4 to read:**

“Regional Policy

2.5 East of England Plan Policy ENV7 *Quality in the Built Environment*

Local development Documents should require new development to be of high quality which complements the distinctive character and best qualities of the local area and promotes urban renaissance and regeneration.

New development should:

- **provide buildings of an appropriate scale, founded on clear site analysis and urban design principles;**
- **make efficient use of land;**
- **in the case of housing development, achieve the highest possible net density appropriate to the character of the locality and public transport accessibility;**
- **provide a mix of uses and building types where appropriate;**
- **have regard to the needs and well being of all sectors of the community;**
- **address crime prevention, community safety and public health;**
- **promote resource efficiency and more sustainable construction, including maximum use of re-used or recycled materials and of local and traditional materials;**
- **reduce pollution, including emissions, noise and light pollution; and**
- **maximise opportunities for the built heritage to contribute to physical, economic and community regeneration.**

Conservation-led regeneration should respect the quality and distinctiveness of traditional buildings and the value they lend to an area through their townscape quality, design and use of materials. In their plans, policies, programmes and proposals planning authorities should give consideration to the opportunities presented by the region’s industrial, maritime and rural heritage.”

In paragraph 5.5 add new penultimate sentence as follows “The Council encourages the use of low energy and energy efficient fixtures.”

Representation No. 53119/2 (Roy Warren, Sport England)

1. We welcome the production of a SPD on External Artificial Lighting as an appropriate consideration for development plans. Obtaining planning permission for floodlighting can be a significant hurdle for many applications connected with the provision of sport and recreation facilities, and, therefore the clarity that this SPD will bring should be beneficial to the applicants, sports bodies and the wider community.

2. The recognition that lighting plays a positive role in the extension of sporting and leisure activities is welcomed as is the reference in Appendix 3 to the Chartered Institution of Building Services Engineers (CIBSE), *Lighting Guide 4: Sports Lighting*, (2006) which Sport England supports and uses in assessing the suitability of applications.

3. However we are concerned that elements of the SPD are based on Huntingdonshire District Council's External Artificial Lighting SPD as this is now a rather dated document (1998). Both SPD's reference the Department of Environment and the Countryside Commission publication, *Lighting in the countryside: Towards good practice* (1997), which appears to give precedent to environmental and conservation issues over the community benefits of artificial lighting for sporting and leisure uses.

4. Floodlighting technology has moved on significantly since the publication of these documents, and seeks to provide higher qualities of lighting for the sporting activities concerned whilst reducing the amount of light spillage onto adjacent properties and into the night skies. Floodlights which are properly planned and installed offer the potential to avoid or minimise adverse impacts on the surrounding areas. However it is necessary that the floodlighting installation is designed for its intended purpose and for its intended level of competition to ensure that it is fit for purpose.

5. As set out in our comments on paragraphs 5.3 and Appendix 3, I would request that a more flexible approach is taken which reflects the community benefits of sports floodlighting together with the potential to address potential impacts through the use of modern lighting technology.

Officer Response

1. Noted.
2. Noted.
3. The document is still relevant today. The visual and aesthetic impact of sports lighting on the community is a valid consideration in determining planning applications, and a presumption in favour of sports lighting would not address those impacts.
4. It is accepted that the amount of light spillage is critical, and it would be for an applicant for planning permission to justify a sports lighting scheme and demonstrate that light spillage is kept to a minimum such that any adverse impact is kept to a level which does not result in the loss of amenity.
5. The community benefits of any lighting scheme will be weighed against any detrimental effects of that scheme and a balanced judgement made. See also the response to representation on paragraph 5.3.

Representation No. 222877/5 (Rachel Bust, The Coal Authority)

Has no comment to make on the document.

Officer Response

Noted.

Representation No. 61605/6 (N Blaken, EEDA)

EEDA has no comments to make on the document.

Officer Response

Noted.

Representation No. 61655/24 (Sturmer Parish Council)

Sturmer Parish Council would like to endorse the acceptance of this document subject to the foregoing comments and believe that it will prevent misunderstanding and annoyance to third parties and help in the aim of the District Council of energy saving in the long run.

Officer Response

Noted.

Representation No. 60967/30 (Cllr James Abbott)

The document states how the SPD relates to the current Local Plan - but what will be its relationship to the LDF, which replaces the Local Plan?

Officer Response

A replacement SPD may be required to refer to new policies in the Development Control Policies Development Plan Document

Representation No. 60967/35 (Cllr James Abbott)

Additional point to be included:

"Explanation of dark adaption (sic) and colour sensitivity.

People's eyes respond to light conditions across a huge range of levels, and healthy eyes can detect detail and allow for safe mobility with levels as low as bright moonlight through to levels as high as bright summer sunlight, a factor of about 200,000. The eye cannot however cope well with sudden large variations in lighting levels. Excessively bright artificial lighting at night can create glare to a dark adapted observer and, by comparison, create adjacent deep shadow which the eye cannot adjust well to. Lighting schemes need to take account of this to provide a comfortable level of lighting that is sufficient to light an intended area, but no brighter than that. Consideration also needs to be made of the eye's response to colour and the varying impacts of lighting frequency on sky glow."

Officer Response

This point is being made in relation to glare, covered by para. 4.3. Although a detailed explanation of dark adaptation is not appropriate for this supplementary planning document, **it is recommended that the following sentence be inserted after the fourth sentence of paragraph 4.3:**

“Excessively bright artificial lighting at night can create glare to a dark adapted observer and, in contrast, create an adjacent deep shadow which the eye cannot adjust to.”

Representation No. 60967/36 (Cllr James Abbott)

Additional point to be included:

"The need for dark skies.

The District Council, working with other authorities, will seek to initiate Dark Sky Zones to protect the most valued skies and landscapes from creeping sky glow. These zones are being established in many countries across the world to both protect the environment and to encourage activities such as tourism for people who value the natural environment. Source of information on darker skies areas: The Philips Dark Skies map."

Officer Response

One of the biggest impacts of light pollution is the loss of dark skies which allow stars to be seen on a cloudless night. Environmental Zone 2 (lighting in the open countryside) and Environmental Zone 3 (areas of nature conservation importance) would provide more stringent controls than within developed areas. In EZ2 sky glow should be restricted to 5%, and EZ3 no sky glow would be considered acceptable. At present the Council has no basis on which to establish Dark Sky Zones. This may be something which could be developed at a regional level.

Representation No. 60967/53 (Cllr James Abbott)

There is a clear need in a document of this nature for some good examples of quality lighting design (as well as the directional diagrams that have been shown), for example:

Domestic "security" lighting shown with a PIR sensor angled downwards:

FCO street lighting;

Asymmetric FCO zero tilt sports lighting;

Internally baffled bollard lights;

Porch lights with PIR sensors;

Commercial lighting on buildings FCO and shown at zero tilt

Officer Response

The document could be enhanced by examples of high quality lighting design, particularly as it will need to be revised under the LDF at which time the examples could be reviewed and updated if necessary. **It is recommended that examples of lighting design be incorporated into the published version of the SPD.**

Representation No. 321764/57 (David Paul, British Astronomical Association)

I would like to congratulate Braintree District Council on a first class draft which clearly recognises the environmental impacts of obtrusive lighting whilst also recognising that lighting can also be a benefit and in some cases a necessity. It sets a good example for others to follow. In general the comments are intended for clarification and to recognise occurrences of obtrusive light that may otherwise slip through the net.

Officer Response

The spirit in which the comments are made is accepted, and changes proposed where appropriate.

Representation No. 323458/84 (Brian Wright)

With some of the smaller installations and retrospective applications it is more difficult to obtain the required documentation and standards, frequently because there is minimum technical input at an early stage and there are financial restraints in respect of purchasing the later technology and good quality luminaires. Following significant concerns being expressed by a representative of the Campaign for Dark Skies in respect of poor standards of lighting in Braintree District, we have over the last few years been able to achieve significant improvements and acceptable standards with the current planning policies and the conditions attached to the decision notices, but there is clearly a need for improved guidance to assist the designer in preparing acceptable lighting schemes and to have positive guidance as a foundation and reference. I have attached technical notes of items required to meet the objectives of the SPD.

Officer Response

The technical notes provided by Mr Wright can be made available on request as part of the Council's guidance on external artificial lighting.

Representation No. 323458/89 (Brian Wright)

There is a need to ensure that all installations are energy efficient and are designed to meet the challenges of reductions in CO₂ emissions; this is particularly relevant with ever increasing fuel costs.

Officer Response

In the absence of guidance on lighting and CO₂ emissions no specific guidance can be given in the SPD other than references to energy efficiency.

PARAGRAPH 1.1 (INTRODUCTION)

Representation No. 321764/59 (David Paul, British Astronomical Association)

Reference should be made to the role of the SPD in giving a clearer understanding of environmental issues. Suggest inserting "and environmental" after "technical" in line 4.

Officer Response

Agreed. **It is recommended that para. 1.1 be amended by inserting “and environmental” after “technical” in line 4.**

PARAGRAPH 1.2

Representation No. 60967/26 (Cllr James Abbott)

This paragraph makes assumptions about the 'positive benefits' of lighting that are not soundly based, i.e. advocating 'security' from lighting, which is not proven, and apparently promoting lighting important buildings for 'amenity' - is that decorative floodlighting? If so it is unsustainable.

Suggest rewording and simplifying the whole paragraph as follows:

"Lighting, if well designed and controlled, need not be a problem. It can become a problem where it is excessive, poorly designed, badly installed and poorly maintained. The Local Planning Authority (LPA) will consider lighting proposals as appropriate, for example for safety of movement, sport and leisure and advertising. The LPA will seek to balance the need for any such proposal against the effects on the environment, wildlife and people in terms of obtrusive light (refer to definition) and CO₂ emissions."

Officer Response

It is accepted that 'security' is more in the mind and that having suitable locks on openings in buildings is more effective than having lighting. It is also accepted that decorative floodlighting meets a desire rather than a need. Nevertheless there will be circumstances where such lighting is acceptable in planning terms, and will not be automatically dismissed on sustainability grounds. Further there is no justification for deleting references to security lighting and decorative floodlighting. No change is recommended in relation to this representation but see changes to paragraph 2.1 recommended under representation 60967/26 below.

Representation No. 321764/60 (David Paul, British Astronomical Association)

(a) Suggests some minor rewording of the first 2 sentences for clarification, with the revised wording underlined:

"Lighting in itself is generally not a problem, it becomes a problem where it is over used (both in intensity and duration), poorly designed, badly installed or poorly maintained. The Local Planning Authority recognises the positive benefits that can be gained from appropriate lighting proposals, in terms of safety of movement ..."

(b) Suggests reference is made to the inconclusive evidence that lighting helps to reduce the fear of crime by inserting after the second sentence:

"It should be noted however that whilst lighting helps to reduce the fear of crime, Home Office evidence suggests the benefits are inconclusive."

Officer Response

(a) No change is recommended in relation to the first two sentences but see changes to paragraph 1.2 recommended under representation 60967/26 below.

(b) It is accepted that lighting reduces the fear of crime rather than the incidence of crime. **It is recommended that after the second sentence the following should be inserted “It should be noted however that whilst lighting helps to reduce the fear of crime, Home Office evidence suggests that the benefits are inconclusive.”**

Representation No. 224095/8 (Mr Stephen Bolter)

(i) Lighting itself may well be a problem in sensitive areas. If lighting is essential for the planned use, but would be a problem, then the site is not suitable for the planned use even if it is well designed and installed.

Suggests amend to "Lighting in itself is not NECESSARILY a problem; it MAY BECOME a problem where"

(ii) By using the double plus term "positive benefits" and listing them in detail, but only referring to the disbenefits as "implications" you are emphasise positive aspects and under play the negative aspects.

(iii) Suggests (where xxxxx indicates word removed but not substituted for) "The Local Planning Authority will consider the xxxxx benefits to be gained from any lighting proposal, particularly for safety of movement, security of property, and extension of working practices. IN APPROPRIATE LOCATIONS, extension of sporting and leisure activities, HELPING PEOPLE FIND commercial enterprises and enhancing the amenity value of important buildings xxxxxx MAY BE CONSIDERED BENEFICIAL. The Local Planning Authority will seek to balance the need for any such proposal AGAINST THE DISBENEFITS THE PROPOSAL MAY BRING, INCLUDING DAZZLING OR DISTRACTING DRIVERS , CREATING HIDING PLACES IN SHADOWS, MAKING AN INTRUSION INTO THE NIGHT SCENE (PARTICULARLY IN RURAL AREAS), SPOILING OTHER PEOPLE'S LEISURE ACTIVITIES, DISRUPTING WILDLIFE, ENERGY USE and CO₂ emissions."

Officer Response

(i) **It is recommended that the first sentence be amended as proposed.**

(ii) It is accepted that the word “positive” in line two is unnecessary and **it is recommended that “positive” be deleted from the second sentence.**

(iii) Some of the changes proposed under (iii) relate more to the process of balancing planning considerations and are more appropriately located in the main body of the Document. **It is recommended that paragraph 4.4 be amended by adding “In appropriate locations, extension of sporting and leisure activities, helping people find commercial enterprises and enhancing the amenity value of important buildings may be considered beneficial. The Local Planning Authority will seek to balance the need for any such proposal against the disbenefits the proposal may bring, including dazzling or distracting drivers , creating hiding places in shadows, making an intrusion into the night scene (particularly in rural areas), spoiling other people's leisure activities, disrupting wildlife, energy use and CO₂ emissions.”**

PARAGRAPH 1.4

Representation No. 60967/27 (Cllr James Abbott)

Need to refer to IAPP regime - required documents which, for many types of development proposal under the BDC local scheme, requires prior submission of details on lighting in order for the application to be valid.

Officer Response

These points relate to information requirements which are covered in Section 7. The first sentence in 7.1 could be amended to refer to the validation checklist as it applies to lighting assessments. **It is recommended that the first sentence in paragraph 7.1 be amended to read “Applications involving the provision of external lighting, including street lighting and security lighting, in both urban and country-side locations, should be accompanied with the following:-**

- lighting designs for the proposed installations,
- layout plan with beam orientation,
- lighting levels, luminaire details, lamp type, wattage and control systems, and proposed hours when the lighting would be switched on.

“All installations must be energy efficient and “Dark Sky” compliant, thereby not causing obtrusive light pollution, glare or spillage.”

“All new street lighting for highways proposed to be adopted should comply with Essex County Council (ECC) specification. For unadopted access and private road / parking courts / commercial / industrial development proposals should also be in accordance with ECC standards.”

Representation No. 321764/61 (David Paul, British Astronomical Association)

Insert at end of first sentence:

“... (ref. to IAPP requirements whereby lighting details are a requirement of the planning application).”

Officer Response

See above.

PARAGRAPH 2.5 (LOCAL POLICY)

Representation No. 60967/28 (Cllr James Abbott)

Does not read well towards the end. Suggest rewording (the last three sentences) to:

"Finally, RLP 135 Floodlighting of Sports Facilities states that lighting must not be unacceptably intrusive or have an unacceptable impact upon the surrounding area and must minimise glare and light spillage from the site."

Officer Response

It is accepted that the sixth sentence contained typing errors and **it is recommended that the sentence be reworded as suggested. For clarity it is also recommended to reword para 2.5 to focus on RLP 65, RLP 135 & RLP 10, and then insert a second paragraph to make a brief reference to general DC policies relating to amenity & the environment.**

PARAGRAPH 2.6

Representation No. 60967/29 (Cllr James Abbott)

Paragraph 2.6 is factually wrong. Reword to:

"Obtrusive light was made a Statutory Nuisance under the Clean Neighbourhoods and Environment Act 2005, although there are exceptions for some major infrastructure. The District Council can take action against sources of obtrusive light where these are shown to be causing a nuisance, for example a domestic floodlight shining into the window of a neighbouring house. In addition, conditions imposed on any planning consent for lighting must ensure that adequate control can be enforced. It is acknowledged that some lighting installations which may cause obtrusive light either do not fall under the Act as a potential nuisance and/or do not require planning permission. So there may be circumstances when obtrusive lighting is beyond the direct control of the District Council, although that does not prevent informal approaches to seek solutions."

Officer Response

It is accepted that reference should have been made to the Clean Neighbourhoods and Environment Act 2005. **It is recommended that paragraph 2.6 be reworded to read:**

“Obtrusive light was made a Statutory Nuisance under the Clean Neighbourhoods and Environment Act 2005. The District Council can take action against sources of intrusive light where these are shown to be causing a nuisance, for example a domestic floodlight shining into window in a neighbouring dwelling. In addition, conditions imposed on any planning consent for lighting must ensure that adequate control can be enforced. It is acknowledged that many lighting installations which may cause intrusive light do not require planning permission or do not fall under the Act as a Statutory Nuisance. Where obtrusive lighting is beyond the direct control of

the District Council, the Council will aim to discourage such schemes by appropriate guidance and informal approaches to seek solutions.

Representation No. 321764/62 (David Paul, British Astronomical Association)

This paragraph does not take account of current legislation. Suggests rewording to read:

"Obtrusive light can under appropriate circumstances constitute a statutory nuisance on which the District Council can take action on (ref. Clean Neighbourhoods and Environment Act, 2005). The District Council, however, acknowledges that many lighting installations which may cause obtrusive light do not require planning permission but the District Council will aim to discourage such schemes by appropriate guidance and persuasion."

Officer Response

See above response.

PARAGRAPH 3.1 (WILL LIGHTING REQUIRE PLANNING PERMISSION?)

Representation No. 31792/7 (Essex Wildlife Trust)

(i) Further clarification is needed on the type of security lighting that is deemed to not require planning consent.

(ii) On/Off security lighting is has a far less detrimental effect on species than a permanently 'on' type of lighting, this needs to be addressed in the document.

(iii) Special attention should also be given to security lighting deemed not to need planning permission in areas of wetland, woodland and natural green space as these areas support a much higher level of nocturnal species.

Officer Response

(i) It is agreed that further clarification is needed, but there is no simple answer to the question. Artificial light as such is not classed as development, but the structures and installation may be development requiring planning permission, especially if they are substantial and affect the external appearance of dwelling. Planning permission will be required for a lighting installation if it constitutes development and where the fixtures affect the character of a listed building. Most illuminated advertisements require planning permission, although there are some exceptions such as those indicating medical services and some commercial advertisements on the frontage of business premises. Temporary lighting schemes may not require planning permission. Even where planning permission is not required for the installation as such, it is likely that most of the developments with which the lighting is associated will require planning permission. The main exception is domestic security lighting. **It is recommended that the paragraph 3.1 be amended to reflect the above comments by:**

(1) adding at the beginning:

“Artificial light as such is not classified development, but the structures and installation may be development requiring planning permission, especially if they are substantial and affect the external appearance of the dwelling. Planning permission is not required for...”

(2) Adding a new paragraph after 3.1 to read: Planning permission is normally required for:

- **Lights mounted on poles of other similar structures or if the structures and installation are substantial and affect the external appearance of the dwelling.**
- **External lighting proposed as part of an industrial or commercial scheme**
- **New lighting structures or works which are integral to other development requiring planning permission.**
- **Most illuminated advertisements require planning permission, although there are some exceptions such as those indicating medical services and some commercial advertisements on the frontage of business premises.**

(3) Transferring the last part of para 3.1 from “However, the installation of...” onwards to insert at the end of the new paragraph recommended under (2) above.

(ii) There are no planning controls based on whether lighting is permanently or intermittently switched on.

(iii) There is no local authority control in these circumstances, although it could be subject to the informal guidance referred to under the above response to paragraph 2.6.

Representation No. 61655/20 (Sturmer Parish Council)

Disagree with para 3.1 because it appears to exclude DIY lighting from requiring planning permission. In our experience poorly designed and installed domestic security lighting systems, especially on driveways, often cause annoyance to neighbours and are so bright and misdirected as to cause a hazard to passing motorists. Sturmer Parish Council has also had to pass on complaints to both the planners and highways regarding poorly directed lighting on both commercial and industrial premises. We feel that all external lighting systems should be inspected after installation during the hours of darkness.

Officer Response

Most DIY systems do not require planning permission. Where a statutory nuisance is being caused the District Council can take action under the Clean Neighbourhoods and Environment Act 2005 referred to above.

Representation No. 60967/31 (Cllr James Abbott)

This paragraph does not explain the main source of extra lighting in urban areas which is new residential and commercial development. It needs to state that all lighting which forms part of a new development can be controlled by planning conditions.

Officer Response

It is accepted that reference could be made to the opportunity for control of some forms of external lighting, primarily street lighting, associated with new development that requires planning permission. There is no planning justification for using planning conditions to remove permitted development rights generally from residential development, although it may be appropriate in conservation areas and for commercial applications, particularly near to residential areas.

Representation No. 321764/63 (David Paul, British Astronomical Association)

Suggests adding wording to encourage homeowners to be conscious of the impact of lighting even when planning permission is not required, and to briefly refer to instances where planning permission is required. Suggests:

1) Adding to second sentence "...although in such instances homeowners are to be encouraged to direct lights downward and avoid intrusion into neighbouring properties and avoid over-lighting with such products with 500W rating when 50W is perfectly adequate, also to fit motion sensors rather than permanent all night lighting."

2) Insert at beginning of fourth sentence:

"All new buildings including residential and office developments and large scale lighting installations such as floodlighting....."

Officer Response

1) It is not appropriate for the SPD to give guidance on lighting installations that do not require planning permission. Reference is made in Sections 5 to downward lighting and in paragraph 6.12 (security lighting) to wattage.

2) See response to preceding representation.

PARAGRAPH 3.2**Representation No. 224095/9 (Mr Stephen Bolter)**

This document should not be worded in such a way as to allow the interpretation that outdoor schemes never require planning permission if self installed. Nor should it be worded in such a way as to be a defence for proceeding with significant schemes without permission.

Officer Response

It is agreed that further clarification could be given to when planning permission is required; however the Council cannot extend planning controls to types of development currently exempted by legislation.

Representation No. 321764/64 (David Paul, British Astronomical Association)

Confirmation of the nature and extent of a proposed lighting scheme is necessary when checking with the Local Planning Authority. Substitute "must" for "should" in line 2.

Officer Response

Although detailed information is necessary to support a planning application, it cannot be made mandatory for general enquiries. **It is recommended that “prospective applicants” should replace “you” in line two.**

SECTION 4 (THE ISSUES RELATING TO OBTRUSIVE LIGHT)

Representation No. 323458/88 (Brian Wright)

There is a need and significant pressure from organisations such as The Campaign for Dark Skies to ensure that lighting installations are carried out to a standard which does not cause obtrusive light.

Officer Response

Noted.

PARAGRAPH 4.1

Representation No. 60967/32 (Cllr James Abbott)

Paragraph 4.1 is factually incorrect. There is no clear evidence that extra lighting reduces crime *per se*. Suggest rewording to:

"It is recognised that artificial lighting is needed for many circumstances, including safety of movement and leisure activities. But the wider general use of lighting, often in circumstances where it is not required to be on all the time or is badly designed, has led to a rise in the number of complaints about obtrusive light received by local authorities. There is also increased awareness of the impact of light pollution (sky glow) and the impacts on nocturnal wildlife. This combination of circumstances has raised the profile of obtrusive light as an environmental issue."

Officer Response

Although there is no clear evidence that extra lighting reduces crime, it is a common perception which has led to an increasing demand for security lighting. The real issue is whether the lighting is appropriate and effective for its purpose.

The suggested wording does effectively introduce the issues relating to obtrusive light, and since crime is referred to in paragraph 4.4 its omission in 4.1 is acceptable. **It is recommended that paragraph 4.1 be amended as suggested with the exceptions of “(sky glow)” and “nocturnal”.** The reason for the exceptions is that sky glow is mentioned in paragraph 4.2, and all wildlife can be affected by light pollution, not just nocturnal wildlife.

Representation No. 321764/65 (David Paul, British Astronomical Association)

Include a caveat that claims about the benefits of lighting should be challenged, and refer to environmental concerns and statutory nuisance. Insert new sentences as follows:

1) In line 3 insert new second sentence "However, the wholesale acceptance that more lighting is always better should be challenged where appropriate. Fear of crime for example may be reduced by lighting but no clear evidence exists (according to Home Office reports) that lighting in itself will necessarily reduce crime. Used inappropriately such as the lighting of a remote industrial or farming premises may indeed aid the criminal or encourage gangs in empty car parks."

2) In line 4 add at end of sentence "...because the general public are now much better informed and concerned about the environment impacts such as increased carbon emissions, affect on wildlife and sky glow."

3) In last line add at end of sentence "...and now is defined as a statutory nuisance in the Clean Neighbourhoods and Environment Act 2005".

Officer Response

1) It is proposed to amend paragraphs 4.3 and 4.4 to relate better to paragraph 4.2. **It is recommended that paragraph 4.4 be amended by a further addition at the end to read: “Fear of crime may be reduced by lighting but no clear evidence exists that lighting in itself will necessarily reduce crime. Used inappropriately, such as the lighting of remote industrial or farming premises, lighting may indeed aid the criminal or encourage anti-social behaviour.”**

2) and 3) Paragraphs 4.2 and 4.3 explore the problems with obtrusive light in the context of different uses of light. Suggested references to increasing awareness could form a new paragraph 4.5, together with issues relating to installation of lighting schemes. **It is recommended that a new paragraph be inserted after paragraph 4.4 to read:**

“4.5 Linked with increasing demand for lighting has been a rise in the number of complaints about obtrusive light received by local authorities, partly because the general public are now much better informed and concerned about the environmental impacts such as increased carbon emissions, affect on wildlife and sky glow. The combination of circumstances has raised the profile of obtrusive light as an environmental issue and it is now defined as a statutory nuisance in the Clean Neighbourhoods and Environment Act 2005.”

PARAGRAPH 4.2

Representation No. 321764/66 (David Paul, British Astronomical Association)

Obtrusive light is often the result of poor installation. In first line insert "poorly installed" after "designed".

Officer Response

Agreed. **It is recommended that “poorly installed” be inserted after “designed” in the first sentence.**

PARAGRAPH 4.3

Representation No. 60967/33 (Cllr James Abbott)

There is growing evidence that the increased use of artificial lighting at night may be associated with health problems. This should be referred to.

Officer Response

Nearly all research linking health problems to artificial lighting refers to indoor artificial lighting, which is not covered by this Draft SPD.

Representation No. 321764/67 (David Paul, British Astronomical Association)

(a) Wasting energy increases the carbon footprint. Insert "(and therefore increases the carbon footprint)" after "energy" in the last line.

(b) In addition to sky glow, glare and light trespass, health is also a concern for the public. At end of paragraph add:

"A fourth concern regarding obtrusive lighting is that of health. A growing body of research suggests that excessive artificial lighting can affect the circadian rhythms of the human body by affecting sleep patterns which in turn reduce the internal defence systems due to a reduction in the natural production of melatonin in the body. Research has shown correlation with increased occurrence of breast cancer and childhood leukaemia with increased artificial lighting."

Officer Response

(a) Accepted. **It is recommended that “increases the carbon footprint and” be inserted after “light” in the last sentence.**

(b) Nearly all of the research linking health problems to artificial lighting is based on indoor artificial lighting, particularly in school classrooms and offices where prolonged exposure is likely.

PARAGRAPH 4.4

Representation No. 224095/10 (Mr Stephen Bolter)

(i) Proposes the following re-wording of the third sentence:

"The safety and security of the general public is of the utmost importance and this supplementary planning document does not suggest that lighting should not NORMALLY be allowed as part of a new development.

(ii) Suggests adding a new sentence at the end of the paragraph:

"However it may be inappropriate in rural areas where lighting is not only more intrusive, but also, because of interference with dark adaptation of the eyes, more likely to be hazardous."

Officer Response

(i) The insertion of "normally" in the third sentence does not add to or alter the meaning of this sentence. No change is recommended.

(ii) Rural areas are one of three environmental areas recognised in paragraph 5.3. Reference to interference with dark adaptation of the eyes is implied in paragraphs 4.2 and 4.3 under "glare".

Representation No. 60967/34 (Cllr James Abbott)

Paragraph 4.4 is factually incorrect. There is no clear evidence that lighting prevents crime *per se*. Most crime occurs in daylight or in well lit areas as crime statistics reveal by study of their location and time of occurrence. This is obvious as crime will tend to occur more in densely populated areas (i.e. lit) and those intent on crime need light to see what they are doing. Dark areas require criminals to carry their own sources of light, making them more visible. The inappropriate use of artificial light at night can INCREASE crime, i.e. brightly lit but unstaffed commercial areas, or the lighting of remote paths that encourage people to use them late at night, making them potentially more vulnerable to attack. There is also no need for permanent white light for 'security' in many circumstances. Modern infra red CCTV can monitor and detect intrusion, to court evidence standards. This also denies criminals a source of illumination, whilst rendering them visible.

Suggest rewording to:

"Whilst recognising the environmental problems associated with artificial lighting, the District Council also appreciates the role of lighting in allowing for safer mobility for pedestrians and cyclists and in reducing road accidents and in some circumstances, reducing crime. The safety of the general public is of the utmost importance and this SPD does not suggest that lighting should not be allowed. What the guidance does suggest is that lighting should be carefully planned so that it is effective and should be carefully directed and sensitively designed so as to reduce obtrusiveness. Sources of visible light are no longer required for some types of CCTV and the District Council would encourage such technology, which saves energy as well as reducing the problems associated with bright white floodlighting."

Officer Response

The comments about lighting and crime are accepted, although paragraph 4.4 is not incorrect; it refers to the fear of crime, not the level of crime nor the impact of lighting on crime.

The suggestion rewording is generally acceptable, although removing reference to leisure lighting from the Draft SPD is not supported. Lighting for outdoor sport and recreation has an important role in extending the hours of use of facilities and helping to meet the demand for outdoor sport and recreation. Appendix 3 of the Draft SPD explains how the Council will determine applications for lighting for outdoor sports facilities.

Reference to types of CCTV not requiring visible light is more appropriately placed in paragraph 5.2

It is recommended that:

(1) paragraph 4.4 be reworded as follows:

"Whilst recognising the environmental problems associated with artificial lighting, the District Council also appreciates the role of lighting in allowing for safer mobility for pedestrians and cyclists, in reducing road accidents, in extending sport and leisure opportunities and in some circumstances, reducing crime. The safety of the general public is of the utmost importance and this SPD does not suggest that lighting should not be allowed. What the guidance does suggest is that lighting should be carefully directed and sensitively designed so as to reduce obtrusiveness. "

(2) paragraph 5.2 be amended by inserting after the second sentence:

“Sources of visible light are no longer required for some types of CCTV and the District Council would encourage such technology, which saves energy as well as reducing the problems associated with bright white floodlighting.”

Representation No. 321764/68 (David Paul, British Astronomical Association)

Need to add the caveat about crime by inserting after "fear of crime" in line 3 "(although not necessarily crime itself)"

In addition to design and direction to reduce obtrusiveness, use should be limited in place and time.

Add to last sentence "...and only used where and at the times it is necessary."

Officer Response

See above recommendation.

Paragraph 5.4 covers the point about hours of use and restricting it to a working minimum.

SECTION 5 (GENERAL FACTORS TO BE TAKEN INTO CONSIDERATION)

Representation No. 321632/54 (Essex County Council Urban Design Group)

The document is predominantly concerned with the effects of different forms of illumination but with little acknowledgement of the design/visual effects of the associated hardware i.e. lighting appliances, poles, brackets, cabling etc. The siting, design and colour of these can have an adverse effect on the daytime environment. Perhaps this could be covered by the inclusion of an additional paragraph in Section 5 'General Factors to be taken into Consideration' along the lines of:

"5.6 Installation of Lighting

The visual effect of the lighting installation when viewed during daylight hours can be as important as its effects at night. Therefore the design, size and colours of the physical infrastructure related to new lighting installations (e.g. junction boxes, poles, brackets, cabling) needs to be carefully considered to ensure that any visual intrusion is minimised."

Officer Response

It is accepted that the design of lighting fixtures is of importance in protecting the daytime environment and that reference should be made to the fixtures. In the past many lighting schemes have caused visual intrusion by the size, design and location of fittings.

It is recommended that Section 5 be amended by inserting a new paragraph as follows:

"5.6 Installation of Lighting

The visual effect of the lighting installation when viewed during daylight hours can be as important as its effects at night. Therefore the design, size and colours of the physical infrastructure related to new lighting installations (e.g. junction boxes, poles, brackets, cabling) needs to be carefully considered to ensure that any visual intrusion is minimised."

PARAGRAPH 5.3 (LOCATION IN RELATION TO NEIGHBOURING USES)

Representation No. 53119/3 (Roy Warren, Sport England)

1. The identification of three environmental zones against which impacts of external lighting will be judged, along with guidance on the levels of illumination for each zone is opposed. This is due to our view that each case must be judged on its merits, and we believe it is not always the case that floodlighting in, or near to, areas of nature conservation importance is necessarily always obtrusive.
2. Sport England has produced guidance in the form of a Planning Bulletin 14 on *Intensive Sports Uses Revisited* http://www.sportengland.org/planning_bulletin_14.pdf This includes a case study which demonstrates how floodlighting is not necessarily incompatible with rural or conservation areas. The use of retractable lighting for example can significantly reduce the obtrusive impact the lighting may have.
3. There are also numerous other cases where floodlighting has been allowed in areas that Braintree would classify as being in Environmental Zone 3. For example at Bury St Edmunds, where

floodlighting was allowed for an astro-turf pitch in a Grade II listed Park and Garden and Conservation Area, subject to certain conditions.

4. These case studies demonstrate the need to take a flexible approach, taking each application on a case by case basis, depending on the needs of the sport in question and its intended level of competition.
5. Therefore should the council see it appropriate to keep the concept of zones, we would like to see a change in the wording to eliminate the potentially restrictive approach of these zones which recognises that each case should be addressed on its individual merits

Officer Response

1. Not accepted. It is for the applicant to demonstrate that the floodlighting will not have a significant impact on an area of nature conservation importance.
2. The advice given by this document is already reflected in this SPD.
3. and 4. The SPD is a material consideration in determining planning applications for floodlighting schemes. There may be exceptional circumstances where special consideration would be given to the sport in question, particularly if the facility is of national or regional importance.
5. Planning policy is only a material consideration in determining a planning application, to be weighed against its individual merits or any other considerations.

Representation No. 224095/11 (Mr Stephen Bolter)

Outdoor sports requiring good lighting can be played in the day, or within, or on the fringe of, any urban location. Likewise there are urban industrial estates suitable for activities requiring extensive external lighting for long periods of time. (Locating such facilities in urban areas also reduces travel.) There are now very few locations in the south eastern quarter of England where outdoor recreation or scientific activity requiring darkness can be undertaken. Some of them are in Braintree District and they need to be conserved.

The principle of being more restrictive in rural areas and especially restrictive in areas of special scientific interest etc is supported. Division into three zone types is a practical way of achieving this.

Officer Response

The support is welcomed.

Representation No. 321632/55 (Essex County Council Urban Design Group)

Areas of special protection

The policy should acknowledge those buildings and features which deserve special protection (listed buildings, buildings of local historic or architectural interest, green heritage sites, conservation areas etc) where government advice is that the special character of these areas, buildings and their settings should be protected from inappropriate development. As noted above, considerations should include the light itself as well as any associated structures. These issues might span the Environmental Zones identified in 5.3 (although they will, for the most part, lie within Environmental Zone 1). A further zone, Zone 4, could be introduced to cover areas of special protection or alternatively the addition of an extra sentence at the end of Section 5.3 should be considered:

"Particularly careful consideration will need be given to lighting installations that might affect those buildings and features which existing legislation acknowledges as deserving special protection (listed buildings, buildings of local historic or architectural interest, green heritage sites, conservation areas etc) where government advice is that the special character of these areas, buildings and their settings should be protected from inappropriate development."

Officer Response

The existing wording does not offer the caveat that buildings or areas of special protection need to be treated differently from other buildings and areas within an urban environment. Therefore the suggested amendment to paragraph 5.3 is accepted. **It is recommended that paragraph 5.3 be amended by adding the following sentence:**

"Particularly careful consideration will need be given to lighting installations that might affect those buildings and features which existing legislation acknowledges as deserving special protection (for example listed buildings, green heritage sites, and conservation areas) where government advice is that the special character of these areas, buildings and their settings should be protected from inappropriate development."

Representation No. 321764/69 (David Paul, British Astronomical Association)

There is an issue of large scale lighting projects located within urban areas having an effect on the surrounding countryside. Therefore suggest adding the following to the end of par. 5.3 (EZ1):

"It should be noted that large scale lighting developments such as sports stadiums will have an effect on the surrounding countryside even when they are located within a town or village boundary. Also the outlying areas of urban development are most likely to create low angle light intrusion into the countryside and in these circumstances lighting schemes should be treated as Zone 2. Industrial estates are typically located in such areas and often are the greatest sources of light pollution."

Officer Response

Development adjacent to a development boundary may have a detrimental effect on the surrounding countryside. **It is recommended that paragraph 5.3 (EZ1) be amended by adding at the end:**

"Where large scale lighting proposals are adjacent to a settlement boundary regard will also be had to any detrimental impact on the surrounding countryside."

Representation No. 178230/86 (Natural England)

Section 5 identifies the possible impacts against which external artificial lighting will be judged, and rightly discusses areas of nature conservation importance under Environmental Zone 3. Natural England advises that the scope of this zone is extended from purely designated sites (e.g. Sites of Special Scientific Interest, Local Wildlife Sites) to incorporate habitats of value beyond the boundaries of such sites, to include key foraging and commuting habitats. This is particularly important for bats, but also for other nocturnal fauna such as badgers.

We therefore suggest the insertion of "and habitats serving key foraging and/or commuting functions" after "Local Wildlife Sites..." The paragraph should also read "and therefore sites and habitats which are deemed important in terms of their provision.

Officer Response

Whilst the Council has a list of SSSIs and LWSs, it may not have information on other 'key' habitats or foraging areas beyond the boundaries of these designated sites. Nevertheless where information on habitats and foraging areas is brought to the attention of the Council through consultation, the effects of lighting on them can be given due consideration when determining planning applications. **It is recommended that paragraph 5.3, Environmental Zone 3, be amended by inserting "and habitats serving key foraging and/or commuting functions" after "Local Wildlife Sites..." and inserting "and habitats" after "sites" in the last sentence.**

PARAGRAPH 5.4 (USE OF LIGHTING)

Representation No. 318536/17 (Countryside Properties)

When undertaking speculative commercial development the end user of the buildings and their business operations are unknown. It is therefore not possible to predict the end users operational lighting requirements. A Business Park with an outline B1/B2/B8 planning consent may include occupiers with varying external lighting requirements, for example, a B1 - office building may only have operational hours of 8am to 8pm and therefore a reduced external lighting requirement when compared to a B8 distribution warehouse which may have a 24hr operational lighting requirement. To set standard operational hours for a business park, would act to dissuade certain business uses from locating their and hinder the success of the development and growth of the District.

Officer Response

Development proposals in sensitive areas will only be acceptable if there is no adverse impact on the environment. Where lighting associated with a proposed development is shown through an ecological assessment to have an adverse impact the Council will be justified in imposing lighting restrictions. The Council will only identify new sites for business parks where in principle lighting will be acceptable on an extended basis.

PARAGRAPH 5.5 (DESIGN OF LIGHTING)

Representation No. 61655/21 (Sturmer Parish Council)

Sturmer Parish Council remains concerned about unnecessary lighting arising from poorly designed lighting systems such as street and footway lights. Where planning permission for such systems is granted there should be a proviso that a system must be upgraded every 5 years to take into account improvements in lighting technology.

Officer Response

Planning permission is not required for highways lighting, which is subject to separate appraisal procedures by highways authority.

Representation No. 61655/22 (Sturmer Parish Council)

Wherever possible, installers of external lighting systems including public lighting such as footway lights should be encouraged to make use of motion sensors to cut down on extraneous light and reduce greenhouse gases.

Officer Response

Street lights do not fall under planning control. This is a matter for Essex County Council which, as the highways authority, is responsible for street lighting.

SECTION 6 (SPECIFIC FACTORS TO BE CONSIDERED FOR VARIOUS LAND USES)

Representation No. 321632/56 (Essex County Council Urban Design Group)

Public art - External lighting is sometimes used as part of public art installations. The SPD should perhaps know that in exceptional circumstances 'light' might almost have a quality in its own right rather than for what it illuminates. A policy on external lighting should not be so tightly drawn that it excludes lighting effects, lighting sequences etc. where these might be proposed as a contribution to public art. I'm not sure where this might best fit into the document, perhaps in Section 6?

"6.11 Public Art

External lighting is sometimes used as part of public art installations. It is acknowledged that in exceptional circumstances 'light' might almost have a quality in its own right rather than for what it illuminates. It is not the intention of this SPD to exclude lighting effects, lighting sequences etc. where these might be proposed as a contribution to public art."

Officer Response

It is accepted that there is no reason why lighting of public art installations should not be considered, in the same way that decorative lighting of important buildings has its place. Indeed the same considerations will apply. **It is therefore recommended that Paragraph 6.4 be amended as follows:**

(a) Amend title to "Decorative lighting of buildings and public art".

(b) Add "or artistic" after "architectural" in bullet points 1 and 3.

(c) Add "or public artworks" after "buildings" in the amendment to bullet point 4 proposed below.

(d) After the last bullet point two new bullet points;

- **"External lighting is sometimes used as part of public art installations. It is acknowledged that 'light' might have a quality in its own right rather than for what it illuminates. It is not the intention of this SPD to exclude lighting effects, lighting sequences etc. where these might be proposed as a contribution to public art.**

- **"Where the public art consists of lighting effects or lighting sequences in their own right, the Council will have regard to the intensity of light, its impact beyond the public realm space to which it relates and other guidance contained in this SPD."**

In view of this and other changes proposed to Section 6, and the need to state explicitly that the guidelines in Section 6 will be taken into account in determining planning applications, **it is recommended that Paragraph 6.1 be amended substituting the second sentence with "The Local Planning Authority will take the following guidance into account when assessing external**

artificial lighting proposals.”, deleting “have been taken from” and inserting “are based upon” in the second sentence and inserting “currently unavailable” after “1997”.

PARAGRAPH 6.2 (ADVERTISEMENT CONTROL)

Representation No. 321764/70 (David Paul, British Astronomical Association)

Suggest inserting "(permanent or temporary)" to bullet point 4.

Officer Response

The suggested rewording does not change the meaning of this paragraph.

PARAGRAPH 6.3 (COMMERCIAL DEVELOPMENT)

Representation No. 60967/37 (Cllr James Abbott)

Add:

- "Consider 'power down' of sites after hours so that lighting is progressively timed to go off through the night hours, leaving only essential lights on at a late hour. For areas that may require occasional night lighting, motion sensors can be used."

Officer Response

This is related to the first bullet point, which could be extended. Progressive reduction of lighting will be more difficult to monitor than a simple switching off time. **It is therefore recommended that the following sentence is added at the end of the first bullet point in paragraph 6.3:**

“Consider a reduction in lighting during agreed night hours, leaving only essential lights on through the night. For areas that may require occasional or part time lighting, motion sensors can be used. Lighting should be switched off when buildings are unoccupied.”

Representation No. 321764/71 (David Paul, British Astronomical Association)

Add bullet point about part time lighting:

"Consider part time lighting, for example switching off when buildings are unoccupied."

Officer Response

See above.

PARAGRAPH 6.4 (DECORATIVE BUILDING LIGHTING)

Representation No. 60967/38 (Cllr James Abbott)

Delete penultimate bullet point. Replace with

- "Use timer controls to only light the building when people are going to appreciate it, i.e. during the evenings. Decorative lights should all be switched off late at night to reduce sky glow and save energy. Typical curfews start at 11pm, but can be earlier, particularly in rural areas."

Officer Response

For clarity **it is recommended that the penultimate bullet point in paragraph 6.4 be reworded to read:**

- **“It is expected that timer controls are used to ensure that buildings will only be lit during the evenings when they will be appreciated by the public. Switching off decorative lights late at night , typically 11pm, will reduce sky glow and save energy. Curfews are expected to be earlier in the countryside.”**
-

Representation No. 321764/72 (David Paul, British Astronomical Association)

Suggests the following changes relating to decorative lighting and plighting:

1) Insert new bullet point before the first bullet point - "The Local Planning Authority in general discourages the use of decorative lighting and encourages proposers to consider the local environment

impact and global carbon footprint implications in addition to increased electricity costs they may incur."

2) Amend bullet point one to read - "Where decorative lighting is still deemed appropriate this should be understated and aim to enhance rather than swamp architectural character, such lighting in villages and open countryside (e.g. churches) should be avoided so as to not destroy the intrinsic rural qualities of the night sky."

3) Insert new bullet point after second bullet point - "Use down-lighting rather than up-lighting to minimise sky glow."

Officer Response

1) Decorative lighting may be appropriate in some locations and should not be discouraged *per se*, although it is important to ensure that there are no unacceptable environmental impacts. **It is recommended that a new bullet point be inserted before the first bullet point to read "Where decorative lighting falls within planning control the Council will consider applications on their merits taking into account their local environmental impact."**

2) All villages with settlement boundaries are considered to be in EZ1, where it is proposed for amendment to give consideration to the impact of lighting on the countryside (see above). Decorative lighting which is understated and just sufficient to pick out architectural detail or character should not have an impact on the night sky if designed in accordance with advice in the Draft SPD. No change is recommended.

3) Up-lighting will minimise sky glow if appropriately sited, baffled and shielded in accordance with the second bullet point.

PARAGRAPH 6.5 (FARMS & MARKET GARDEN CENTRES)

Representation No. 60967/39 (Cllr James Abbott)

Reword second bullet point to

"Ensure that sensors are directed so as to not be tripped by animals."

Officer Response

Motion sensors cannot distinguish between people and animals, although the angle of a sensor may have some effect. **It is recommended that bullet point 2 is amended to read "Ensure that sensors are directed so as not to be tripped by animals."**

Representation No. 321764/73 (David Paul, British Astronomical Association)

Suggests improving the reference about sensors and making reference to timers as follows:

1) Revise bullet point 2 to read: "Where fitted, motion sensors should be correctly installed to avoid being tripped by animals."

2) Add new bullet point at end - "Use timers and avoid the use of all night lighting."

Officer Response

1) See previous recommendation.

2) Such wording would be in keeping with the more restrictive approach in the countryside. **It is recommended that a new bullet point be added to paragraph 6.5 to read: "Avoid the use of all-night lighting by using timer controls."**

PARAGRAPH 6.6 (RAILWAY STATIONS AND ROAD/RAIL INTERCHANGES)

Representation No. 321764/74 (David Paul, British Astronomical Association)

Make reference to glare in first bullet point by adding "and avoiding glare to the station users (for reasons of safety)."

Make reference to switching off lights by adding to the final bullet "... and switch off lights when the car park is not used late at night."

Officer Response

The avoidance of glare is covered by Sections 4 and 5; it is not specific to railway stations and road/rail interchanges.

It is accepted that car park lights are often kept on all night, and therefore **it is recommended that “and switch off lights when the car park is not used late at night” is added to the final bullet point in paragraph 6.6.**

Representation No. 224095/12 (Mr Stephen Bolter)

Many platforms are continuously lit for 12 car trains, when they are only in occasional use by 4 car trains.

Could zone lighting be used so that the extremities of the platforms are only lit for a few minutes before and after a train uses them.

Officer Response

Railway lighting is outside the scope of planning control as it is operational development under the General Permitted Development Order.

PARAGRAPH 6.7 (MINERAL EXTRACTION)

Representation No. 60967/40 (Cllr James Abbott)

Add "power down" points as above.

Officer Response

See above. **It is therefore recommended that the following bullet point is added to paragraph 6.7: “Consider a reduction in lighting during agreed night hours, leaving only essential lights on through the night. For areas that may require occasional or part time lighting, motion sensors can be used. Lighting should be switched off when buildings are unoccupied.”**

PARAGRAPH 6.8 (PETROL FILLING STATIONS)

Representation No. 60967/41 (Cllr James Abbott)

Add "power down" points as above.

Officer Response

See above. **It is therefore recommended that the following bullet point is added to paragraph 6.8: “Consider a reduction in lighting during agreed night hours, leaving only essential lights on through the night. For areas that may require occasional or part time lighting, motion sensors can be used. Lighting should be switched off when buildings are unoccupied.”**

Representation No. 321764/75 (David Paul, British Astronomical Association)

Add "and Car Showrooms" to the title. Suggests two new bullet points at end to read:

- "Turn off lighting late at night (11.00pm curfew or earlier) and fit motion sensors."
- "Avoid use of all night lighting"

Officer Response

Lighting considerations for car showrooms are similar to those for petrol filling stations; both commercial activities use lighting as a means of “advertising” their presence. There are no planning controls over excessive illumination within the showrooms. **It is recommended that the heading of paragraph 6.8 be amended by adding “...and Car Showrooms”.**

The points raised about night lighting are covered by the preceding recommendation.

PARAGRAPH 6.9 (RESIDENTIAL DEVELOPMENT)

Representation No. 60967/42 (Cllr James Abbott)

Consider using PIR sensors for porch and other lights on houses so that they are only on when needed.

Officer Response

Although ideally PIR sensors should be used for external lighting on houses, there is no control preventing lighting being switched on for longer periods from within the house. Nevertheless **it is**

recommended that a second bullet point be inserted in paragraph 6.9 to read “Consider using PIR sensors for porch and other lights on houses so that they are only on when needed.”

Representation No. 321764/76 (David Paul, British Astronomical Association)

Add reference to times of operation of lighting to the end of first bullet point:

"....and at what times should it be on."

Officer Response

It is considered that the preceding response is sufficient to justify seeking this type of lighting in connection with residential development.

Representation No. 61648/85 (Earls Colne Parish Council)

Expresses concern that external floodlights on residential properties often have unnecessary light spillage which causes light pollution.

Officer Response

Agreed, but it is hoped that the guidance contained in the SPD will influence the use of floodlighting on residential property.

PARAGRAPH 6.11 (RURAL CAR PARKS)

Representation No. 60967/43 (Cllr James Abbott)

Add that rural car parks may not need lighting at all and if they do, they can often be switched off late at night.

Design must be full cut off (FCO).

Officer Response

It is unreasonable to assume that rural car parks differ from urban car parks in their need for lighting. It is recommended that lighting should be switched off when the premises that are served are closed. Public car park lighting should cease when the car park is closed or when the street lighting is switched off, whichever is later. **It is recommended that new bullet point be inserted in paragraph 6.11 to read “Rural car parks need not necessarily be lit, but where they are they should have minimal full cut-off lighting and should be switched off when the premises served are closed. Public car park lighting should cease when the car park is closed or when street lighting is switched off, whichever is later.”**

Representation No. 321764/77 (David Paul, British Astronomical Association)

Add bullet point "Rural car parks need not necessarily be lit and if they are they should have minimal lighting and should be switched off when not in use late at night."

Insert "(use full cut off only)" after "downwards" in bullet point 1.

Officer Response

See preceding response.

PARAGRAPH 6.12 (SECURITY LIGHTING)

Representation No. 321764/78 (David Paul, British Astronomical Association)

(i) Reword bullet point 1 to read "Passive infrared detectors should control lighting, avoid all night lighting. Avoid mis-installing sensors such that they can be tripped by road or footway users, see image below."

(ii) In bullet point 2 delete "150W" and insert "50W".

Officer Response

(i) Accept. **It is recommended that the first bullet point in paragraph 6.12 be reworded as follows: “Passive infrared detectors should control lighting, avoiding the need for all night lighting. Avoid mis-installing sensors such that they can be tripped by road or footway users (see images below).**

(ii) 150 watt lighting is the generally recommended upper limit and was endorsed by a Commons Select Committee in 2003. The main aim was to discourage use of the 500 watt lamps commonly available in DIY stores. No change is recommended.

PARAGRAPH 6.13 (SPORTS FACILITIES)

Representation No. 53119/4 (Roy Warren, Sport England)

1. We are pleased to see the a specific section on guidance for lighting schemes for outdoor sports facilities, and as mentioned above welcome the reference to the Chartered Institution of Building Services Engineers (CIBSE), *Lighting Guide 4: Sports Lighting*, (2006). However, as with the existing policies in the local plan, RLP65 on *External Lighting* and RLP135 *Floodlighting of Sports Facilities*, it is believed this guidance fails to take into account the positive impact that floodlighting can have. Environmental concerns appear to dominate with insufficient weight being given to the progressively central role that sport should be playing in the everyday life of people.

2. The appendix refers to the Sports Council's recommendation of a 10pm curfew time for floodlighting. This may have been taken from guidance issued by the Sports Council on Floodlighting in 1994. This document is now out of date and Sport England no longer refers to this document. Whilst broadly speaking we believe 10pm is an acceptable time for most sports floodlight schemes to be restricted to, we do not think it is beneficial to prescribe a time, as each instance should be based on its individual merits. For example five-a-side football complexes may have a need for floodlighting provision to extend until 11pm to meet the needs of the community and this may be acceptable in areas (such as employment areas) which are less sensitive in terms of residential amenity and the environmental impact. We therefore would therefore request that the council to include wording within the appendix which sets out the benefits of lighting for outdoor sports facilities and also to remove the 10pm curfew time, allowing a condition to be applied which limits the time of use of the lighting based on the specific characteristics of an individual scheme. It should be noted that the Sports Council is now Sport England.

Officer Response

1. The final paragraph of Appendix 3 makes it clear that the Council will take into account the benefits of a proposal to the general public. It states that the interests of conservation, amenity and safety will prevail where the unacceptable impact of a proposal cannot be mitigated through ameliorative measures.

2. It is accepted that there may be circumstances where a 10pm curfew is not justified, e.g. in employment areas or along busy, well-lit highways, including town centres. However, where there is an impact on quiet residential neighbourhoods it is reasonable to require a curfew of 10pm. **It is recommended that the fourth sentence in the final paragraph of Appendix 3 be amended by deleting “The English Sports Council recommends a curfew time of 10pm for floodlighting.” and substituting “Although in general 10pm is an acceptable curfew time for most sports floodlighting schemes in residential areas, exceptionally the curfew may be extended to 11pm where it meets the needs of the local community and in less environmentally sensitive areas such as employment areas. Planning conditions may be applied setting a curfew time based on the specific characteristics of an individual scheme.”**

Representation No. 224095/13 (Mr Stephen Bolter)

I consider 10pm a reasonable curfew for outdoor floodlit sport.

I would also suggest that continuing as late as 10pm should not be normal beyond town centres or industrial estates.

Outside town centres or industrial estates there should be a trade off between the number of days per week the lights are used and the latest time they are on.

There are many means of obtaining healthy exercise without the use of floodlights. Keeping outdoor floodlit sport facilities open until 9pm, which is three of four hours after the end of the working day for most people, seems adequate to me. Those on late shifts can exercise in daylight in the morning.

The desires of the flood lit sports minority need to be balanced against the need to conserve energy and desires of other members of the public.

Officer Response

See preceding comment and recommendation. This SPD promotes the correct use of lighting.

Representation No. 61655/23 (Sturmer Parish Council)

The lighting of sports venues is often a contentious issue especially when the venue is close to a residential area. As well as regulating the light emission from such a site there should be tighter controls over the hours of use. In the countryside, the proliferation of ménages has resulted in additional lighting for winter use, but with the right lighting these need not cause annoyance to near neighbours.

Officer Response

See preceding comment and recommendation. This SPD promotes the correct use of lighting.

Representation No. 60967/44 (Cllr James Abbott)

Add:

"For facilities that are more occasionally used, such as MUGAs in rural areas, the use of tokens to switch on floodlights can ensure that the lights are only on when needed, ensuring that sky glow is minimised and energy is saved."

Officer Response

Although we are not aware of any evidence that floodlights are kept on longer than is necessary in rural areas, the suggestion is useful advice. **It is recommended that a new second bullet point be added to paragraph 6.13 as suggested.**

Representation No. 321764/79 (David Paul, British Astronomical Association)

Suggests three amendments to refer to plighting, night lighting, and golf courses as follows:

- 1) In bullet point 1 insert "with no direct light above the horizontal" between "possible" and "using".
- 2) Insert new second bullet point to read "Avoid night lighting, consider 'token' operation to prevent them being left on."
- 3) Add new bullet point at end "Lighting of golf courses and driving ranges is to be discouraged as it is not practical to contain lighting within the course boundaries without causing high levels of obtrusive lighting and sky glow for miles around."

Officer Response

This SPD is not intended to restrict the use of sports facilities, but it does seek to prevent light pollution and nuisance. It is considered that the general curfew of 10 pm referred to in Appendix 3 is appropriate.

- 1) **It is recommended that “with no direct light above the horizontal” be inserted into the first bullet point between “possible” and “using”.**
- 2) Token operation is referred to in the new bullet point recommended above.
- 3) Lighting of golf course and driving ranges is a problem because light is generally directed in a horizontal direction. Unless the applicant can demonstrate that there is no adverse impact from glare or sky glow, then planning permission for floodlighting will normally be refused under Braintree Local Plan Review Policy RLP 135.

SECTION 7 (INFORMATION REQUIRED)

Representation No. 60967/45 (Cllr James Abbott)

Add "Hours of Use".

Officer Response

Information on the hours of use is normally required for any other planning proposal where the use is not continuous. Paragraph 5.4 states that that for all lighting proposals applicants will be expected to show the hours of operation, and show that the hours of operation will be expected to be kept to a working minimum. See amendments proposed under rep 60967/27 above.

Representation No. 178230/87 (Natural England)

With reference to Section 7 of the SPD, we take the opportunity to remind the Council that information required in support of artificial lighting proposals may need to include assessments of the impact of the scheme on features of biodiversity/nature conservation importance, such as ecological surveys for

bats/badgers. You may feel this is adequately addressed by the current wording (i.e. information required for any other planning proposal); however we highlight the point for your consideration.

Officer Response

The Validation Checklist requires surveys of and reports on biodiversity and protected species where appropriate for applications for full planning permission. Para 7.1 could be amended by adding a bullet point to require impact assessment on features of nature conservation/ biodiversity interest where appropriate.

PARAGRAPH 7.1 (INFORMATION REQUIRED FOR EXTERNAL ARTIFICIAL LIGHTING)

Representation No. 224095/14 (Mr Stephen Bolter)

General luminaries and large illuminated signs far more than 50m away can reduce the night vision of drivers on unlit roads. [e.g. white internally illuminated sign at far end of shopping centre off Charter Way, adjacent to unlit Braintree Bypass]

Suggest add something penned by a lighting engineer along the lines:-

"Where, from any point on unlit highway, there are light sources or large illuminated signs which are visible to drivers at distance of less than 150m and an angle of less than 45° to their direction of motion, a technical report and a map showing values of the luminous flux towards drivers at such points on the highway is submitted."

Officer Response

This is unnecessarily detailed and it is considered that Paragraph 7.1 (third bullet point) adequately covers this scenario. However, the suggestion that the report should cover a distance of 150m from the site boundary is reasonable, particularly for large schemes. **It is therefore recommended that in Paragraph 7.1, bullet point 2, "150m" be substituted for "50m".**

Representation No. 224095/15 (Mr Stephen Bolter)

Correction for "luminous flux" substitute "luminous flux density or luminance on the driver's eye."

Officer Response

Whilst it is relatively easy to measure luminous flux, measuring the "luminance on the driver's eye" would be impossible to measure. Therefore this suggestion is not supported.

Representation No. 318536/18 (Countryside Properties)

First bullet point - As previously noted the end users for a speculative business park development are unknown at the planning application stage. It is therefore not possible to predict the external lighting operational hour requirements that users / businesses may require. Where the end user is not known it will be necessary to assume a 24 hour operation unless there were compelling reasons for not doing so. Otherwise the restrictions could impact on economic growth in the District.

Officer Response

It is for the applicant to make a case for 24 hour lighting in view of its potential environment impacts and costs. Conditions will normally be used to secure control over such lighting schemes. The economic benefits of a development will always be weighed against environmental and amenity considerations.

PARAGRAPH 8.1 (TYPES OF PLANNING CONDITIONS APPLIED)

Representation No. 60967/46 (Cllr James Abbott)

Add the use of PIR and other controls.

Officer Response

It is recommended that a new bullet point be inserted after bullet point 4 in paragraph 8.1 as follows:

"Specifying the need for passive infra red and other lighting controls;"

Representation No. 318536/19 (Countryside Properties)

Bullet Point 1 - As previously commented the operational hours of external lighting are unknown when carrying out speculative commercial development. In addition setting specific operational hours will dissuade certain businesses and it is not reasonable to apply this restriction to speculative commercial development. Where the end user is not known it will be necessary to assume a 24 hour operation unless there were compelling reasons for not doing so. Otherwise the restrictions could impact on economic growth in the District.

Bullet Point 3 - Commercial development includes a wide range of business uses. To impose this condition would be extremely onerous, as the end users are not always known during the planning application process. If applied inappropriately, this could have a negative impact on businesses and economic growth in the District.

Bullet Point 10 - This must only be for exceptional circumstances. To impose a temporary permission for lighting when granting a consent that is not time limited in any other way would be unreasonable in the majority of circumstances and could potentially raise safety issues for end users.

Officer Response

Bullet Point 1 - See response to paragraph 7.1.

Bullet Point 3 - It is agreed that restricting the use of lighting schemes to individual users is unlikely to be justified, but there may be circumstances where lighting requirements could change with a different use. The best approach is to control the lighting in the first instance, and require any replacement lighting schemes to be submitted for approval. **It is recommended that paragraph 8.1 bullet point 3 be deleted and replaced by "Requiring replacement light schemes to be submitted for approval."**

Bullet Point 10 - Noted. Temporary consents will only be granted when the case for the lighting scheme is marginal or where the effects on the environment or amenity cannot be assessed at the time planning permission is granted.

Representation No. 321764/80 (David Paul, British Astronomical Association)

Insert bullet point after bullet point 1 "Use of PIR sensors;"

Officer Response

See response to 60967/46 above.

APPENDIX 1 (OBTRUSIVE LIGHT LIMITATIONS FOR EXTERNAL LIGHTING INSTALLATIONS)**Representation No. 224095/16 (Mr Stephen Bolter)**

Appendix 1 allows a very large fraction of the light to go skywards.

This not only adds to sky glow over a very large area, but also wastes energy. Sky glows over small towns and villages with street lights are intrusively visible in the countryside 5 or 10 miles from their borders.

Allowed fractions of the illumination going upward should be reduced to 5%, 2% and 0%.

Officer Response

These figures were based on those recommended by the Institute of Lighting Engineers. The current figures recommended by the ILE are widely recognised globally, and **it is recommended that the table in Appendix 1 be amended as follows:**

(i) In Zone 1 amend the Sky Glow figure to "5", the After Curfew Light into Windows to "2" and the Source Intensity Before Curfew to "10".

(ii) In Zone 2 amend the Sky Glow figure to "2.5" and the Source Intensity Before Curfew figure to "7.5".

(iii) In Zone 3 amend the Source Intensity Before Curfew figure to "2.5"

APPENDIX 2 (RELEVANT PUBLICATIONS FOR STANDARDS OF LIGHTING)

Representation No. 60967/47 (Cllr James Abbott)

Add:

"Campaign for Dark Skies (CfDS)"

"International Dark Skies Association (IDA)"

Officer Response

It is recommended that the table in Appendix 2 be amended to refer to the CfDS Handbook and information sheets. The IDA does not publish any specific guides to lighting, although it does make reference to other publications.

APPENDIX 3 (GUIDANCE FOR LIGHTING SCHEMES FOR OUTDOOR SPORTS FACILITIES)

Representation No. 60967/48 (Cllr James Abbott)

The paragraph on golf driving ranges (5th paragraph) at the last sentence is unrealistic. It is almost physically impossible to contain very bright horizontally mounted lighting by bunding/vegetation.

Therefore, delete last sentence.

Officer Response

However unlikely, if the light can be contained by natural landform or manmade landscape feature, then the lighting of driving ranges may be acceptable. No change is recommended.

Representation No. 60967/49 (Cllr James Abbott)

Next (6th) paragraph on floodlighting columns: Add that the higher the columns, the wider the area the light spreads and the further the lights can be seen from.

Officer Response

Whilst this may be true, it is also true that the lower the columns the more that will be required to give an even light distribution and the greater likelihood of horizontal light causing spillage. No change is recommended.

Representation No. 60967/50 (Cllr James Abbott)

Last paragraph - repeat the comment about token operated MUGAs.

Officer Response

In the last paragraph insert a new fifth sentence to read "For facilities that are more occasionally used, the use of tokens to switch on floodlights can ensure that the lights are only on when needed, ensuring that sky glow is minimised and energy is saved."

Representation No. 321764/81 (David Paul, British Astronomical Association)

The intensity of sports facilities lighting is such that it is impossible to achieve effective containment of a horizontal beam by natural landform or manmade landscape features. Suggest delete the last sentence from the fifth paragraph.

Officer Response

See comment on 60967/48 above.

APPENDIX 4 (USEFUL ADDRESSES AND CONTACTS)

Representation No. 60967/51 (Cllr James Abbott)

Add IDA and full contact details for the CfDS.

Officer Response

Agreed. **It is recommended that:**

(1) the International Dark-Sky Association be added to Appendix 4, and

(2) the address of the Regional Information Officer (Essex) is inserted under Campaign for Dark Skies.

Representation No. 321764/82 (David Paul, British Astronomical Association)

- 1) Delete reference to the Royal Fine Art Commission.
- 2) The website for Campaign for Dark Skies is "www.britastro.org/dark-skies (with details of Essex area representative)."
- 3) Add "International Dark Sky Association www.darksky.org"

Officer Response

- 1) Reference to the RFAC was a proofing error; the RFAC was superseded by the Commission for Architecture & the Built Environment in 1999. Although CABE does comment on light polluting aspects of building & townscape design, it has not published specific guidance on external lighting or light pollution.
- 2) Noted.
- 3) Recommended under preceding response.

It is recommended that:

- (1) reference to the Royal Fine Art Commission be deleted, and
- (2) The website for the CfDS be amended to www.britastro.org/dark-skies

APPENDIX 5 (GENERAL FACTORS TO BE TAKEN INTO CONSIDERATION)

Representation No. 60967/52 (Cllr James Abbott)

Add definition of 'Dark Adaption (sic)'.

Officer Response

The SPD does not refer to "Dark Adaptation"

REPRESENTATIONS RECEIVED ON THE DRAFT SUSTAINABILITY APPRAISAL

QUESTION 1

Representation No. 60967/2 (Cllr James Abbott)

Can my comments on the SPD please be related to the SA, where relevant same passages/points appear.

Officer Response

The sustainability appraisal does not provide guidance to applicants seeking planning permission for external lighting schemes. The matters to which the comments on the SPD referred are not replicated in the SA.

STRATEGIC ENVIRONMENTAL ASSESSMENT SCREENING STATEMENT: PARAGRAPH 2.3

Representation No. 305135/1 (Witham & Countryside Society)

1. Before any external lighting is considered there should be a demonstrable need for the lighting.
2. Care should be taken over decisions for lighting in secluded areas, particularly for public events (sports, entertainment etc) where lighting might imply a safer environment when it may, in fact, provide a much more dangerous environment due to lack of peripheral sight. For example, a lit path provides a flood of light near to the path but provides a perfect hiding area just outside the lit area.
3. Lighting should always be downward and directed only at the required area,
4. The light should not affect any other area not requiring lighting (neighbours, roads etc)
5. All conservation areas should have heritage-type street lighting as a priority, to improve the environment, provide energy efficient lighting and set a proper example to developers, house owners etc. (note Chipping Hill Conservation Area, Witham).

Officer Response

Paragraph 2.3 of the SEA Screening Statement refers to the purpose of the SPD. Therefore the representations really relate to the SPD itself.

1. Paragraph 5.2 of the SPD requires applicants to undertake a needs assessment for a lighting proposal.
 2. Accepted. Not only is there insufficient evidence to suggest that lighting reduces crime, but many Councils refuse to light footpaths on the grounds that it will encourage use late at night and put personal safety at risk.
 3. Not accepted – see the SPD paragraph 5.5 (first principle). Upward lighting of buildings can be achieved without any significant light spillage according to the Institution of Lighting Engineers, although they do recommend downward lighting wherever possible.
 4. Paragraph 5.5 (final principle) of the SPD states that light spillage should be minimised and preferably be avoided.
 5. There are no proposals for this approach in conservation areas. Where modern street lighting is incongruous in a conservation area there is an argument for its replacement as part of a conservation area improvement scheme.
-

APPENDIX TWO

Braintree District Council
Local Development Framework

Draft Supplementary Planning Document

External Artificial Lighting

Published [] 2009

[BDC logo]

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Foreword

Braintree District Council is concerned at the increasing number of proposals for external artificial lighting, often in sensitive locations, and the need to consider in general and technical terms their impact on the environment in the determination of planning applications, which involve lighting schemes.

The Supplementary Planning Document (SPD) is based on the information currently available from a range of organisations that are actively interested or involved in lighting matters. It is intended to provide advice and guidance to applicants contemplating a lighting scheme or proposal on what factors will be taken into account by the District Council in determining planning applications for such schemes.

The guidance acknowledges the technical nature of lighting schemes and the requirement for expertise in selecting and installing a system. Reputable manufacturers, installers and suppliers of such systems should be prepared to provide appropriate technical specifications to demonstrate that their product not only maintains the levels of illumination required for the intended use, but also does so with the minimum level of obtrusive light.

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This SPD was adopted by the Council on (to be inserted) for the purposes of development control, and will be considered alongside the Braintree District Local Plan Review and other relevant policy and material considerations in the determination of planning applications for development.

This document is based on *External Artificial Lighting Supplementary Planning Guidance* published by Huntingdon District Council, and is produced with their kind permission.

1 Introduction

1.1 This Supplementary Planning Document has been produced in order that those proposing external artificial lighting schemes (referred to as lighting schemes), either as part of a development proposal or as a planning application in its own right, may have a clearer understanding of the planning, technical and environmental issues involved. This SPD supplements Policies RLP65 and RLP135 of the Braintree District Local Plan Review 2005 (see Section 2)

1.2 Lighting in itself is not necessarily a problem; it may become a problem where it is excessive, poorly designed, badly installed or poorly maintained. The Local Planning Authority will consider the benefits to be gained from any lighting proposal, particularly for safety of movement, security of property, extension of working practices, extension of sporting and leisure activities, advertising of commercial enterprises and enhancing the amenity value of important buildings and settlements. It should be noted however that whilst lighting helps to reduce the fear of crime, Home Office evidence suggests that the benefits are inconclusive. The Local Planning Authority will seek to balance the need for any such proposal against the implications it may have on the environment in terms of obtrusive light and CO₂ emissions.

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1.3 This guidance sets out the criteria that will be taken into account when the District Council, as local planning authority, assesses and determines proposals which include external artificial lighting. The criteria will be applicable to lighting schemes for a range of development proposals including recreational facilities, commercial and retail developments and highway schemes.

1.4 The guidance also shows what an applicant will need to provide in terms of technical information in order that the District Council may have sufficient information to determine proposed lighting schemes. Also identified are the various conditions that the Local Planning Authority may apply to a lighting scheme when granting planning permission.

1.5 Appendices to the guidance provide standards for lighting; additional information relating to lighting for sports facilities, useful contacts and addresses for applicants to contact to gain advice on lighting matters and a glossary of terms.

2 Planning Policy Context

National Policy

2.1 Central government guidance on lighting is contained in various Planning Policy Guidance Notes (PPG's) listed below.

2.2 PPG 1 (1997): *General Policy and Principles* gives guidance on the role of design considerations in planning (paragraphs 13-20) and advises that development plans should set out design policies against which development proposals are to be considered. It also advises that supplementary design guidance may usefully include advice about matters such as lighting, where these are likely to have a significant impact on the character or quality of the existing environment (Annex A).

2.3 PPG 17 (2002): *Planning for Open Space, Sport and Recreation* states that "in considering applications for floodlighting, local authorities should ensure that local amenity is protected. The impact On the character of the countryside, of floodlight towers or pylons should be a key factor in determining whether planning permission should be granted (paragraph 19).

2.4 PPG 23 (1994): *Planning and Pollution Control* permits local planning authorities to take account of the possible obtrusive impact of lighting in preparing local plan policies (paragraph 2.18). In addition it permits the use of conditions or planning obligations to meet planning goals to protect the environment, where these are relevant to the development proposed (paragraph 3.25).

Regional Policy

2.5 East of England Plan Policy ENV7 (Quality in the Built Environment) supports the consideration of the potential impact of lighting schemes on the natural environment and, where appropriate, encouragement of the use of low-energy or energy efficient fixtures.

The policy reads:

"POLICY ENV7: Quality in the Built Environment

Local development Documents should require new development to be of high quality which complements the distinctive character and best qualities of the local area and promotes urban renaissance and regeneration.

New development should:

- provide buildings of an appropriate scale, founded on clear site analysis and urban design principles;
- make efficient use of land;
- in the case of housing development, achieve the highest possible net density appropriate to the character of the locality and public transport accessibility;
- provide a mix of uses and building types where appropriate;
- have regard to the needs and well being of all sectors of the community;
- address crime prevention, community safety and public health;
- promote resource efficiency and more sustainable construction, including maximum use of re-used or recycled materials and of local and traditional materials;
- reduce pollution, including emissions, noise and light pollution; and
- maximise opportunities for the built heritage to contribute to physical, economic and community regeneration.

Conservation-led regeneration should respect the quality and distinctiveness of traditional buildings and the value they lend to an area through their townscape quality, design and use of materials. In their plans, policies, programmes and proposals planning authorities should give consideration to the opportunities presented by the region's industrial, maritime and rural heritage."

Local Policy

2.6 The Adopted Braintree Local Plan Review (2005) contains specific policy guidance relating to lighting in policy RLP65 *External Lighting* although in general terms all planning

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applications must take account of the impact of the development on the environment. Other policies making reference to lighting are RLP 135 *Floodlighting of Sports Facilities* and RLP 90 *Layout and Design of Development*. RLP135 states that floodlighting must not be unacceptably intrusive or have an unacceptable impact upon the surrounding area and must minimise glare and light spillage from the site; consideration will be given to the effect of light upon local residents, vehicle users, pedestrians, nocturnal fauna and the night sky. Criterion 10 in RLP90 states that the design and level of any lighting proposals will need to be in context with the local area.

2.7 Other policies in the Local Plan Review relate to the protection of residential amenity and the environment. Policies RLP3 *Development within Town Development Boundaries and Village Envelopes* & RLP17 *Extensions and alterations to Dwellings in Towns and Villages* allow development only where amenity criteria are satisfied and there will be no adverse impact on amenities or protected species. Countryside policy RLP79 *Special Landscape Areas* states that development likely to cause loss or damage to traditional rural qualities of the countryside, or its essential landscape character will be refused. Policy RLP80 *Landscape Features and Habitats* states that all new development will be expected to provide measures for any necessary mitigation of their impact upon wildlife. Finally Policy RLP84 *Protected Species* states that planning permission will not be granted for development that would have an adverse impact on protected species. This Supplementary Planning Document gives weight to these local policies by providing greater detail on obtrusive light and its environmental effects.

2.8 Obtrusive light was made a Statutory Nuisance under the Clean Neighbourhoods and Environment Act 2005. The District Council can take action against sources of intrusive light where these are shown to be causing a nuisance, for example a domestic floodlight shining into a window in a neighbouring dwelling. In addition, conditions imposed on any planning consent for lighting must ensure that adequate control can be enforced. It is acknowledged that many lighting installations which may cause obtrusive light do not require planning permission or do not fall under the Act as a Statutory Nuisance. Where obtrusive lighting is beyond the control of the District Council, the Council will aim to discourage such schemes by appropriate guidance and informal approaches to seek solutions.

3 Will your Lighting Scheme Require Planning Permission?

3.1 Artificial light as such is not classed as development, but the structures and installation may be development requiring planning permission, especially if they are substantial and affect the external appearance of the dwelling. Planning permission is not required for the carrying out of maintenance, improvement or other alterations of any building works, which affect only the interior of the building or does not materially affect the external appearance of the building. Most work involving lighting, particularly of the householder DIY type, will fall within this category, for example home security lights. Furthermore, temporary lighting schemes may not require planning permission.

3.2 Planning permission is normally required for:

- Lights mounted on poles of other similar structures or if the structures and installation are substantial and affect the external appearance of the dwelling.
- External lighting proposed as part of an industrial or commercial scheme
- New lighting structures or works which are integral to other development requiring planning permission.
- Illuminated advertisements, although there are some exceptions such as those indicating medical services and some commercial advertisements on the frontage of business premises.

However, the installation of a lighting scheme of such nature and scale that it would represent an engineering operation and typically be undertaken by specialist lighting engineers (Building Regulations now require specialist installation of lighting schemes) could be deemed "development" and as such is likely to require planning permission. Large-scale lighting installations such as the floodlighting of a football stadium or public tennis courts are clearly a form of development, which comes within this statutory definition and would require planning permission. For listed buildings, listed building consent is required for lighting schemes if it is deemed that the character of the building would be materially affected by the lighting.

3.2 We would advise prospective applicants to check with officers of the Council's Development Control service before installing any lighting scheme. When checking with the Council prospective applicants need to confirm the nature and extent of the scheme proposed, i.e. number of lights and their likely output, the height of the lighting columns (if applicable) and the area to be lit, to enable the officer to give you informed advice.

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4 The Issues Relating to Obtrusive Light

4.1 It is recognised that artificial lighting is needed for many circumstances, including safety of movement and leisure activities. However, the wider use of lighting, often in circumstances where it is not required to be on all the time or is badly designed, has led to a rise in the number of complaints about obtrusive light received by local authorities. There is also increased awareness of the impact of light pollution and the impacts on wildlife.

This combination of circumstances has raised the profile of obtrusive light as an environmental issue.

4.2 Obtrusive light is generally a consequence of poorly designed, poorly installed or insensitive lighting schemes. The three main problems associated with obtrusive light are:

Sky glow - the orange glow we see around urban areas caused by a scattering of artificial light by dust particles and water droplets in the sky;

Glare - the uncomfortable brightness of a light source when viewed against a darker background; and

Light trespass - light spilling beyond the boundary of the property on which a light is located.

Each of the three types presents very different problems for the general public and for the environment as a whole.

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4.3 Each of the three types presents very different problems for the general public and for the environment as a whole:

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- *Sky glow* is the result of wasteful and ill-directed lighting and reduces the ability of people to see the natural night sky. This is a problem found not only in urban areas but also in rural areas where dark skies at night are one of the special and intrinsic qualities of the rural landscape. Artificial lighting can also destroy local character by introducing a suburban feel into rural areas.

- *Disability glare* and insensitive lighting can have serious implications for motorists who may become distracted or blinded by glaring lights spilling out on to the highway.

Excessively bright artificial lighting at night can create glare to a dark adapted observer and, by comparison, create adjacent deep shadow which the eye cannot adjust well to. Bright or inappropriate lighting can also have severe ecological implications. Obtrusive light can affect the natural diurnal rhythms amongst a wide range of animals and plants.

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- *Light trespass* is a common problem and can intrude on the residential amenity in both urban and rural settings causing stress and anxiety for people affected. In addition to these specific problems, obtrusive light increases the carbon footprint and represents a waste of energy, resources and money.

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4.4 Whilst recognising the environmental problems associated with artificial lighting, the District Council also appreciates the role of lighting in allowing for safer mobility for pedestrians and cyclists, in reducing road accidents, in extending opportunities for sport and leisure and in some circumstances reducing crime.

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- The safety of the general public is of the utmost importance and this supplementary planning document does not suggest that lighting should not be allowed. What the guidance does suggest is that lighting should be carefully directed and sensitively designed so as to reduce obtrusiveness.

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- In appropriate locations, extension of sporting and leisure activities, helping people find commercial enterprises and enhancing the amenity value of important buildings may be considered beneficial. The Local Planning Authority will seek to balance the need for any such proposal against the disbenefits the proposal may bring, including dazzling or distracting drivers, creating hiding places in shadows, making an intrusion into the night scene (particularly in rural areas), spoiling other people's leisure activities, disrupting wildlife, energy use and CO₂ emissions.

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• Fear of *crime* for example may be reduced by lighting but no clear evidence exists (according to Home Office reports) that lighting in itself will necessarily reduce crime. Used inappropriately, such as the lighting of remote industrial or farming premises, may indeed aid the criminal or encourage anti-social behaviour.

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4.5 Linked with this increasing demand has been a rise in the number of complaints about obtrusive light received by local authorities because the general public are now much better informed and concerned about the environmental impacts such as increased carbon emissions, affect on wildlife and sky glow. The combination of circumstances has raised the profile of obtrusive light as an environmental issue and now is defined as a statutory nuisance in the Clean Neighbourhoods and Environment Act 2005.

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4.6 Reputable manufacturers and installers of external artificial lighting systems should be prepared to provide appropriate technical specifications to demonstrate that their product provides only the appropriate amount of light and only in the right place and at the appropriate times for the intended use, thus avoiding obtrusive light (i.e. that which causes direct glare, nuisance, sky glow and affects on local wildlife). Installation contractors especially should be fully conversant with manufacturer's guidelines and lighting industry guidelines regarding optimum installation to avoid turning otherwise environmentally friendly lighting schemes into something obtrusive.

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4.7 This Supplementary Planning Document clarifies what the District Council, as local planning authority, will take into account when considering proposals for lighting. It also sets out what information the applicant will need to provide in support of such a proposal.

5 General Factors to be taken into Consideration

5.1 The District Council has identified a number of factors that will be taken into consideration in the determination of planning applications for proposals that include lighting. These are an assessment of need, location of proposed lighting in relation to neighbouring uses, the nature and use of the proposed lighting, design and installation of lighting infrastructure.

An Assessment of the Need for Lighting

5.2 The Local Planning Authority will require the applicant to assess the need for the lighting scheme proposed, taking into consideration whether the development could proceed without lighting, whether the benefits of lighting outweigh any drawbacks and if there are any alternative measures that may be taken. Sources of visible light are no longer required for some types of CCTV and the District Council would encourage such technology, which saves energy as well as reducing the problems associated with bright white floodlighting. No lighting is ultimately the best solution in sensitive locations and therefore the Council will ensure that only lighting schemes that are necessary to the general use of the development are considered. The Local Planning Authority will also take account of the requirements of the Highway Authority with regard to proposals relating to highway safety.

The Location of the Proposal in Relation to Neighbouring Uses

5.3 The Local Planning Authority has identified three environmental zones against which impacts of external artificial lighting will be judged.

Environmental Zone 1: Within development boundaries - Lighting proposals that are within or adjoining residential or commercial areas will only be permitted if the applicant can demonstrate to the Local Planning Authority that the scheme proposed is the minimum needed for security and/or working purposes and that it minimises the potential obtrusive light from glare or light trespass to an acceptable level. Obtrusive light can have a significant impact on the amenity of residential areas in towns and villages. Where large scale lighting proposals are adjacent to a settlement boundary regard will also be had to any detrimental impact on the surrounding countryside.

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Environmental Zone 2: Outside development boundaries in the countryside - Lighting proposals within the open countryside will only be permitted if the applicant can demonstrate to the Local Planning Authority that the scheme proposed is the minimum needed for security and/or working purposes and that it minimises the potential for obtrusive light from glare or light trespass to an acceptable level. Artificial lighting in the open countryside can have a demonstrable effect on 'dark skies', one of the special qualities of the rural landscape.

Environmental Zone 3: Lighting proposals that neighbour or are near enough to significantly affect areas of nature conservation importance, e.g. Sites of Special Scientific Interest, National Nature Reserves, Local Wildlife Sites and habitats serving key foraging and/or commuting functions will only be permitted in exceptional circumstances. External artificial lighting can have severe implications for the natural diurnal rhythms in a range of animals and plants, and therefore sites and habitats which are deemed important in terms of their provision of wildlife should not be in anyway affected.

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Particularly careful consideration will need be given to lighting installations that might affect those buildings and features which existing legislation acknowledges as deserving special protection (for example listed buildings, green heritage sites, and conservation areas) where government advice is that the special character of these areas, buildings and their settings should be protected from inappropriate development.

The Institution of Lighting Engineers has provided guidance on acceptable levels of illumination for specific environmental zones, which relate to the areas we have identified above. The Local Planning Authority will require any applications for lighting schemes to

adhere to the following guidance for the relevant environmental zone (see Appendix 1, *Obtrusive Light Limitations for External Lighting Installations*).

The Nature of the Use of the Lighting Proposed

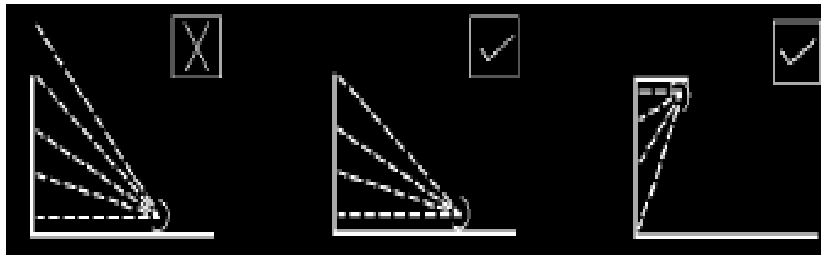
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5.4 For all lighting proposals, the applicant will identify the purpose and use of the lights, the potential users of the lighting scheme (e.g. for recreation facilities) and the hours the lights will be in operation (summer-time and winter-time). All lighting schemes hours of operation will be expected to be kept to a working minimum, and applicants will be expected to show this in their application. Keeping the use of the lighting to a minimum will reduce the potential impact of the lighting on the environment.

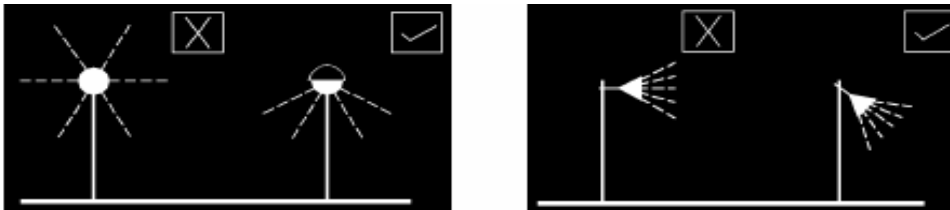
The Design of the Lighting Proposed

5.5 To achieve the necessary minimising of obtrusive light the applicant should adhere to the following general principles taken from the Institution of Lighting Engineers, *Guidance Notes for the Reduction of Obtrusive Light* (2005).

(a) Lighting is directed downwards wherever possible to illuminate its target (see image below). Up lighting is a particularly bad form of obtrusive light and contributes to sky glow. If there is no alternative to up lighting, then the use of shields and baffles will help reduce spill light to a minimum.

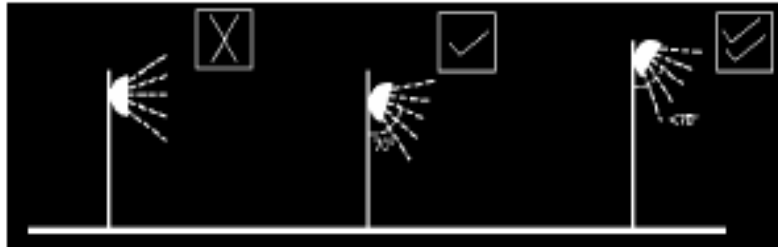


(b) Lighting is designed so as to minimise the spread of light near to, or above the horizontal (see image below). Again, any light that shines above the horizontal line of the light adds to the sky glow effect.



(c) Lighting should be designed to the correct standard for the task and should not over-light. (See Appendix 2, *Relevant Publications for Standards for Lighting*). Over-lighting is a cause of obtrusive light and also represents a waste of money and energy.

(d) The main beam angle of all lights proposed directed towards any potential observer is kept below 70° (see image below). It should be noted that the higher the mounting height, the lower the main beam angle could be. This will help reduce the effect of glare and light spill on neighbouring dwellings, passing motorists, pedestrians, etc.



(e) Lighting should be directed to minimise and preferably avoid light spillage onto neighbouring properties. Wherever possible use floodlights with asymmetric beams that permit the front glazing to be kept at or near parallel to the surface being lit.

(f) The lights used should be the most efficient taking into account cost, energy use, colour rendering and the purpose of the lighting scheme required. All lighting schemes should meet British Standards.

Installation of Lighting

5.6 The visual effect of the lighting installation when viewed during daylight hours can be as important as its effects at night. Therefore the design, size and colours of the physical infrastructure related to new lighting installations, including junction boxes, poles, brackets and cabling, needs to be carefully considered to ensure that any visual intrusion is minimised.

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6 Specific Factors to be taken into Consideration for Various Land Uses

6.1 Different development proposals will warrant more specific guidance. The Local Planning Authority will take the following guidance into account when assessing external artificial lighting proposals. These extracts are based upon the Department of the Environment and the Countryside Commission publication, *Lighting in the countryside: Towards good practice* (1997 - currently unavailable).

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6.2 Advertisement Control

- Acceptable lighting levels for illuminated signs are given in *Brightness of Illuminated Advertisements - Technical Report Number 5 (2001)* produced by The Institution of Lighting Engineers. All advertisement applications should conform to the recommendations set out in this report.
- Position promotional lighting/signs so that they are not visible from open countryside i.e. concentrate at public entrance to buildings;
- Consider timing of lights - avoid any lights being left on during daytime and turn off all lights after working hours.
- 'Sky beams' and 'upward laser displays' will be treated as advertisements and controlled as such.

6.3 Commercial Development

- Avoid use of lights simply to create a 'presence' at night. Consider a reduction in lighting during agreed night hours, leaving only essential lights on through the night. For areas that may require occasional or part time lighting, motion sensors can be used. Lighting should be switched off when buildings are unoccupied.
- Concentrate lights where they are needed and establish a clear hierarchy, with minimum lighting around the outer, perimeter of the complex.
- Reduce the scale of street/road lighting and consider height and spacing of lights in relation to buildings, if other requirements like visibility, glare, etc. permit it.
- Positioning promotional lighting/signs so that they are not visible from open countryside i.e. concentrate at public entrance to buildings.

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6.4 Decorative Building Lighting and Public Art

- Where decorative lighting falls within planning control the Council will consider applications on their merits taking into account their local environmental impact.
- Keep lighting understated and aim to enhance rather than swamp architectural or artistic character.
- Ensure light is directed only at the structure, re-siting lights and using baffles and shielding where possible.
- Minimise up lighting where it distorts architectural detailing.
- It is expected that timer controls are used to ensure that buildings or public artworks will only be lit during the evenings when they will be appreciated by the public. Switching off decorative lights late at night, typically 11pm, will reduce sky glow and save energy. Curfews are expected to be earlier in the countryside.
- Consider the choice of surface materials being illuminated. The reflectance value may be high causing reflected light to generate excessive sky glow.
- External lighting is sometimes used as part of public art installations. It is acknowledged that 'light' might have a quality in its own right rather than for what it illuminates. It is not the intention of this SPD to exclude lighting effects, lighting sequences etc. where these might be proposed as a contribution to public art.

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- Where the public art consists of lighting effects or lighting sequences in their own right, the Council will have regard to the intensity of light, its impact beyond the public realm space to which it relates and other guidance contained in this SPD.

6.5 Farms and Market Garden Centres

- To reduce light spillage, mount lights below the roof height of buildings and direct light downwards to where it is needed.
- Ensure that motion sensors are directed so as not to be tripped by animals.
- As far as possible, position lights so that they are shielded by buildings and are not visible from the surrounding countryside.
- The potential impact of light from glasshouses will be considered as part of the planning application.
- Avoid the use of all-night lighting by using timer controls.

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6.6 Lighting Railway Stations and Road/Rail Interchanges

- Design the lights for the station as a whole, balancing the need for lighting in different areas and considering the impact of light in views from the surrounding countryside.
- Concentrate on lighting to enhance the architectural character of the station building rather than on creating an 'urban' level of light on the platform and in the station forecourt.
- Direct car park and security floodlights downwards and to where the light is required and switch off lights when the car park is not used late at night

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6.7 Mineral Extraction

- Mount lights below the roof height of buildings, and perimeter fencing, and direct light downwards to where it is required.
- Position lights so that they are shielded by buildings or permanent plant and are not visible from the surrounding countryside.
- Avoid lights mounted on the side of the buildings that shine directly out, dazzling users of the facility.
- Consider a reduction in lighting during agreed night hours, leaving only essential lights on through the night. For areas that may require occasional or part time lighting, motion sensors can be used. Lighting should be switched off when buildings and plant are unoccupied.

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6.8 Petrol Filling Stations and Car Showrooms

- Canopy lights should be positioned to avoid light spill from the sides of the canopy.
- Avoid the use of dish diffusers, which cause additional glare.
- Reduce lighting or avoid it during daylight hours.
- Integrate design for promotional signage with that of the canopy.
- Avoid lighting internal fascia around canopy.
- Design and position signs so that they are visible only from the carriageway and not from the surrounding landscape.
- Consider a reduction in lighting during agreed night hours, leaving only essential lights on through the night. For areas that may require occasional or part time lighting, motion sensors can be used. Lighting should be switched off when buildings are unoccupied.

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6.9 Residential Development

- Consider whether lighting is required at all, and where it will be most effective.

- Consider using PIR sensors for porch and other lights on houses so that they are only on when needed.
- Keep lighting in new residential areas in balance with that of the village as a whole and lighting on adjacent road junctions.
- Consider views from the surrounding countryside and avoid a line of lights, defining the edge of the settlement.

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6.10 Road Junctions and Accesses

- All designs for road junctions and accesses must meet British Standards.
- Keep number of columns to a minimum - a single column may be sufficient on small roundabouts.
- Consider colour of lighting columns in relation to surrounding landscape.
- Use the most efficient lighting possible in terms of cost, energy use and colour rendering whilst meeting British Standards.
- Use of horizontal cut-off luminaires which emit less than 1.0% upward light.
- Carry out a visual appraisal and design lighting scheme to minimise visual intrusion of light at night and day.

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6.11 Car Parks

- Direct lighting downwards and design equipment to control levels of light spill and glare.
- Site lighting equipment carefully, making use of the backdrop provided by any existing vegetation and introducing new planting within the car park to help integrate the lighting structures and minimise the visual impact of both equipment and lighting.
- Use new hedgerows or tree planting to help minimise the impact of car park lights around the car park boundaries.
- All vegetation needs to be maintained and trimmed once it has been established otherwise it will block out the light.
- Rural car parks need not necessarily be lit, but where they are they should have minimal full cut-off lighting and should be switched off when the premises served are closed. Public car park lighting should cease when the car park is closed or when street lighting is switched off, whichever is later.

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6.12 Security Lighting

- Passive infrared detectors should control lighting, avoiding the need for all night lighting. Avoid mis-installing sensors such that they can be tripped by road or footway users (see image below).
- A 150W (2000 lumen) tungsten halogen lamp is more than adequate for domestic security lighting. Lamps of higher intensity create too much light, more glare and darker shadows. For all-night lighting at low brightness use a compact fluorescent porch light of 9W (600 lumen).
- Lighting should be directed down to illuminate its target and mounted below the property boundary height so as to reduce light spill.
- Develop an integrated approach to security lighting, balancing levels of light with other lighting in and around the site to avoid glare and light spill as well as dark spots.



6.13 Sports Facilities

- Design lighting to be as directional as possible with no direct light above the horizontal using the minimum number of lights required, thereby reducing light pollution.
- For facilities that are more occasionally used, such as MUGAs in rural areas, the use of tokens to switch on floodlights can ensure that the lights are only on when needed, ensuring that sky glow is minimised and energy is saved.
- Consider the colour of lighting poles; light colours should be used if lights are generally seen against the sky or dark if there is a backdrop of vegetation.

(Additional information is given in Appendix 3, *Guidance for Lighting Schemes for Outdoor Sports Facilities*)

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7 Information Required

7.1 In addition to the information normally required for any other planning proposal, the Validation Checklist requires applications including the provision of external lighting, including street lighting and security lighting, in both urban and countryside locations, should be accompanied by:

- Lighting designs for the proposed installations,
- Layout plan with beam orientation,
- Lighting levels, luminaire details, lamp type, wattage and control systems, and proposed hours when the lighting would be switched on.

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All installations must be energy efficient and "Dark Sky" compliant, thereby not causing obtrusive light pollution, glare or spillage.

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All new street lighting for roads to be adopted should comply with Essex County Council specifications. For unadopted accesses and private roads, parking courts, commercial and industrial development proposals should also meet Essex County Council standards.

Additionally, applications should be accompanied by:

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- A statement setting out why a lighting scheme is required, the proposed users, and the frequency and length of use in terms of hours of illumination (see paragraph 5.4).
- A site survey showing the area to be lit relative to the surrounding area, the existing landscape features together with proposed landscaping features to mitigate the impacts of the proposed lighting.

The lighting designs, layout plans and other information required under the Validation Checklist should be in the form of a technical report prepared by a qualified Lighting Engineer or the lighting company setting out the type of lights, performance, height and spacing of lighting columns. The light levels to be achieved over the intended area, at the site boundaries and, for large schemes, 150m outside of the boundary of the site, should be superimposed on a map of the site and its surrounding area.

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7.2 Any proposal for the display of illuminated advertisements will need to be accompanied by that information normally required for any other planning proposal and additionally the information set out below.

- Details of the proposed location, positioning and dimensions of the sign face.
- The sign face maximum luminance in candelas per square metre.
- The number, size and type of light sources and details of the sign face materials.
- The type of illumination - internal or external; static or intermittent.
- Details of the make and catalogue number of any luminaires or floodlights.
- Size, type and number of lamps fitted within any luminaire or floodlight.
- The mounting height of the luminaires or floodlights specified.
- The location and orientation of the luminaires or floodlights.

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Provision of this information may require professional advice and potential advisors can be found in Appendix 4, *Useful Addresses and Contacts*. For significant lighting schemes professional advice from a lighting manufacturer or from a qualified lighting engineer is recommended.

8 Types of Planning Conditions Applied

8.1 Where the District Council grants planning consent for a development proposal it will impose conditions controlling the lighting scheme provided. These may include:

- Limiting the time of use of the lighting;
- Limiting the light levels to a designated uniformity;
- Requiring replacement lighting schemes to be submitted for approval;
- Specifying lamps, luminaires and columns;
- Specifying the need for full horizontal cut-off;
- Specifying the need for passive infra red and other lighting controls;
- The design, height and position/angle of the lighting;
- The retention of screening vegetation;
- The use of planting and bunding to contain lighting effects;
- The future maintenance of the lighting schemes and post-installation checks in accordance with the original design and planning approval; and
- In exceptional circumstances, the granting of temporary planning permission to enable a review of lighting impacts after installation.

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These conditions will be applied as necessary by the local planning authority to help reduce obtrusive light from new proposals, particularly glare and spillage, to protect wildlife and residential amenity and to reduce energy consumption and CO₂ emissions.

Appendix 1: Obtrusive Light Limitations for External Lighting Installations

Environmental Zone	Sky Glow UWLR (Max. %)	Light into Windows Ev (lux)		Source Intensity I (kcd)		Building Luminance L (cd/m ²)*** Average, Before Curfew
		Before Curfew	After Curfew	Before Curfew**	After Curfew	
Zone 1	5	10	2	10	1	10
Zone 2	2.5	5	1	7.5	0.5	5
Zone 3	0	2	1*	2.5	0	0

Notes:

UWLR (Upward Waste Light Ratio) = Maximum permitted percentage of luminaire flux that goes directly into the sky.

EV = Vertical Illuminance in LUX.

I = Light Intensity in Candelas.

L = Luminance in Candelas per Square Metre.

Before/After Curfew = An agreed time, usually late evening, at which the level of artificial lighting should be reduced in the interests of maintaining residential amenity.

* Acceptable from public road lighting installations only.

** Source Intensity - This applies to each source in the potentially obtrusive direction outside of the area being lit. The figures given are for general guidance only and for some medium to large sports lighting applications with limited mounting heights, may be difficult to achieve. However, if the aforementioned recommendations are followed then it should be possible to lower these figures to less than 10kcd (kilo candela).

*** Building Luminance - This should be limited to avoid over lighting, and relate to the general district brightness.

Appendix 2: Relevant Publications for Standards for Lighting

British Standards	BS 5489 & BS EN 13201-1:2003	Road Lighting.
	BS EN 12193	Lights & Lighting – Sports Lighting
CIBSE/SLL:	SLL	Code for Lighting (2006)
	SLL FF07	Environmental Considerations for Exterior Lighting (2003)
	LG04	Sports Lighting (2006)
	LG06	The Outdoor Environment (1992)
CIE Publications:	001	Guidelines for minimising Urban Sky Glow near Astronomical Observatories (1980)
	017.4	International Lighting Vocabulary (1987)
	083	Guide for Lighting of Sports Events for Colour Television and Film Systems (1989)
	094	Guidance for Floodlighting (1993)
	115	Recommendations for the Lighting of Roads for Motor and Pedestrian Traffic.
	126	Guidelines for Minimizing Sky Glow (1997)
	129	Guide for Lighting Exterior Work Areas (1998)
	136	Guide to the Lighting of Urban Areas (2000)
	150	Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting (2003)
ILE Publications:		Towards Understanding Skyglow (2007)
		Outdoor Lighting Guide (2005)
	TR05	Brightness of Illuminated Advertisements (2001)
	GP02	Lasers, Festive Lighting and Entertainments Code (1995)
	GP09	Lighting the Environment (1995)
	GN01	Guidance Notes for the Reduction of Obtrusive Light
	GN02	Domestic Security Lighting - Friend or Foe? (2005)
<u>CLG:</u>		Lighting in the Countryside: Towards Good Practice (1997; only available on-line)
<u>CfDS</u>		<u>The CfDS Handbook: Blinded by the Light - A Handbook on Light Pollution</u>
		<u>CfDS Information Sheets</u>

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CfDS = Campaign for Dark Skies
 CIBSE = Chartered Institution of Building Services Engineers
 CIE = International Commission on Illumination
 CLG = Department of Communities and Local Government
 ILE = The Institution of Lighting Engineers
 SLL = Society of Light and Lighting

Appendix 3: Guidance for Lighting Schemes for Outdoor Sports Facilities

Introduction

Sport plays an increasingly important role in the everyday lives of people today. There is now a greater need for more sports facilities provided to better specification levels than existing facilities and many older facilities are also being refurbished to improved specification levels. Most new sports facilities now have outdoor play areas, which to meet the demands of the modern consumer need to be open both during the daytime and the evening. Therefore, new sports facilities are almost always accompanied by artificial lighting schemes. Whilst recognising the advantages that lighting can bring in making more effective use of recreational facilities, the District Council is also conscious that such proposals can have an adverse environmental impact in terms of obtrusive light.

This guidance only gives a brief background to the nature of artificial lighting for sports facilities and the District Council would advise the applicant to refer to more technical guidance from The Chartered Institution of Building Services Engineers (CIBSE), *Lighting Guide 4: Sports Lighting* (2006). Lighting Schemes for sports facilities require considerable technical expertise. Reputable manufacturers and suppliers of lighting schemes should be prepared to provide appropriate technical specifications to demonstrate that their product not only maintains the levels of illumination required for the intended use, but also does so with the minimum of visual intrusion or obtrusive light.

Specific Guidance on Design and Illumination

Most sporting facilities require lighting of a uniform level over the whole playing area. This is normally best provided by downward facing lights mounted on columns. The Institution of Lighting Engineers recommends that the most effective way of achieving this and preventing light spillage into surrounding areas is to use floodlights with an asymmetric beam that, while producing the main beam at around 60° - 70°, permits the front glass to be kept horizontal. The upper limits to the beam will also need to be specified depending on circumstances but should normally not exceed 70° from the downward vertical.

Different sporting activities require different light levels on the playing surface. Sports such as hockey, with a fast moving small ball, require a much higher level of illumination than, for example, netball. It is usually the case that the higher the level at which a sport is played, for example County or National standard, the higher the level of illumination required. Training or more informal use may be undertaken with a lower level of illumination. Sport England provides advice on lighting in its design guidance for some individual sports and intends to issue a new guidance note in the future. In the meantime Sport England refers to *Lighting Guide 4: Sports Lighting* (2006).

Some sports facilities such as golf driving ranges present particular difficulties for floodlighting. Most sites tend to be in open countryside and have floodlights aimed either horizontally or slightly above the horizontal plane to enable players to follow the flight of the ball. These lights, which are often of considerable intensity and with a wide beam, can cause inconvenience to neighbours and can be a safety hazard; particularly where dazzle affects highway users. Golf driving range lights are probably one of the most polluting forms of floodlighting in that they invariably illuminate a much larger area than is required. The only circumstances where a horizontal beam of this nature may be permitted are where the natural landform or a permanent natural or manmade landscape feature can effectively contain the light.

Careful consideration needs to be given to the positioning and height of lighting columns if an even light distribution over the playing surface is to be achieved whilst maintaining light spillage into adjacent property to a level below that indicated in Appendix 1. Floodlighting columns may vary in height from around 5m to 25m depending upon the type of illumination required and the area to be lit. The higher the lighting columns, the easier it is to ensure that the beam is directed downwards as indicated above, and to minimise light spillage to surrounding areas. A judgement in all cases will need to be made on the visual

impact of the lighting columns during daylight hours as well as the impact of the floodlighting system when in use.

Floodlighting systems can utilise a number of different light sources each with its own particular characteristics in terms of colour rendering, operating costs, and the amount of glare produced. The type of light source will need to be carefully matched with the level of illumination required and the height and positioning of columns, the visual impact of which will be a material planning consideration. It is also essential that the fittings are sufficiently robust to ensure that the carefully aimed lamps necessary to minimise light spillage outside the floodlit site are not knocked out of alignment by high winds or the weight of snow.

In coming to a decision on the merits of a particular proposal, the District Council will take into account the use of the facility and the likely benefits to the general public. By definition, floodlighting allows sports facilities to be used for longer hours and throughout the winter. Floodlights must be operational for long hours to justify their initial capital cost and provide for the community's needs. Although in general 10pm is an acceptable curfew time for most sports floodlighting schemes in residential areas, exceptionally the curfew may be extended to 11pm where it meets the needs of the local community and in less environmentally sensitive areas such as employment areas. Planning conditions may be applied setting a curfew time based on the specific characteristics of an individual scheme. For facilities that are more occasionally used, the use of tokens to switch on floodlights can ensure that the lights are only on when needed, ensuring that sky glow is minimised and energy is saved.

Consideration will be given to the relationship between the use of the facility and the interests of conservation, amenity and safety. Where the impact of a proposal is considered to be unacceptable or cannot be mitigated through ameliorative measures, the protection of those recognised interests will prevail.

Appendix 4: Useful Addresses and Contacts

<p>British Astronomical Association Burlington House, Piccadilly, London W1V 9 AG</p> <p>Tel: 0171 7344145</p> <p>www.britastro.org</p>	<p>British Standards Institution 389 Chiswick High Road, London W4 4AL</p> <p>Tel: 0181 9967000</p> <p>www.bsi.org.uk</p>	<p>Campaign for Dark Skies <u>Regional Information Officer (Essex)</u> <u>James Abbott</u> <u>Waterfall Cottages</u> <u>Park Road</u> <u>Rivenhall</u> <u>Witham CM8 3PR</u></p> <p>www.britastro.org/dark-skies</p>
<p>Chartered Institution of Building Services Engineers (Lighting Division) 222 Balham High Road London SW12 9BS</p> <p>Tel: 0181 6755211</p> <p>www.cibse.org</p>	<p>Council for the Protection for Rural England Warwick House, 25 Buckingham Palace Road, London SW1 0PP</p> <p>www.cpre.org.uk</p>	<p>International Commission on Illumination (CIE) Central Bureau, Kegelgasse 27, A-1030 Wien, Austria</p> <p>Tel: 001 431 714 3187</p> <p>www.cie.co.at</p>
<p><u>International Dark-Sky Association</u> <u>3225 North First Avenue</u> <u>Tucson</u> <u>AZ 85719</u></p> <p><u>Tel: +1 (520) 293 3198</u></p> <p>www.darksky.org</p>	<p>Institution of Lighting Engineers Regent House Regent Place Rugby CV21 1PN</p> <p>Tel: 01788 576492</p> <p>www.ile.org</p>	<p>Lighting Industry Federation Swan House, 207 Balham High Road London SW17 7BQ</p> <p>Tel: 0171 6755432</p> <p>www.lif.co.uk</p>
<p>Sport England 16 Upper Woburn Place London WC1H 0QP</p> <p>www.sportengland.org</p>		

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Appendix Five: Glossary of Terms Used in External Lighting

The definitions and explanations given in this Glossary are intended to help readers to understand the Guidance.

Asymmetrical Beam - a fan shaped lighting pattern emitted by floodlights - available in wide, medium and narrow beams.

Beam Angle - the angle formed by the centre of the beam of light from a lamp relative to the vertical. When light is emitted from a lamp it forms a cone from the light source. The shape of this cone will depend on the reflector design in the lamp.

Candela - the unit of luminous intensity of a light source in a given direction.

Front Glazing - the front face of the lighting unit through which the light passes.

Glare - the discomfort or impairment of vision, which is experienced when part of the visual field is excessively bright in relation to the general surroundings. Direct glare normally occurs when the viewer can see the light source. Glare can cause discomfort or disability to see detail.

Illumination - the process of lighting an object or surface.

Light Trespass - any light which illuminates beyond that which needs to be lit, particularly into residential areas or properties, usually perceived to be a nuisance.

Lumen - the unit of luminous flux (light) emitted by a light source or falling on a surface or object.

Luminaire - the protective unit in which a lamp is fitted, formerly known as a light fitting. The apparatus which controls the distribution of flux from a lamp or lamps, and which includes all the components necessary for fixing and protecting the lamps for connecting them to the local supply circuit. Floodlights and some other luminaires retain their individual names.

Luminance - a term which expresses the intensity of the light emitted in a given direction by unit area of a luminous or reflecting surface. It is the physical equivalent of what is subjectively called brightness. The unit most commonly used is the candela per square metre.

Luminous Flux - the light emitted by a source or received by surface. The unit is the lumen (lm).

Luminous Intensity - the power of a source or illuminate surface to emit light in a given direction. The unit is the candela (cd).

Lux - the unit of measurement of illuminance (the amount of light falling on an object). One lux equals one lumen per square metre.

Main Beam Angle/Horizontal Cut-Off - a term applied to a luminaire. The angle measured from the downward vertical upwards to the first line of sight at which the lamp(s) or surface of high brightness is no longer visible. This angle is usually measured from the downward vertical or, for a floodlight, from the beam axis. Horizontal cut-off refers to the limiting of light above an imaginary line horizontal to the luminaire.

Mounting Height - the vertical distance between the luminaire and the ground or floor.

Obtrusive Light - any light, which illuminates areas beyond that which needs to be lit, that causes nuisance or glare, disturbs wildlife or causes light pollution, including sky glow. The extent to which it is perceived as being a nuisance will often depend on the background light from other sources and the intensity of the light.

Sky Glow - a phenomenon where light - usually from a major light source such as an urban area or industrial/recreational floodlight installation - is seen, often from many miles distance, as a glow in the sky caused by light reflecting off particles in the atmosphere. Some of the light is reflected from the illuminated surfaces although most is emitted directly skyward from poorly designed lighting systems. Sky glow resulting from poorly designed systems is particularly noticeable in dark landscapes where there are few other light sources. Most rural areas and would fall into this category.