



· LIGHTING DESIGN · ELECTRICAL · SMART CITIES ·
ENERGY REDUCTION · LIGHTING IMPACT

TOURNERBURY WOODS ESTATE

LIGHTING TECHNICAL REPORT

DFL-UK

17 City Business Centre, Hyde Street, Winchester, SO23 7TA

+44(0)1962 855080 | info@dfi-uk.com | www.dfi-uk.com



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EXECUTIVE SUMMARY

This Lighting Technical Report assesses the existing and proposed lighting at the Tournerbury Woods Estate wedding and events venue against national, regional, and local policies, as well as industry best-practice guidance.

The assessment demonstrates that the lighting at Tournerbury Woods Estate wedding and events venue:

- Minimises light spill through downward-facing, warm white, time-controlled, and seasonally limited lighting.
- Retains dark corridors across the majority of the Application Site, ensuring compliance with ILP GN01:2021 and GN08:2023 guidance on obtrusive light reduction and wildlife protection.
- Protects sensitive ecological receptors, including bats and overwintering/breeding birds, by keeping lighting within operational areas and away from the waterfront.
- Complies with all relevant policies, including the Environmental Protection Act 1990, Clean Neighbourhoods and Environment Act 2005, National Planning Policy Framework (2024, amended 2025), Havant Borough Council Core Strategy DM10, and the Chichester Harbour AONB Supplementary Planning Document (2017).

Overall, the report concludes that the lighting proposals are acceptable in planning terms, protect the character of the Chichester Harbour National Landscape, and will not result in significant adverse effects on ecology, human amenity, or the surrounding environment.

1. INTRODUCTION

1.1. General

- 1.1.1. This Lighting Technical Report has been written by DFL (Designs for Lighting Ltd¹), a lighting design consultancy specialising in Lighting Impact Assessments, obtrusive light mitigation, and detailed lighting design.
- 1.1.2. The Lighting Technical Report is intended to assess the lighting associated with the Tournerbury Woods Estate's function as a wedding venue.
- 1.1.3. This lighting is assessed based on the specifications and locations that have been provided to DFL-UK and in reference to the ecology surveys that have been undertaken for the Application Site.
- 1.1.4. This report outlines the following:
- Relevant obtrusive light policies in direct relation to the Proposed Development;
 - Relevant National and Local Policies;
 - Why the Proposed Development requires artificial lighting;
 - Details of the lighting on the Tournerbury Woods Estate; and
 - Assessment of the effects of the artificial lighting
- 1.1.5. This Lighting Technical Report is informed by the following documents:
- DFL-UK Ltd - Lighting Technical Note - 3353-DFL-ELG-XX-TN-EO-13001 (February 2024)
 - Hampshire Ecological Services Ltd – Ecological Impact Assessment (June 2020)
 - Hampshire Ecological Services Ltd – Shadow Habitat Regulations Assessment Report (April 2020)²
 - Holbury Consultancy Services – Shadow Appropriate Assessment (November 2021)
- 1.1.6. As well as by details of the lighting at Tournerbury Woods Estate for the wedding and events venue and also the existing long-standing lighting.

¹ <https://www.dfl-uk.com/about/>

² Please note that the Shadow Habitat Regulations Assessment has been updated for 2025 by Holbury Consultancy Services and is being submitted alongside the planning application.

2. LEGISLATIVE FRAMEWORKS AND NATIONAL POLICIES

2.1. Environmental Protection Act 1990 / Clean Neighbourhoods and Environment Act 2005

- 2.1.1. Since 2005, artificial light has been incorporated as a potential statutory nuisance. An amendment to section 79 of the Environmental Protection Act 1990, contained within the Clean Neighbourhoods and Environment Act 2005 states: ³

“The following matters constitute “statutory nuisances” for the purposes of this Part, that is to say— [...]

[...] artificial ⁴light emitted from premises so as to be prejudicial to health or a nuisance;

[...]and it shall be the duty of every local authority to cause its area to be inspected from time to time to detect any statutory nuisances which ought to be dealt with under section 80 and, where a complaint of a statutory nuisance is made to it by a person living within its area, to take such steps as are reasonably practicable to investigate the complaint”.

2.2. National Planning Policy Framework 2024 (Amended 2025)

- 2.2.1. The National Planning Policy Framework (NPPF) sets out the government’s planning policies for England and how they are expected to be applied and provides a framework for local plans. With regard to light pollution, the NPPF was updated in February 2025 and states that the following elements are to be considered⁵:

“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
- *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*

³ <https://www.legislation.gov.uk/ukpga/1990/43/part/III/crossheading/statutory-nuisances-england-and-wales> Section 79, paragraph 1,

⁴ 2005 Section 102 relating to section 79, Indent reference (fb)

⁵ Paragraph 198 NPPF 2024 page 57

- *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.”*

2.3. Planning Practice Guidance

- 2.3.1. Guidance for assessing the effects of proposed artificial lighting is outlined in the planning practice guidance (PPG). The guidance states:⁶

“Does an existing lighting installation make the proposed location for a development unsuitable, or suitable only with appropriate mitigation? For example, this might be because:

- *the artificial light has a significant effect on the locality; and/or*
- *users of the Proposed Development (e.g., a hospital) may be particularly sensitive to light intrusion from the existing light source.*

Where necessary, development proposed in the vicinity of existing activities may need to put suitable mitigation measures in place to avoid those activities having a significant adverse effect on residents or users of the proposed scheme, reflecting the agent of change principle. Additional guidance on applying this principle is set out in the planning practice guidance on noise.

- *Will a new development, or a proposed change to an existing site, be likely to materially alter light levels in the environment around the site and/or have the potential to adversely affect the use or enjoyment of nearby buildings or open spaces?*
- *Will the impact of new lighting conflict with the needs of specialist facilities requiring low levels of surrounding light (such as observatories, airports and general aviation facilities)? Impacts on other activities that rely on low levels of light such as astronomy may also be a consideration but will need to be considered in terms of both their severity and alongside the wider benefits of the development.*
- *Is the development in or near a protected area of dark sky or an intrinsically dark landscape where new lighting would be conspicuously out of keeping with local nocturnal light levels, making it desirable to minimise or avoid new lighting?*
- *Would new lighting have any safety impacts, for example in creating a hazard for road users?*

⁶ <https://www.gov.uk/guidance/light-pollution>, Paragraph 002 Ref ID: 31-002-20191101 revision 01 11 2019

- *Is a proposal likely to have a significant impact on a protected site or species? This could be a particular concern where forms of artificial light with a potentially high impact on wildlife and ecosystems (e.g. white or ultraviolet light) are being proposed close to protected sites, sensitive wildlife receptors or areas, including where the light is likely to shine on water where bats feed.*
- *Does the Proposed Development include smooth, reflective building materials, including large horizontal expanses of glass, particularly near water bodies? (As it may change natural light, creating polarised light pollution that can affect wildlife behaviour.)"*

3. LOCAL POLICIES

3.1. Introduction

3.1.1. The relevant Local Planning Authority (LPA) for the Proposed Development is Havant Borough Council (HBC). HBC have published several documents which contains policies relevant to the Proposed Development:

- Havant Borough Council Core Strategy - March 2011 - Local Development Framework
- Havant Borough Council – Joint Chichester Harbour Area of Outstanding Natural Beauty May 2017 – Supplementary Planning Document

Havant Borough Council Core Strategy - March 2011 - Local Development Framework

3.1.2. The following policy text applies to the lighting of the Proposed Development:

“DM10 Pollution

Development that may cause pollution of water, air or soil or pollution through noise, smell, smoke, fumes, gases, steam, dust, vibration, light, heat, electromagnetic radiation and other pollutants will only be permitted where all of the following relevant criteria can be met:

- 1. The health and safety of existing and future users of the site, or nearby occupiers and residents is not put at risk.*
- 2. National air quality standards or objectives would not be breached.*
- 3. The water environment would not be detrimentally affected.*
- 4. It would not lead to an unacceptable deterioration in the quality or potential yield of coastal, surface and ground water resources.*
- 5. External lighting is of the minimum level of illumination and duration required for security and operational purposes.*
- 6. External lighting would not interfere with safe navigation in either Chichester or Langstone Harbours and other coastal locations.”*

Havant Borough Council – Joint Chichester Harbour Area of Outstanding Natural Beauty May 2017 – Supplementary Planning Document

3.1.3. The following policy text applies to the lighting of the Proposed Development:

“30.1 Applicants are encouraged to develop lighting proposals that reduce the adverse impact of artificial light in Chichester Harbour. Smooth, reflective building materials, including large horizontal expanses of glass, particularly near the Harbour, have the potential to change natural light and to create polarised light pollution affecting wildlife.

30.2 A statement outlining where the light will shine; when the light will shine; how much light will shine; the possible ecological impact and a series of mitigation measures, if appropriate, should accompany a planning application.

30.3 Applicants are encouraged to include evidence to demonstrate the following:

- The lighting proposals are the minimum needed for security and/or working purposes.*
- Any obtrusive light from glare or light trespass is an acceptable level.*
- Light beams will not be pointed out of windows.*
- Security lights are fitted with passive infra-red detectors (PIRs) and/or timing devices so as to minimise nuisance to neighbours and are set so that they are not triggered by traffic or pedestrians passing outside the property or premises.*
- Overall compliance with the published best practice guidance from the Institution of Lighting Professionals.”*

4. BRITISH STANDARDS

4.1.1. Lighting is provided for amenity and wayfinding purposes only for limited times during the hours of darkness. There are no British Standards that provide defined light levels for this function.

5. GUIDANCE

5.1. Guidance Notes for the Reduction of Obtrusive Light (Institution of Lighting Professionals GN01:2021)

- 5.1.1. The Lighting Technical Report has been developed in accordance with industry guidance aimed at minimising the risk of obtrusive light, which often results from poorly designed or installed external lighting. It draws specifically on the most relevant sections of GN01:2021, which provides best practice recommendations for reducing obtrusive light across a wide range of outdoor lighting applications

Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark (SQM 20.5+)	Astronomical Observable dark skies, UNESCO starlight reserves, IDA Dark Sky Parks.
E1	Natural	Intrinsically dark (SQM 20 to 20.5)	Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, etc.
E2	Rural	Low district brightness (SQM ~ 15 to 20)	Sparsely inhabited rural areas, Village or relatively dark outer suburban locations.
E3	Suburban	Medium district brightness	Well inhabited rural and urban settlements, small town centres or suburban locations.
E4	Urban	High district brightness	Town / City centres with high levels of night-time activity.

Table 1: Environmental Zone Descriptions

Environmental Zones	Sky Glow ULR ⁷ (Max %)	Light Trespass (Into Windows) E _v (lux)		Building Luminance Average, Pre-curfew
		Pre- Curfew	Post-Curfew ⁸	Average L (cd/m ²)
E0	0	0	0	0
E1	0	2	0 (1 ⁹)	0
E2	2.5	5	1	5
E3	5	10	2	10
E4	15	25	5	25

Table 2: Obtrusive Light Criteria

⁷ ULR (Upward Light Ratio) is the maximum permitted percentage of luminaire flux that goes directly into the sky.

⁸ Curfew refers to a time when the local planning authority has agreed that the lighting installation should be switched off; this typically refers to 23h00 – 07h00

⁹ If the installation is for public (road) lighting, then this may be up to 1 lx

5.2. GN08:2023 Bats and Artificial Lighting in the UK – Bat Conservation Trust and Institution of Lighting Professionals.

- 5.2.1. This document is aimed at lighting professionals, lighting designers, planning officers, developers, bat workers/ecologists and anyone specifying lighting. It is intended to raise awareness of the impacts of artificial lighting on bats, and mitigation is suggested for various scenarios. However, it is not meant to replace site-specific ecological and lighting assessments, which states the following.

"It is acknowledged that, especially for vertical calculation planes, very low levels of light (<0.5 lux) may occur even at considerable distances from the source if there is little intervening attenuation. It is therefore very difficult to demonstrate 'complete darkness' or a 'complete absence of illumination' on vertical planes where some form of lighting is proposed on site despite efforts to reduce them as far as possible and where horizontal plane illuminance levels are zero. Consequently, where 'complete darkness' on a feature or buffer is required, it may be appropriate to consider this to be where illuminance is below 0.2 lux on the horizontal plane and below 0.4 lux on the vertical plane. These figures are still lower than what may be expected on a moonlit night and are in line with research findings for the illuminance found at hedgerows used by lesser horseshoe bats, a species well known for its light adverse behaviour (Stone, 2012)."

"A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component."

"A buffer zone subdivided to into smaller zones of increasing illuminance limit further away from the Supporting Habitat would ensure light levels (illuminance - measured in lux) do not exceed certain defined limits. This has the effect of a gradual decrease in lighting from the developed zone, rather than a distinct cut-off, which may provide useable area for the project which also limits lighting impacts on less sensitive species, or less well-used habitat." (see Figure 1)."

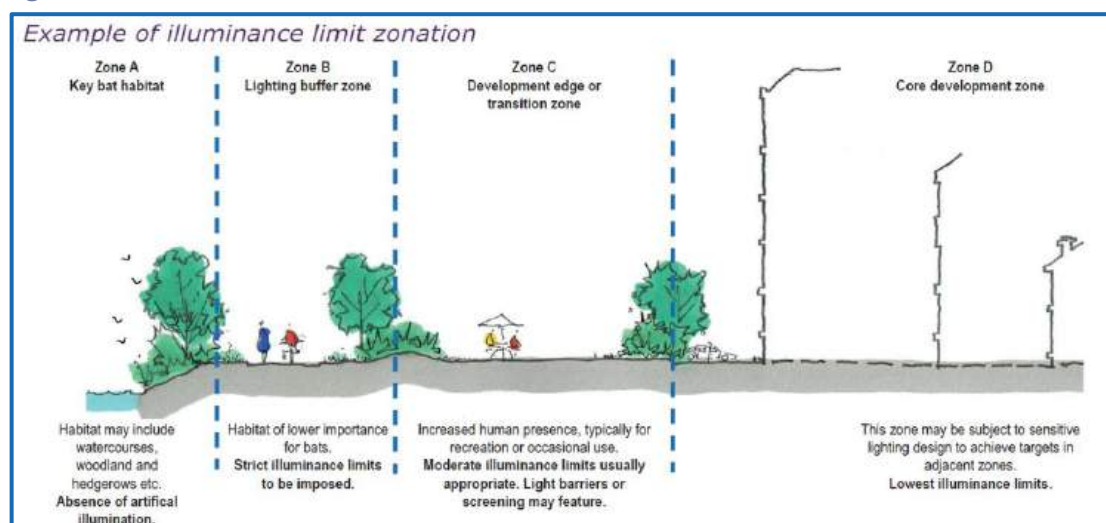


Figure 1: Example of lighting zonation near sensitive boundaries and known ecological habitat

6. DESKTOP STUDY

6.1. Site Description and Context

- 6.1.1. A desktop assessment was completed to understand the Application Sites position within the current lit environment and the landscape.
- 6.1.2. The Application Site is within the Chichester Harbour National Landscape, SSSI and RAMSAR, and is adjacent to several other land designations.
- 6.1.3. A list of designated sites surrounding the Application Site can be seen in the Ecological Impact Assessment produced by Hampshire Ecological Services Ltd in section 4.1.1 (page 2) of this Ecological Impact Assessment.

6.2. Existing lighting Surrounding the Application Site

- 6.2.1. Images showing the existing lighting surrounding the Application Site can be seen in **Figure 2 - Figure 15.**



Figure 2: View of the Street Lighting on Tournerbury Lane



Figure 3: View of the Sections of Tournembury Lane without Street Lighting



Figure 4: View of the Existing Lighting Associated with the Car Park for Coffee on the Green Hayling

- 6.2.2. The following photographs of the lighting surrounding the Application Site were taken by Hampshire Ecological Services Ltd. These photographs were originally published within the Shadow Habitat Regulations Assessment Report (April 2020) within Appendix A.
- 6.2.3. Hampshire Ecological Services Ltd did not publish the camera details or the parameters of the photographs. These images do however provide useful context for the lighting environment surrounding the Application Site.
- 6.2.4. Several of the photographs taken by Hampshire Ecological Services Ltd have used “night mode”. This is exaggerating the levels of light in some of the photographs, but they remain useful for the identification of existing lighting and light presence.

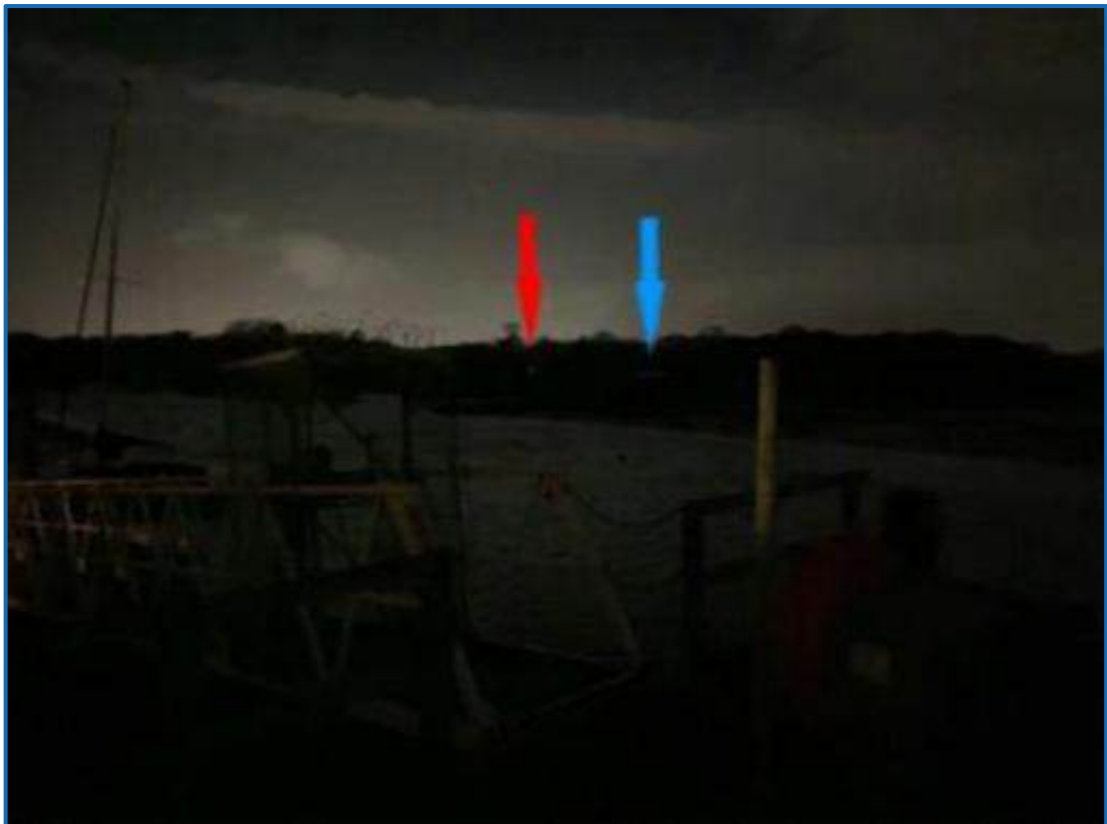


Figure 5: View towards Woods Cottage and the Application Site from Mengham Sailing Club (MRSE). Red Arrow = Woods Cottage, Blue Arrow = marquee.



Figure 6: Wider View of the Harbour Facing Tournerbury Woods Estate from the Hayling Island Sailing Club (HISC) Balcony. Red Arrow = Tournerbury Woods Estate



Figure 7: South View from Tournerbury Woods Estate of Salterns Close and Wilsons Boat Yard. Night Mode is on for the Photograph (night mode used)



Figure 8: View Facing South East from Same Location as Figure 7. Lighting associated with the Wilsons Boat Yard and the Hayling Island Sailing Club is clearly visible. (night mode used)



Figure 9: View of the Floodlighting at Wilsons Boat Yard (Directly South of the Application Site) (night mode used)



Figure 10: View of the Floodlighting at Wilsons Boat Yard (Directly South of the Application Site) (night mode used)



Figure 11: View of Security Lighting for Mengham Rythe Sailing Club. These can also be seen in Figure 8 (night mode used)



Figure 12: View of Security Lighting Associated with Mengham Rythe Sailing Club (night mode used)



Figure 13: Hayling Island Sailing Club after Closing (night mode used)



Figure 14: View of the Security Lighting for Hayling Island Sailing Club (night mode used)



Figure 15: View of the Security Lighting for Hayling Island Sailing Club (night mode used)

- 6.2.6. As can be seen in **Figure 2 - Figure 15** there is a significant presence of lighting surrounding the Application Site. This lighting is primarily associated with local sailing clubs, but lighting associated with surrounding residential dwellings is also visible.
- 6.2.7. **Figure 5 - Figure 15** clearly display skyglow from the surrounding towns and cities. It is clearly visible and would indicate that artificial light has a significant presence in the areas surrounding the Application Site. It has also been noted by Hampshire Ecological Services Ltd that the lighting shown in **Figure 5 - Figure 15** does not benefit from screening, and is clearly visible from within Chichester Harbour and the surrounding area. This is not the case for lighting at Tournerbury Woods Estate, which benefits from significant existing screening as shown in **Figure 5 - Figure 6** as identified by Hampshire Ecological Services Ltd in form of the existing woodland (see appendix A of the Shadow Habitat Regulation Assessment Report April 2020).

6.3. Environmental Zone Classification

6.3.1. The Environmental Zone criteria detailed within **Table 1** and **Table 2** informs the basis of the Lighting Technical Report. Based on the desktop assessment the Application Site is assessed as being within an E1 environmental zone. This is primarily due to the Application Site's location within the Chichester Harbour National Landscape (formally AONB), and this assessment is made disregarding the relatively high levels of lighting in the surrounding areas due to this designation (see example definition in **Table 3**).

Zone	Surrounding	Examples	Limitations		Sky Glow ULR (Max)
			Pre-curfew	Post-curfew	
E1	Natural	Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, etc.	2	0 (1)	0%

Table 3: Limitations of identified environmental zone.

7. IDENTIFIED RECEPTORS

7.1. Ecological

- 7.1.1. Within the Ecological Impact Assessment (June 2020) and the Shadow Habitat Regulations Assessment Report (April 2020) produced by Hampshire Ecological Services Ltd, bats are identified as a receptor to lighting effects. However, the outcome of the Shadow Habitat Regulations Assessment Report (April 2020) is that the lighting associated with the wedding and events venue is unlikely to disturb these identified receptors.
- 7.1.2. For the purposes of this Lighting Technical Report, bats are identified as potentially sensitive ecological receptors.
- 7.1.3. Descriptions of the Potentially Sensitive Ecological Receptors (PSER), can be seen in **Table 4**.

Receptor Type	Receptor No. (Appendix 3)	Description
Ecology	PSER 001	Bats within and surrounding the Application Site

Table 4: Potentially Sensitive Ecological Receptors (PSER)

- 7.1.4. Due to the identification of PSER's within and surrounding the Application Site, guidance from BCT and ILP GN08:2023 informs this Lighting Technical Report.
- 7.1.5. It must be noted that during the ecology surveys, bats and other species were identified on the Application Site while lighting for the weddings and events spaces was in use.
- 7.1.6. Note is also made to wintering waterfowl within the Holbury Consultancy Services – Shadow Appropriate Assessment (November 2021). Within this report research by Hill, D (1992)¹⁰ is referenced. This concludes that artificial lighting can increase opportunities for wintering waterfowl to forage on the intertidal zones, and cites a number of studies where waterfowl of various species readily feed under conditions of artificial light. For these reasons, it is concluded that the lighting at the Tournurbury Woods Estate is unlikely to disturb the overwintering waterfowl for which the Chichester and Langstone Harbours SPA and Ramsar were designated. Neither will it affect the composition of habitats on which the wintering waterfowl rely, or the processes on which these habitats depend. As such, waterfowl are not identified as a receptor to lighting effects.

¹⁰ Hill, D. (1992). The impact of noise and light on waterfowl behaviour: a review and synthesis of the available literature. British Trust for Ornithology.

7.2. Human Amenity

- 7.2.1. Due to the distance of the surrounding dwelling, with the closest being approximately 120m from the Application Site boundary and 250m from any lighting associated with the Tournerbury Woods Estate, no Human Amenity Receptors has been identified.
- 7.2.2. This is also in part due to the significant volumes of existing screening located between any lighting and any potential Human Amenity Receptors (as shown in **Figure 5**).
- 7.2.3. However, due to the Application Sites location within an E1 environmental zone, guidance from ILP GN01:2021 will inform the assessment of any lighting effects and any proposed mitigation, specifically the requirements of Upward Light Ratio.

8. TECHNICAL ASSESSMENT

8.1. Existing Lighting at the Tournurbury Woods Estate Wedding and Events Venue

- 8.1.1. Details of the existing lighting at the Tournurbury Woods Estate Wedding and Events Venue have been provided to inform this Lighting Technical Report.
- 8.1.2. Details of this lighting can be seen in **Figure 16**.



Figure 16: Tournurbury Woods Estate Wedding and Events Venue Lighting Location Map

Notes to **Figure 16**:

Light number 1 – Not included within the lighting assessment. This lighting has been in place for 20+ years and is not part of the planning application. It however does inform the baseline assessment for lighting effects.

Light number 2 – this is venue lighting – only switched on as natural light fades to provide light for any guests accessing Woods Cottage. Downward angle at all times.

Light number 3 – this is venue lighting positioned outside the marquee within lawned area alongside Light number 4. Downward angle at all times.

Light number 4 – as for Light number 3.

Light number 5 – this is venue lighting alongside Light number 6 to the rear of the marquee under trees and lights the entry/exit point to the marquee and car parking area as well as an area close to the fire pit.

Light number 6 – as for Light number 5.

Light number 7 – venue lighting for northern area of car park. Under trees and currently out of order/being repaired. For the purposes of the lighting assessment it is assumed this is functioning.

In addition to the fixed lights indicated on the map the following temporary lights (blue lines/circles on map) are as follows:

2 X 100m strings of festoon lights – one string extends into our camping area and the other is placed around the lawned area to the south of the marquee.

1 X 50m string of festoon lights – this string is only put up if specifically requested by hirers to add additional lighting at the back of the marquee around the fire pit area.

8.1.3. Sample images of the fixed lighting units can be seen in **Figure 17 - Figure 20**.



Figure 17: Image of Light Number 2 from Figure 16



Figure 18: Close up Picture from Underneath Light Number 2 from Figure 16 and Figure 17



Figure 19: Image of Light Number 3 and 4 from Figure 16



Figure 20: Image of Light Number 6 from Figure 16

- 8.1.4. These details have been used to create an indicative horizontal light spill diagram showing the spread of light across the Application Site (**Figure 21** and **Appendix 1**). Any area outside the red line relative to the light, is below 0.2 Lux ("complete darkness" as per BCT ILP GN08:2023).

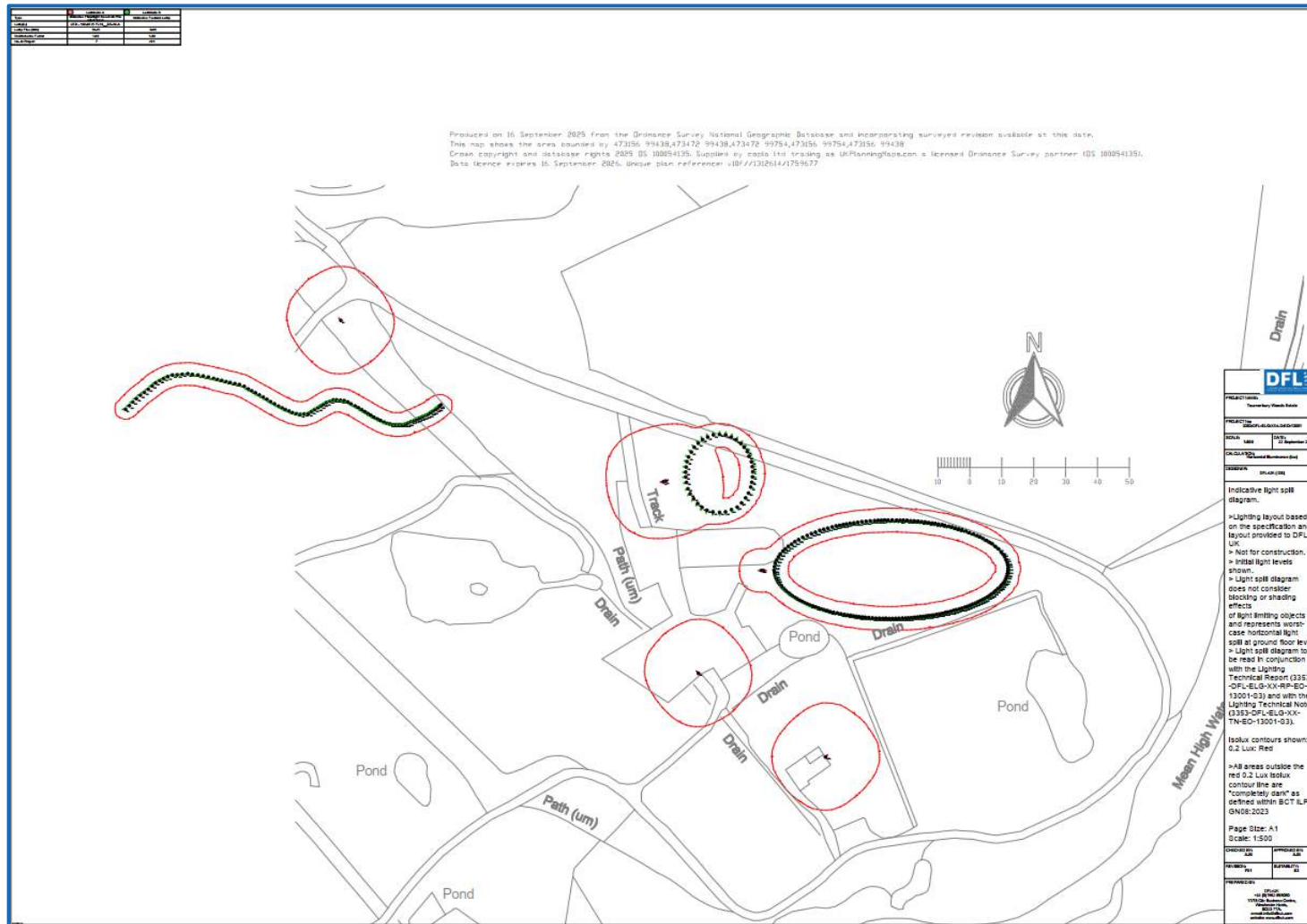


Figure 21: Indicative Horizontal Light Spill Diagram (also see separate file 3353-DFL-ELG-XX-LD-EO-13001 for an A1 version)

8.1.5. The light spill diagram has also been informed by the following documents:

- Wedding guest visitor Management Strategy (September 2023);
- Habitats and Regulations Assessment (HRA) / Screening and Appropriate Assessment (AA) (August 2023);
- Shadow Appropriate Assessment (November 2021 – as now updated October 2025); and
- Ecological Impact Assessment Report (June 2020 – as now updated October 2025).

8.1.6. Mitigation as set out within these documents has been included within light spill diagram and has inform this Lighting Technical Report:

- Outside lighting will be angled to the ground;
- Lighting should avoid spillage of greater than 1 lux onto the trees and woodland
- Future additional lighting must be warm non-UV LED lighting.
- A shield or hood can be used to control or restrict the area to be lit.
- Any new wide-angle lighting will be avoided; and
- Security lighting: lighting of greater than 2000 lumens will not be employed.

8.1.7. To ensure a worst-case assessment has been undertaken, shields or hoods have not been included within the light spill diagram shown in **Figure 21**, a maintenance factor of 1 has been used, and the festoon lighting has also been modelled.

8.1.8. It should be noted that the mitigation detailed in **Paragraph 8.1.6** aligns with obtrusive light guidance for minimising the impact of lighting on potentially sensitive receptors (BCT ILP GN08:2023 and ILP GN01:2021). Including, ecology, residential and environmental receptors, such as Dark Skies and Landscapes.

8.2. Lighting Assessment

8.2.1. As seen in **Figure 21** and **Appendix 1** light levels above 0.2 Lux are contained to relatively small areas, these area surround locations where there is lighting and a need to light for the wedding and events space. The majority of the Application Site remains in “complete darkness”¹¹ as per BCT ILP GN08:2023, which will ensure that bats can continue to commute, forage and roost in and around the Application Site.

8.2.2. Additionally, because the lighting is contained to relatively small areas on the Application Site, the effects of the lighting do not reach the waterfront, large areas of the Application Site are retained in darkness, the lighting is not disturbing overwintering and breeding birds.

8.2.3. It must be noted that the light spill diagram shown in **Figure 21** includes the festoon lighting.

¹¹ This is defined as where illuminance is below 0.2 lux on the horizontal plane and below 0.4 lux on the vertical plane.

- 8.2.4. The approach to lighting is the minimum possible required for security, amenity and the functioning of the wedding and events venue. This directly aligns with the principles set out within the Joint Supplementary Planning Document (SPD) - Chichester Harbour AONB, which does not appear to restrict the use of lighting in its entirety and recognises a need for lighting, on the basis that it is sensitively applied.
- 8.2.5. On the matter of the historical existing security lighting for Woods Cottage (in situ for over 20 years and which does not form part of the Planning Application (**Figure 16** and **Figure 21**)), the lighting associated with Woods Cottage is long established and contributes to the Application Site baseline lighting conditions.
- 8.2.6. As shown in **Figure 21**, lighting associated with the Planning Application retains large areas of the Application Site in “complete darkness” which ensures minimum disturbance to the identified ecology receptors and maintains large dark corridors for use by bats within the Application Site, and does not significantly alter the lighting baseline on the Application Site.
- 8.2.7. In any event, it should also be noted that the Application Site is exceptionally heavily screened by mature long established vegetation cover (mature trees and bushes) which significantly reduces the visibility of potentially obtrusive light spill into the wider landscape setting of the AONB (as shown in **Figure 5** and **Figure 6** identified by Hampshire Ecology Services Ltd).
- 8.2.8. The majority of lighting impact in the vicinity of the Application Site is from third party sources such as residences on Salterns Lane, Wilsons Boat Yard and Mengeham Rythe Sailing Club directly to the South of the Application Site (**Figure 2 - Figure 15**). The latter two properties are fitted with security flood lights mounted at height on the building façade, without mitigation.
- 8.2.9. Based on this, it is assessed that the lighting associated with the wedding and event venue at Tournierbury Woods Estate is not/will not have significant effects on the identified ecology receptors, the Chichester Harbour National Landscape or surrounding residential dwellings.

9. CONCLUSION

- 9.1.1. This Lighting Technical Report has assessed the existing and proposed lighting associated with the Tournerbury Woods Estate wedding and events venue in relation to relevant national, regional, and local policies, as well as applicable environmental and ecological guidance.
- 9.1.2. The analysis demonstrates that lighting on the Application Site is designed and managed to minimise light spill, protect sensitive ecological receptors, and maintain the character of the surrounding Chichester Harbour National Landscape. Light levels above 0.2 lux are contained to small, operational areas, ensuring the majority of the site remains in “complete darkness” as defined by ILP GN08:2023 guidance. Bats, which are identified as key ecological receptors, are therefore not expected to experience significant adverse effects from lighting.
- 9.1.3. Importantly, the lighting includes time/season-limited lighting controls, with security lights fitted with PIR sensors and/or timers to avoid unnecessary operation, and festoon lighting. Combined with downward-facing, warm white lighting and significant vegetative screening, these measures further reduce potential impacts on the environment and nearby receptors.
- 9.1.4. The lighting proposals aligns with the following key policies and guidance:
- Environmental Protection Act 1990 / Clean Neighbourhoods and Environment Act 2005 – ensuring no statutory light nuisance arises.
 - National Planning Policy Framework (2024, amended 2025) – limiting light pollution impacts on local amenity, wildlife, and dark landscapes.
 - Havant Borough Council Core Strategy DM10 – meeting all criteria regarding health, safety, navigation, and minimal illumination levels.
 - Joint Chichester Harbour AONB Supplementary Planning Document (2017) – ensuring lighting is the minimum necessary for security and operational needs, with mitigation applied to protect the AONB character.
 - Institution of Lighting Professionals Guidance (GN01:2021, GN08:2023) – adopting best practices for obtrusive light reduction and wildlife protection.
- 9.1.5. Overall, this assessment concludes that the lighting associated with the Tournerbury Woods Estate is acceptable in planning terms, complies with all relevant legislation and guidance, and will not result in significant adverse effects on ecology, human amenity, or the surrounding landscape character. Furthermore, there is no intention to alter, or increase the quantity of lighting on site.

APPENDIX 1

LIGHT SPILL DIAGRAM

See accompanying document: 3353-DFL-ELG-XX-LD-EO-13001

TECHNICAL DESCRIPTIONS, DEFINITIONS AND ABBREVIATIONS

PHAR: is an abbreviation for a potential human amenity receptor, a location where an observer could have the potential to be affected by the proposed lighting to be installed [Abbreviation used by DFL LI and P.](#)

PSER: is an abbreviation for an area identified as or treated as a location that may host a potentially sensitive ecological receptor. This is generally used where light sensitive bats have the potential to live, forage or use as a flight path, other ecologically sensitive receptors such as (but not limited to) the Great Crested Newt may also be identified by this term. [Abbreviation used by DFL LI and P.](#)

PSR: is an abbreviation for an area where an individual maybe susceptible to light brightness (Light intensity) which may have the potential to cause a hazardous situation. [Abbreviation used by DFL LI and P.](#)

Obtrusive Light: refers to excessive or bothersome artificial light that goes where it shouldn't, causing discomfort and disruption. *Spill light which because of quantitative, directional or spectral attributes in a given context gives rise to annoyance, discomfort, distraction or reduction in the ability to see essential information.* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Sky glow: When lights are directed upwards or light is scattered by particles in the air, like dust or water droplets, it creates a glow that makes it hard to see stars. *The increase in diffuse illuminance of the night sky above that produced by natural sources such as the moon and visible star.* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Vertical Illuminance: is how much light lands on upright surfaces like walls. It's measured in lux or footcandles and matters for places where the view from a vertical angle is important. *Lighting of vertical surfaces such as walls, windows, statues, sculptures and people's faces.* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Correlated colour temperature (CCT): the appearance of light emitted by a light source measured in Kelvin (K), Lower CCT values such as 2700K represent warmer, more yellowish light, *similar to the light from older incandescent lamps. (Tcp)The temperature of the Planckian radiator whose perceived colour most closely resembles that of a given stimulus at the same brightness and under specified viewing conditions, measured in absolute temperature on the kelvin (K) scale.* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Lux: measures the brightness of light as perceived by the human eye at a specific point on a surface. *The SI derived unit of illuminance, measuring luminous flux per unit area (1 lux = 1 lumen/m²).* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Lumens: measure how bright a light appears to our eyes. The SI derived unit of luminous flux; a measure of the total quantity of visible light emitted by a source or received by a surface (unit: lumen). [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Glare: refers to an excess of bright light that makes you uncomfortable or hinders your vision. It happens when there's a big difference between a bright light and the rest of the surroundings. *Glare: condition of vision in which there is discomfort or a reduction in the ability to see details or objects, caused by an unsuitable distribution or range of luminance, or by extreme contrasts.* [BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.1.8](#)

Luminous intensity: is light brightness or how intense the light source is. light intensity is how intense a light source is emitted or received in a particular direction, this is measured candelas and is termed as luminous intensity I_v <of a source, in a given direction> quotient of the luminous flux, $d\Phi_v$, leaving the source and propagated in the element of solid angle $d\Omega$ containing the given direction, by the element of solid angle (unit: $cd = lm \cdot sr^{-1}$). BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.2.2.

Candela: is a measurement for the brightness of a light source, taking into account the direction in which the light is emitted. Base unit of luminous intensity in the International System of Units (SI); the luminous power per unit solid angle emitted by a point light source in a particular direction. CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.

Uniformity (Uo): is an explanation for the even distribution of light across an area or surface. The overall uniformity shall be calculated as the ratio of the lowest luminance, occurring at any grid point in the field of calculation, to the average luminance. BS EN 13201-3-2015, Calculation of Performance Section 8.3.

Luminance: is how bright a surface appears to our eyes. It considers the light coming from or reflected by an object. L_v <in a given direction, at a given point of a real or imaginary surface> quantity defined by the formula (unit: $cd \cdot m^{-2} = lm \cdot m^{-2} \cdot sr^{-1}$) BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.2.3.

Illuminance is how much light lands on a surface per square meter. It's measured in lux. More lux means a brighter area. E_v (unit: $lx = lm \cdot m^{-2}$) 1. <at a point of a surface> quotient of the luminous flux $d\Phi_v$ incident on an element of the surface containing the point, by the area dA of that element 2. <at a point of a surface> equivalent definition: integral, taken over the hemisphere visible from the given point, of the expression. BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.2.10.

Luminaire: a light fixture, this is also sometimes referred to as a lantern or a light fitting, is a product that produces artificial light. apparatus which distributes, filters or transforms the light transmitted from one or more lamps and which includes, except the lamps themselves, all the parts necessary for fixing and protecting the lamps and, where necessary, circuit auxiliaries together with the means for connecting them to the electric supply BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.3.3

ULOR: upward light output ratio or ULOR refers to the amount of light the light fixture will produce upwards as a percentage of its total light output. $RULO$ <of a luminaire> ratio of the upward luminous flux of the luminaire, measured under specified practical conditions with its own lamp(s) and equipment, to the sum of the individual luminous fluxes of the same lamp(s) when operated outside the luminaire with the same equipment, under specified conditions BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.3.12.

Maintenance factor (MF): is an allowance for how well the lights keep working overtime. It considers things like dirt on the light fittings and "wear and tear". DEPRECATED: light loss factor ratio of illuminance produced by the lighting installation after a certain period to the illuminance produced by the installation when new Note 1 to entry: The term depreciation factor has been formerly used to designate the reciprocal of the above ratio. Note 2 to entry: The maintenance factor takes into account light losses caused by dirt accumulation on luminaires and room surfaces (in interiors) or other relevant surfaces (in exteriors, where appropriate), and the decrease of the luminous flux of lamps. BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.5.18.

Tilt: is how much the luminaire is lifted based on the fitting facing flat to the ground.

Outreach: how far away the fitting is from the column/wall its mounted on to the light source.

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Daniel Spreadborough
Principal Engineer



+44 (0)1962 855080



daniel.spreadborough@dfl-uk.com



www.dfl-uk.com/



17/18 City Business Centre, Hyde Street, Winchester, Hampshire, SO23 7TA