

Environmental Statement Appendix 13.1: Lighting Impact Assessment

Gundrys Farm Caravan Park

On behalf of Royale Parks (Dorset) Limited

March 2026





Lighting Impact Assessment:

Gundry's Farm, Three Legged-Cross

Laister Planning Ltd

31st March 2026

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Gundry's Farm, Three-legged Cross

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Report Details:

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V2	31 st March 2026	Minor Revisions	Fiona Elsley BSc	Nick Hawkins MSc MIOA MIAQM

This report has been prepared by Hawkins Environmental Limited for the sole purpose of assisting in gaining planning consent for the proposed development described in the introduction of this report.

This report has been prepared by Hawkins Environmental Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This assessment takes into account the prevailing conditions at the time of the report and assesses the impact of the development (if applicable) using data provided to Hawkins Environmental Limited by third parties. The report is designed to assist the developer in refining the designs for the proposed development and to demonstrate to agents of the Local Planning Authority that the proposed development is suited to its location. This should be viewed as a risk assessment and does not infer any guarantee that the site will remain suitable in future, nor that there will not be any complaints either from users of the development or from impacts emanating from the development site itself.

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1. INTRODUCTION

Hawkins Environmental Limited has been instructed by Laister Planning Ltd to undertake a Lighting Impact Assessment for the further development of land for leisure and tourism covering more than 1 hectare at Gundry's Farm, Three-legged Cross, Dorset.

The site has historically been used for 73 days of rallies per year between March and October. Data provided by the previous and current owners indicate that the rallies attracted around 30 caravans, but that around 10% of those rally days attracted over 100 caravans to the site. For the remainder of the time, the site is used for agricultural purposes.

Dorset Council allege that there has been an unauthorised change of use from a “a lawful mixed use of agriculture and a caravan site for exempt organisations” to “a mixed use of agriculture and an unauthorised caravan site consisting of:

- i. The stationing of caravans (with or without awnings), motorhomes, campervans, trailer-tents and tents for the purpose of human habitats; and
- ii. The storage of caravans,
- iii. The keeping of donkeys”.

Dorset Council assert that “The unauthorised integral operational development consisting of the following:

- i. Hard standings and tracks;
- ii. Toilet and shower blocks;
- iii. Sceptic [sic] Tanks
- iv. Electrical hook-up equipment;
- v. Fire hydrants;
- vi. A water/waste water facility
- vii. Location signs.
- viii. Animal shelter and concrete base”

This Lighting Impact Assessment assess the likely effects of the unauthorised development, including fixed lighting headlights of traffic and internal caravan lighting required for the site Gundry's Farm, Three-legged Cross, Dorset BH21 6RU.

The purpose of this report is to assess the effects resulting from artificial lighting that will be required for safe and secure operation of the application site. Potential effects of the installed lighting have been assessed against the existing baseline conditions contributed by the luminaires.

Obtrusive light or light pollution is any light that strays to areas other than where it is intended and can include light intrusion (spill light) into neighbouring properties, upward light (which can create sky glow) and visual source intensity (glare). It could also create effects upon ecological receptors in the area, particularly with respect to bat roosts and foraging corridors.

The assessment adheres to the principles of Government planning policy in relation to lighting, specifically enacted by the *National Planning Policy Framework (NPPF)*.

The recommended approach for assessing the impacts of lighting, specifically the Institution of Lighting Professionals “*Guidance Note 1 for the Reduction of Obtrusive Light* (GN01:2021) and the Institution of Lighting Professionals PLG 04 document “*Guidance on Undertaking Environmental Lighting Impact Assessments*”.

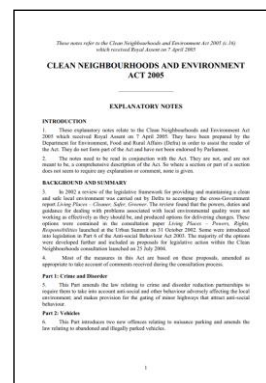
The assessment has been carried out in accordance with the published guidance documents from the ILP. These quantify the levels of direct upward light, light intrusion, viewed source intensity and glare regarded as acceptable for varying environmental zones. This report is to the support the appeal to ensure there are no negative effects on any surrounding receptor.

2. NATIONAL & LOCAL PLANNING POLICY

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

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:

“Artificial light emitted from premises so as to be prejudicial to health and nuisance constitutes a ‘Statutory 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)

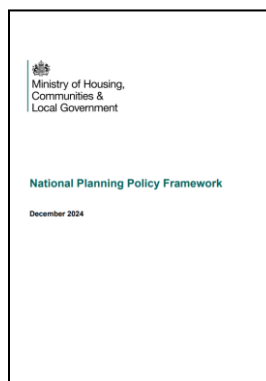
The National Planning Policy Framework (NPPF) was first published on the 27th March 2012 and revised July 2018, February 2019, July 2021, September 2023, December 2023 with the latest version published in December 2024.

The NPPF outlines the Government's planning policies for England and determines how they should be applied. It provides a framework within which Local Planning Authorities are required to prepare their own locally-prepared plans, where both the policies within the NPPF and the local plan are material planning considerations against which planning decisions are determined. These distinctive local and neighbourhood plans should be interpreted and applied in order to meet the needs and priorities of their communities.

The NPPF notes *“The purpose of the planning system is to contribute to the achievement of sustainable development, including the provision of homes, commercial development, and supporting infrastructure in a sustainable manner”* (Paragraph 7). The NPPF notes sustainable development should be delivered with three main dimensions: economic; social and environmental (Paragraph 8).

The NPPF supports a presumption in favour of development, unless the adverse impacts of that development outweighs the benefits it notes *“that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development”* (Paragraph 10).

With regard to light pollution, the NPPF was updated in December 2024, section 198 states that the following elements are to be considered: *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: a) 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; b) 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 c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation. “

2.3. Planning Practice Guidance (2019)

The Light Pollution Planning Practice Guidance (NPPG) was launched on 6th March 2014 and has undergone regular revision, with the most recent changes to Noise Guidance published in November 2019. The PPG provides additional guidance and interpretation to the Government's strategic policies, outlined within the NPPF, in a web-based resource. The PPG provides guidance for assessing the effects of proposed artificial lighting.

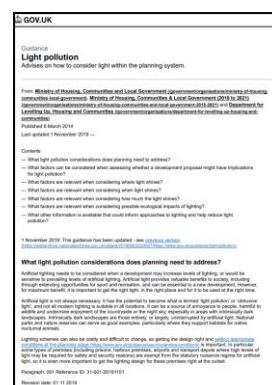
The guidance states:

“Artificial lighting needs to be considered when a development may increase levels of lighting, or would be sensitive to prevailing levels of artificial lighting. Artificial light provides valuable benefits to society, including through extending opportunities for sport and recreation, and can be essential to a new development. However, for maximum benefit, it is important to get the right light, in the right place and for it to be used at the right time”.

The PPG notes:

- *“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?*
- *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.)*

If the answer to any of the above questions is ‘yes’, local planning authorities and applicants should think about:

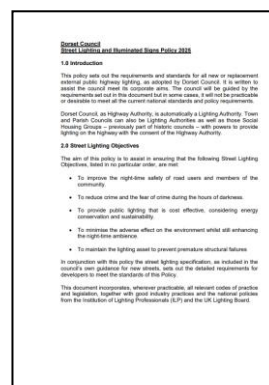


- *where the light shines;*
- *when the light shines;*
- *how much light shines; and*
- *possible ecological impacts”.*

2.4. Dorset Council - Street Lighting and Illuminated Signs Policy (2025)

Dorset Council's Street Lighting and Illuminated Signs Policy (2025) sets out local objectives for external lighting, emphasising the need to balance safety and security with protection of the environment and minimisation of obtrusive light. The policy incorporates an Environmental Zoning System, which guides the acceptable levels of upward light, light spill, and glare in different areas, and reflects best practice standards consistent with national guidance such as the Institution of Lighting Professionals (ILP) GN01 and PLG04.

Dorset Council also provides guidance on light nuisance, recommending that luminaires are appropriately angled, shielded, and controlled to reduce light spill and intrusion into neighbouring properties. Local development plan policies further support the principle that external lighting should be limited to what is necessary, designed to minimise light spill, glare, and adverse effects on amenity, landscape character, and ecological receptors.



3. LIGHTING GUIDANCE

3.1. Guidance Note 01: The Reduction of Obtrusive Light (GN01:2021)

Published in 2021 by the Institution of Lighting Professionals (ILP), “*Guidance Note 1 for the reduction of obtrusive light*” (known as GN01) provides advice on guidance regarding ensuring obtrusive light and light pollution is kept to a minimum. Any Lighting Strategy shall be informed by this industry guidance note which aims to reduce the potential for obtrusive light to occur.

GN01 outlines the main considerations when considering artificial light within a proposed development. Some of these considerations are highlighted in **Figure 3.1**.

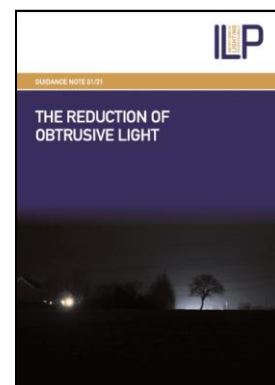
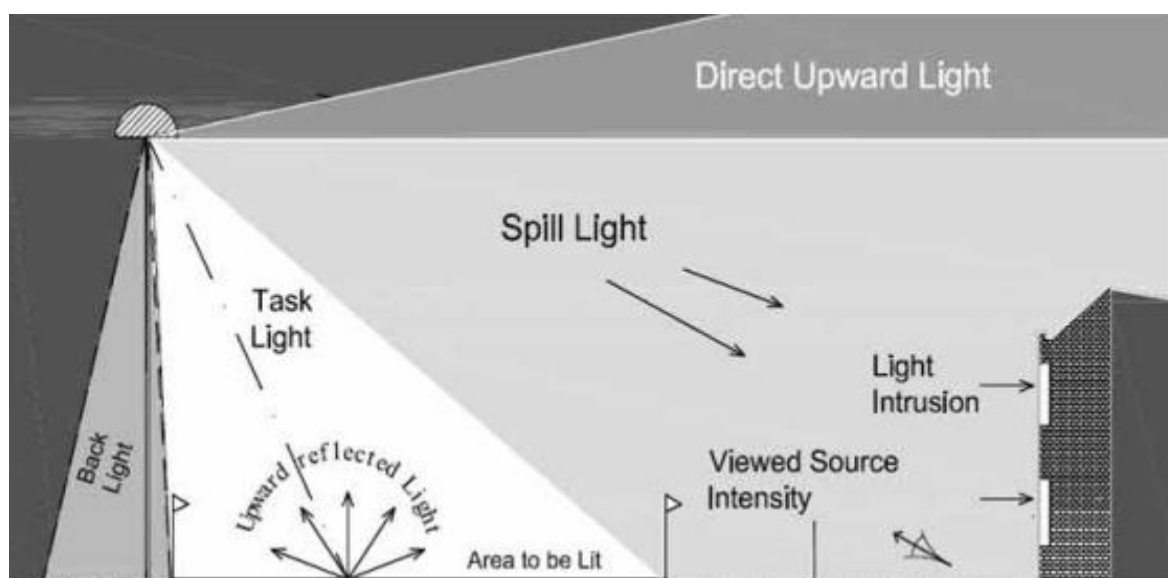


Figure 3.1: GN01 Light Spill



One of the concepts introduced in the ILP Guidance Note is how different “*Environmental Zones*” can be used to characterise different lighting environments, which can then be used to inform lighting design and lighting control. Environmental Zones E0 to E4 are identified in **Table 3.1** below.

Table 3.1: GN01 Environmental Zones

Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark (SQM 20.5+)	Astronomical Observable dark skies, UNESCO starlight reserves, IDA dark sky places
E1	Natural	Dark (SQM 20 to 20.5)	Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc.
E2	Rural	Low district brightness (SWM ~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 of suburban locations
E4	Urban	High district brightness	Town / City centres with high levels of night-time activity

Note 1-Where an area to be lit lies close to the boundary of two zones the obtrusive light limitation values used should be those applicable to the most rigorous zone (see comment below)

Note 2 -Rural zones under protected designations should use a higher standard of policy

Note 3- Zone E0 must always be surrounded by an E1 Zone

Note 4- Zoning should be agreed with the local planning authority. Due to local requirements a more stringent zone classification may be applied to protect special / specific areas

Note 5 -SQM (Sky Quality Meter) is referenced by the International Dark Skies Association (IDA). SQM is an instrument used to measure the luminance of the night sky. It is typically used by astronomers to quantify skyglow, using units of magnitudes per square arcsecond. the scale is between 16:00 (a bright night sky) and 22:00 (the least light pollution). The criteria for zone E0 was revised in mid 2019, with the new requirements not being made retrospective

Note 6- Astronomical Observable Dark Skies will offer clearer views of the Milky Way and of other objects such as the Andromeda Galaxy and the Orion Nebula

Note 7- Although values of SQM 20 to 20.5 may not offer clear views of astronomical dark sky objects such as the Milky Way, these skies will have their own relative intrinsic value in the UK

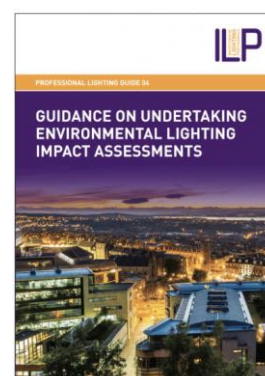
3.2. Professional Lighting Guide 04: Guidance on Undertaking Environmental Lighting Impact Assessments (2013)

Institution of Lighting Professionals (ILP) PLG 04 "Guidance on Undertaking Environmental Lighting Impact Assessments" (published in 2013) provides the guidance on how to conduct lighting impact assessment. PLG 04 notes:

"...this document is designed to provide an explanation of, and guidance on, the process for producing a Lighting Assessment...to remove or minimise environmental problems"

PLG 04 recommends completion of the following to inform the assessment:

- Desk based assessment of the project area and its surrounds. The desk-based assessment will comprise a review of relevant legislation and development plan policy to determine the key lighting policy at a regional and local level. The location



of light sensitive receptors in and surrounding the project area will be identified with input from the project landscape/visual and ecology teams and will consider both construction and operational lighting.

- A baseline nighttime (plus daytime survey if required) lighting survey (if required) will be carried out using digital light meters to determine existing light conditions in the vicinity of the project and to classify the relevant Environmental Zone.
- Obtrusive light modelling of the project lighting design or a lighting strategy will be carried out based on the worst-case scenario.
- The modelling results will be used to inform the Lighting Impact Assessment based on the significance criteria presented in PLG 04.
- The assessment of the cumulative effects of the project in combination with other relevant developments.

PLG 04 provides obtrusive light limits based on the Environmental Zone which should be applied to all new lighting in an area. **Table 3.2** summarises these limits below.

Table 3.2: Obtrusive Light Limitations for Exterior Lighting Installations

Environ. Zone	Sky Glow ULR (Max %)	Light Intrusion (into Windows) E _v (lux)		Luminaire Intensity I (candelas)		Building Luminance Pre-curfew
		Pre-curfew	Post-curfew	Pre-curfew	Post-curfew	
E0	0	0	0	0	0	0
E1	0	2	0 (1 *)	2,500	0	0
E2	2.5	5	1	7,500	500	5
E3	5.0	10	2	10,000	1,000	10
E4	15	25	5	25,000	2,500	25

Notes to table:

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

E_v is Vertical Illuminance in Lux;

I is Luminance in Candelas per square metre; and

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.

() Permitted only from Public road lighting installations up to a maximum of 1.0 lux.*

PLG 04 suggests that Lighting Impact Assessment report should follow a number of specific stages:

1. Site Description (including identification of Environmental Zones)
2. Method of Assessment

3. Baseline Assessment
4. Proposed Development (including details of the design and limits)
5. Residual Effects (i.e. outlining the changes caused by lighting)
6. Potential Mitigation
7. Conclusions

PLG 04 also provides guidance on the effect descriptors, for both positive and negative effects. **Table 3.3** summarises these descriptors.

Table 3.3: PLG 04 Effects Table (replicated from PLG04)

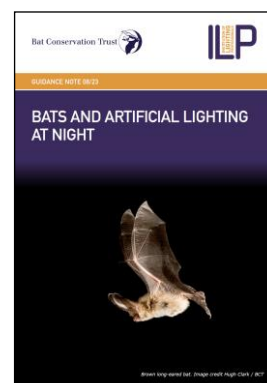
Nature	Level	Descriptions	Remedial needs
Positive	Major/substantial beneficial effects	Significant improvement in night environment and/or reductions in glare, spill light and sky glow	None
	Moderate beneficial effects	Noticeable improvement in night environment and/or reductions in glare, spill light and sky glow	
	Minor beneficial effects	Slight improvement in night environment and/or reductions in glare, spill light and sky glow	
Neutral	None/negligible	No significant effect or overall effects balancing out	None
Negative	Minor adverse effects	Slight increase in visibility of site, glare and sky glow etc	Development appropriate levels and type of mitigation
	Moderate adverse effects	Noticeable increase in visibility of site, glare and sky glow etc	
	Major adverse effects	Significant increase in visibility of site, glare and sky glow etc	

PLG 04 provides guidance on assessing significance of impacts. The guidance notes that the magnitude of an impact and its significance are not necessarily linked. It notes *“increased lighting levels may be substantial, but if the local sensitivity to light is low, the significance may be low. Conversely, even a small change in a sensitive location may have important consequences and must be addressed”*.

3.3. Bats and Artificial Lighting in the UK (2018)

"Bats and Artificial Lighting in the UK", published by the Bat Conservation Trust and Institution of Lighting Professionals (GN08/18) in 2018, provides guidance for artificial lighting and bats. The guidance 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 at or below 0.2 lux on the horizontal plane, and at or 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".



4. SITE DESCRIPTION

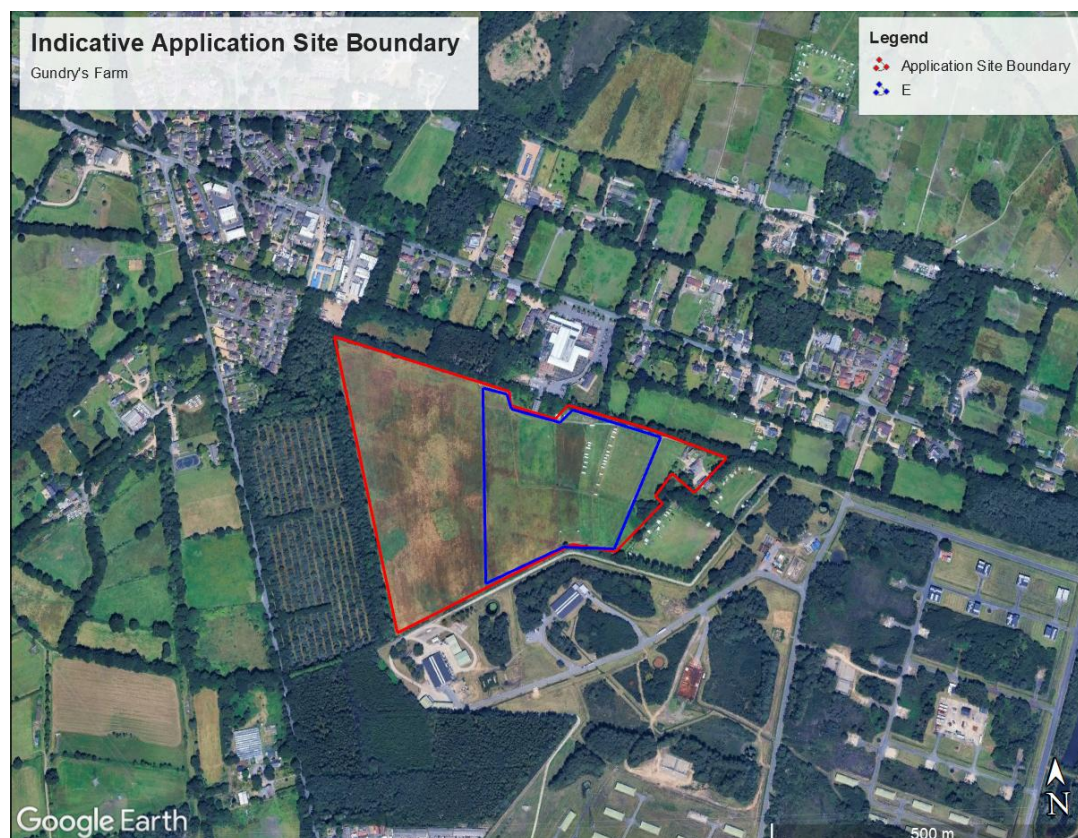
4.1. Overview

The access to the entire site is via School Lane, located at the north-eastern end of the land ownership. Immediately north of the site is a garden centre. To the east and south is a military installation. To the north, there is a single dwelling located along School Lane as well as some agricultural fields. Beyond this, School Lane, the site's access, leads to the B3072 Ringwood Road, which runs roughly north-east to south-west, and hosts a series of parcels containing either residential or commercial properties. The B3072 Ringwood Road leads to the main part of Three-Legged Cross to the north-west of the appeal site. To the west of the site is a woodland plantation, and beyond is agricultural fields.

Currently, the site is being used as a caravan park. There are currently a few adjoining buildings which are used as service areas for guests. The field in question for the expansion was previously just used for pasture. The alleged unauthorised development has seen the implementation of around 116 electrical hookup bollards, each fitted with a light. This report is to support the appeal to ensure there are no negative effects on any surrounding receptors as a consequence of these lights.

The site is subject to a planning appeal following the alleged unauthorized change of use without planning permission. As such, this assessment focuses specifically on the fields marked "E" in **Figure 4.1**, which comprise the camping area and are the main area of interest for the development.

Figure 4.1: Existing Site Location Plan



4.2. Study Area

The desktop study area was determined by assessing the potential receptors that could be affected by a change in artificial lighting. This included nearby existing residential development, roadways, and any identified ecology receptors.

There are some existing residential properties near the site which are considered potentially sensitive to changes in lighting; with receptor locations indicated in **Appendix 1**. Ecological receptor close to the site are shown in **Appendix 2**.

Human Amenity Receptors

- 01 - Dwellings on Ringwood Road (East of Garden Centre)
- 02 - Dwellings on Ringwood Road (West of Garden Centre)
- 03 - Dwellings West Moors Lane

Ecological Receptors

- 04 – Wood on Western Boundary
- 05 - Holt and West Moors (SSSI) / Dorset Heathlands (Ramsar)

Ecological receptor 04, located to the west of the site does not have any ecological designations. However, the ecological survey for the site has noted this area has the potential for bat activity and therefore would require assessment in relation to lighting.

4.3. Classification of Environmental Zone

The development site is an existing Caravan and camping park to the south of Three-Legged Cross. The site can be characterised as “*Rural small village, relatively dark urban locations*”. It is considered that the Application Site is described as exhibiting ‘*Low District Brightness*’. According to the ILP Guidance Notes for the Reduction of Obtrusive Light (GN01), the site falls within **Environmental Zone E2**.

5. METHOD OF ASSESSMENT

5.1. Methodology

The assessment has been carried out in accordance with the published guidance documents from the ILP. These quantify the levels of direct upward light, light intrusion, viewed source intensity and glare regarded as acceptable for varying environmental zones.

The Lighting Impact Assessment is desk-top based. The methodology employed for this assessment is appropriate to the location of the site. It comprises a desk-top study of the legislative, policy and guidance context; consultation with the design team; a desk-top survey in which the baseline conditions were estimated based on industry guidance; confirmation of the general expected light levels for the relevant Environmental Zone in which the site is located; evaluation of the likely effects of the approved lighting using appropriate assessment criteria; indicative layout and associated light spill modelling.

The methodology takes guidance from the Institution of Lighting Professionals PLG 04 document “*Guidance on Undertaking Environmental Lighting Impact Assessments*”. This sets out industry best practice for conducting the assessment.

The desktop study involved research into relevant legislation, policy and guidance relating to obtrusive light. It also involved studying of ordnance survey maps, plans and aerial photography views to identify likely receptor locations.

5.2. Potential Effects from Artificial Light

The following potential effects can arise from inappropriately designed artificial lighting:

- **Effects from light intrusion from exterior lighting on residents (through windows)**

Light intrusion (or light spill) is the term for the spilling of light beyond the boundary of the area being lit. The ILP Guidance Notes places a limit on the amount of vertical Illuminance which falls upon the centre of a dwelling window. The suggested maxima values quoted are relative to the amount of light measured as a baseline without the presence of the obtrusive light source.

- **Effects from luminous source intensity on residents and sightseers**

ILP GN01/21 advises limits luminous source intensity from luminaires to an observer. The greatest effects are usually encountered from poorly aimed floodlights or security lighting, or from lighting which is located too close to properties.

- **Effects from upward light (or sky glow)**

Light emitted above the horizontal either directly from luminaires or indirectly as reflected light from surfaces such as the landscape or buildings, has the potential to cause sky glow. The ILP “*Guidance Notes for the Reduction of Obtrusive Light*” places limits on the percentage of direct upward light emitted from the luminaires in their installed attitude, which is dependent upon the Environmental Zone in which the site lies. Indirect upward light is subject to surface reflectance properties. It is not easily quantifiable but is unlikely to be as significant as direct upward light from luminaires.

- **Effects from disability glare on transport users**

The lighting is designed to be installed such that glare is minimised in accordance with the ILP guidance notes.

5.3. Obtrusive Light Limitations

In the absence of suitable statutory guidance, the ILP “*Guidance Notes for the Reduction of Obtrusive Light*” GN01:2021 is typically used, to provide suitable assessment criteria against which to assess the likely effects of artificial lighting.

The relevant criteria of upward light, light intrusion and direct source intensity are outlined in **Table 3.2**.

5.4. Significance Criteria

The significance of an effect from artificial lighting has been based upon the sensitivity of the receptor and the magnitude of change at that receptor due to the revised conditions.

PLG 04 provides guidance on assessing the magnitude of an impact (as described in **Table 3.3**) and the significance of impacts. The guidance notes that the magnitude of an impact and its significance are not necessarily linked. It notes “*increased lighting levels may be substantial, but if the local sensitivity to light is low, the significance may be low. Conversely, even a small change in a sensitive location may have important consequences and must be addressed*”.

Consequently, one must assess the sensitivity of a receptor in order to determine significance. PLG 04 and GN01 does not specifically provide guidance on receptor sensitivity. However, it does hint that the Environmental Zone would play a factor (e.g. E0 would be more sensitive to changes in lighting than E4), as well as the type of receptor itself.

6. BASELINE CONDITIONS

The surrounding area exhibits low levels of ambient lighting due the limited examples of Street Lighting within the wider area. The adjacent Ringwood Road is unlit, as is the Garden Centre, to the north of the proposed development site. There are examples of amenity lighting on the surrounding properties, these will be installed by the occupant for wayfinding, security and amenity.

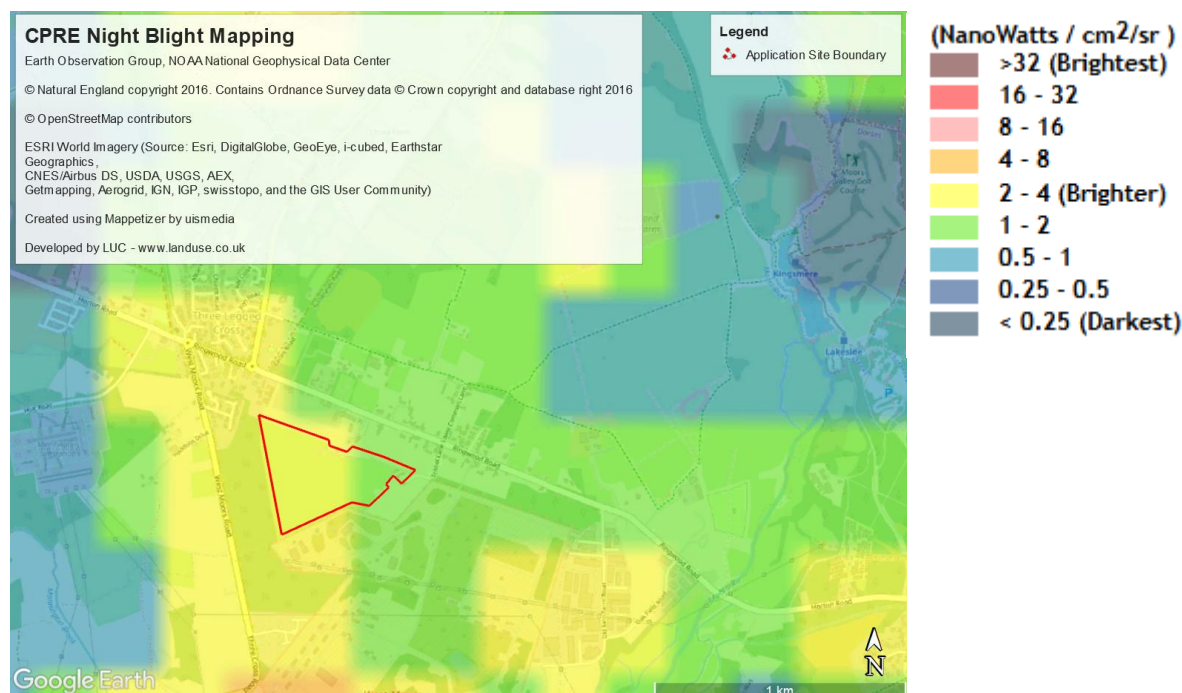
It should be noted that the development site has an established use as a campsite. The site has historically been used for 73 days of rallies per year between March and October. Data provided by the previous and current owners indicate that the rallies attracted around 30 caravans, but that around 10% of those rally days attracted over 100 caravans to the site. For the remainder of the time, the site is used for agricultural purposes. Consequently, some light impacts associated with camping use (for example lights from vehicles and from caravans) is already evident.

CPRE night blight mapping (available at <https://nightblight.cpre.org.uk/maps/>) shows low levels of skyward radiance within and around the site. The mapping for the area is presented in **Figure 6.1**.

The night blight data indicates that the application site is consistent with an **E2 Environmental Zone**, exhibiting “*Low district brightness*” and an average baseline luminance typical of small town or urban locations.

The ecological assessment applies an Environmental Zone E1 classification at the boundary with the designated sites, reflecting the intrinsically dark character and ecological sensitivity of these areas. The limited scale and directional nature of the lighting, together with the distance to the designated sites and intervening landscape features, means that light spill into these habitats is expected to be minimal.

Figure 6.1: CPRE Night Blight Mapping



7. PROPOSED DEVELOPMENT

7.1. Overview

The following section summarises the proposed development and the already installed lighting design. As previously noted, the site has an established use as a campsite; however, it has been noted that as part of the alleged unauthorized development, electrical hook-up equipment, which includes integrated lighting, has been installed. This section considers this lighting.

7.2. Lighting Criteria

There are no specific quantitative lighting standards applicable to the site, as the lighting provided is not intended to support defined work activities or operational tasks, but is limited solely to basic wayfinding, amenity, and security purposes during hours of darkness.

Due to the nature of the development and the context of the application being subject to appeal, no additional external lighting infrastructure will be installed or upgraded. The lighting provision is therefore limited to what is already present on site, which comprises:

- Electrical hook-up points supplying temporary or low-level lighting where required.
- Wall-mounted luminaires attached to retained buildings; and
- Localised luminaires positioned at elevated points for basic amenity and security illumination.

The existing lighting is positioned to provide minimal illumination for wayfinding, enabling users to safely orientate themselves and identify access routes, building entrances, and potential hazards during periods of low light. It is not designed to provide uniform lighting coverage, nor to achieve any specific maintained average illuminance across the site.

Given the absence of formal operational activities, vehicle loading areas, or defined working zones, the lighting does not need to meet prescribed lux levels or uniformity ratios. Instead, the emphasis is on low-intensity, discreet illumination, sufficient only to support safe navigation and deter unauthorised access, without encouraging prolonged or intensive use of the site after dark.

The limited scale and fixed nature of the existing luminaires also ensure that light spill, glare, and upward light emission are inherently constrained. Lighting is confined to the immediate vicinity of retained buildings and circulation routes, thereby minimising any potential impact on neighbouring properties, ecological receptors, or the wider night-time environment.

As no further lighting installations are proposed or permitted, adaptive lighting controls, upgrades, or re-aiming strategies cannot be implemented. The current lighting arrangement therefore represents the maximum extent of illumination that will be present on the site.

In summary, the lighting provision is intentionally modest and functional, reflecting the wayfinding-only requirement, the appeal constraints, and the need to avoid unnecessary environmental impact. The approach aligns with the general principles of UK lighting best practice by providing only the minimum level of light necessary, without invoking formal lighting standards that are not relevant to the site's use or context.

7.3. Environmental Lighting Limits

Based on an Environmental Zone of E2, **Table 7.1** outlines the obtrusive lighting limits for this site. The criteria shown are the maximum parameters for obtrusive light emanating from the development site, based upon the Environmental Zone.

Table 7.1: Obtrusive Light Limitations for Exterior Lighting Installations

Environ. Zone	Sky Glow ULR (Max %)	Light Intrusion (into Windows) E _v (lux)		Luminaire Intensity I (candelas)		Building Luminance Pre-curfew
		Pre-curfew	Post-curfew	Pre-curfew	Post-curfew	
E2	2.5	5	1	7500	500	5

Notes to table:

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

E_v is Vertical Illuminance in Lux;

I is Luminance in Candelas per square metre; and

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.

() Permitted only from Public road lighting installations up to a maximum of 1.0 lux.*

7.4. Lighting Strategy

The development has lighting at pitches and amenity spaces for safety, amenity and wayfinding only during the hours of darkness. Lighting installed is fit for purpose while remaining sensitive to nearby human and ecological receptors.

Illumination will be provided using illuminated electric hookup bollards with have small integrated bulkhead style luminaires, installed at a height not exceeding 1.4m. Since photometry is not available of the installed lighting, indicative luminaires with similar characteristics have been modelled to ensure appropriate coverage.

The lighting design aims to ensure that all illuminated areas are safe and accessible while remaining with the light limits for the site's E2 Environmental Zone. Areas of the site that do not require lighting will remain unlit, further reducing potential impacts.

Table 7.2 and **Table 7.3** summarises the current lighting strategy for Gundry's Farm, highlighting the locations, types of luminaires, and operational requirements for each area

Table 7.2: Recommended Lighting Strategy - A

Location	Electric Hook up
Correlated Colour Temperature	4000K
Light Source	LED (Light Emitting Diode)
Height	1.4m (No Greater than)
Mounting Arrangement	Illuminated Bollard
Luminaire Tilt	30 degrees
Upward Light Ratio	0%
Example Luminaire	
Controls Options	Photocell Controlled- To be in use during the hours of Darkness only

Table 7.3: Recommended Lighting Strategy - B

Location	Amenity Areas
Correlated Colour Temperature	4000K
Light Source	LED (Light Emitting Diode)
Height	2m (No Greater than)
Mounting Arrangement	Column Mounted
Luminaire Tilt	30 degrees
Upward Light Ratio	0%
Example Luminaire	
Controls Options	Photocell Controlled- To be in use during the hours of Darkness only

8. LIGHTING IMPACT ASSESSMENT

8.1. Overview

The following section summarises the assessment of the proposed impact of the scheme. The following obtrusive light components have been assessed:

- **Light Spill; specifically from:**
 - **Installed Lighting**
 - **Vehicle Headlights**
 - **Internal Caravan Lights**
- **Glare;** and
- **Sky Glow.**

Consideration of both human and ecological receptors are required.

8.2. Light Spill from Installed Lights

Light intrusion to windows is one of the major considerations when assessing the potential impacts of the lighting strategy. Light intrusion to windows is typically modelled by calculating vertical illuminance (E_v), i.e. the level of light falling on a vertical surface. **Table 7.1** highlights the maximum recommended E_v based on the local Environmental Zone, post pre and post curfew.

Indicative light spill modelling has been conducted using Lighting Reality Pro lighting design software. Lighting Reality Pro provides Isolux contour maps showing how light spreads across the site. This helps to visualise how light will be distributed over the development and can also be used to assess the development's potential impact on surrounding areas.

This assessment uses 2-dimensional lighting software for calculations, where site topography and light limiting features have not been accounted for within the design. This approach slightly limits the accuracy of the exact locations of Isolux contours shown on light spill mapping, but presents an absolute worst-case scenario, ensuring that lighting levels are not higher than those assessed.

It should be noted that the calculations do not include back shields as data for the type of luminaire proposed at this site is not available with back shields. Therefore, the calculations represent a worst-case scenario, without mitigation.

The indicative light spill model for the site can be seen in **Appendix 3** – this displays the horizontal illuminance (lux) and is based on 116x illuminated bollards and three wall mounted bulkhead fittings which have already been installed on the site. **Appendix 2** summarises the vertical illuminance calculation grids

The results of the calculation of vertical illuminance can be seen in **Table 8.1** for the human and ecological receptors identified in **Section 4.2** of the report. These results present the “*worst case scenario*” and do not consider the features that may offer blocking/shielding effects.

Table 8.1: Vertical Calculation Results

Receptor Name	Pre-Curfew limit (Lux)	Post-Curfew limit (Lux)	Vertical illuminance (Pre-Curfew)	Vertical illuminance (post-curfew)	Pre-Curfew compliance	Post-Curfew
01 Human Amenity – Ringwood Rd E	2.5	5	0	0.0	YES	YES
02 Human Amenity – Ringwood Rd W	2.5	5	0.1	0.1	YES	YES
03- Human Amenity – West Moors Rd	2.5	5	0	0	YES	YES
04- Ecological Receptors - Woods Western Boundary	0.40	0.20	0	0	YES	YES
05 – Ecological Receptors – Holt and West Moors Heaths (SSSI)/ Dorset Heathlands (Ramsar)	0.4 0	0.20	0	0	YES	YES

Table 8.1 shows that even without mitigation, both pre- and post-curfew vertical illuminance levels would be below the relevant E2 Environmental Zone limits outlined in PLG 04 and replicated in **Table 3.2** at the human amenity receptors.

It should be noted that residential receptors will have slightly different perspectives towards the site, depending on whether their views of the lighting are obstructed or unobstructed by trees and other foliage. Receptors with obstructed views, are unlikely to find the lighting as noticeable as residents with unobstructed views which may have light sources within the receptors field of view, that are associated with the lighting.

8.3. Light Spill from Vehicle Headlights

Vehicle headlights differ fundamentally from fixed external lighting in that they are transient, directional and of short duration. As such, they do not result in sustained horizontal or vertical illuminance levels at sensitive receptors and are not readily suited to conventional lux contour modelling. Current professional guidance, including the Institution of Lighting Professionals (ILP) GN01:2021, does not provide numerical criteria for the quantitative assessment of moving vehicle headlights. In this instance, a qualitative assessment is considered proportionate and consistent with accepted planning practice.

Vehicle movements within the site will be limited to internal access roads serving caravans and associated facilities. Traffic volumes are expected to be low, with vehicle speeds typically restricted to 5–10 mph, significantly reducing the intensity and duration of any headlight effects. Headlights are directed forwards and downwards, and given the low mounting height of vehicle lamps, there is limited potential for overspill beyond the immediate carriageway.

Potential sensitive receptors include nearby residential dwellings, adjacent caravan pitches and the wider rural environment. However, the likelihood of adverse effects is reduced by a combination of distance, orientation

and screening, including the presence of caravans, boundary vegetation, fencing and local landform. Any illumination or glare experienced would be momentary and intermittent, with no prolonged exposure likely to occur.

It is important to note that the check-in times for the campsite are between midday and 6pm, so most arrivals will be during daytime hours, especially during the summer season. It is understood that the gate is closed to site between 10.30pm and 7am, so vehicle movements onsite are generally likely to be restricted to between sunset and 10.30pm.

In order to further minimise potential impacts within the E2 environment, several mitigation measures will be implemented. These include the retention and enhancement of boundary landscaping, careful alignment of internal access roads away from site boundaries, and the application of low site speed limits supported by signage requesting considerate driving during hours of darkness. Where provided, low-level external lighting will reduce reliance on vehicle headlights for navigation, further limiting potential effects.

Taking account of the low frequency of vehicle movements, restricted speeds, transient nature of headlights and proposed mitigation measures, the impact of vehicle headlights is considered to be **negligible**. The proposals are therefore unlikely to give rise to unacceptable effects on residential amenity or the surrounding E2 environmental zone and are consistent with the aims of national and local planning policy relating to light pollution and the protection of the night-time environment.

8.4. Light Spill from Internal Caravan Lights

The development will comprise individual caravan units containing internal domestic-style lighting typical of temporary holiday accommodation. Consideration has been given to the potential for light emitted from within caravans to spill across the site or beyond the site boundary during hours of darkness.

Internal lighting differs from external lighting installations in that it is **low intensity, diffuse and fully enclosed**, with light only emitted externally through windows or glazed doors. The operation of internal lighting is **occupant-controlled**, variable in duration and intensity, and comparable to that of residential dwellings in a rural setting. Current professional guidance, including the Institution of Lighting Professionals (ILP) GN01:2021, does not provide criteria for the quantitative assessment of light escaping from windows, and such effects are not typically subject to lux-based modelling.

The potential for internal lighting to result in significant light spill is further limited by a number of inherent site characteristics. Caravans are generally low in height, with windows positioned at modest elevations above ground level. Light emitted from within units is therefore predominantly localised and rapidly attenuated with distance. The spacing between caravans, combined with the presence of adjacent units, boundary treatments, vegetation and local landform, provides effective screening and reduces intervisibility across the site.

Within the context of the **E2 Environmental Zone**, the intermittent and low-level nature of internal caravan lighting means that any effects on the surrounding environment would be minor and localised. Light levels experienced at neighbouring receptors would be short-lived and substantially lower than those associated with fixed external lighting installations.

Mitigation is inherently provided through the design and operation of the site. This includes the orientation of caravans to avoid direct window-to-boundary relationships where practicable, retention and enhancement of

boundary landscaping, and the use of curtains or blinds within units. In combination with the controlled external lighting strategy, these measures ensure that internal lighting does not result in unacceptable light spill or glare.

On this basis, the impact of internal caravan lighting is considered to be **negligible**, and a quantitative assessment or modelling exercise is not considered necessary or proportionate. The proposals are consistent with the objectives of national and local planning policy to limit light pollution and protect the character of the E2 environmental zone.

8.5. Glare

Two forms of glare have been considered: disability glare, which may reduce the ability to perceive objects without necessarily causing discomfort, and discomfort glare, which may result in visual annoyance without impairing visibility.

The lighting currently installed at the site comprises low-level luminaires intended solely to provide wayfinding illumination. An assessment of the installed lighting indicates that luminaires are mounted at low heights, have limited light output, and are oriented to direct light toward the ground and internal circulation routes. The luminaires are generally angled at less than 70 degrees from the horizontal, which limits high-angle light emission and reduces the potential for glare.

Lighting modelling undertaken for the installed scheme demonstrates that light levels are low and localised, with no significant glare effects identified at surrounding sensitive receptors, including nearby residential properties, pedestrians, or road users. On this basis, the installed lighting is not considered to give rise to disability or discomfort glare, and adverse glare effects are not anticipated.

8.6. Sky Glow

Sky glow is the brightening of the night sky resulting from artificial lighting and the scattering of light within the atmosphere. It is commonly associated with upward-directed light or excessive illumination over large areas.

The installed lighting scheme consists of low-level, downward-directed luminaires used for wayfinding purposes only. The assessment of the installed lighting indicates that upward light emission is minimal, due to the low mounting heights, modest light outputs, and directional characteristics of the luminaires.

Lighting modelling of the existing installation confirms that illumination is largely contained within the immediate areas requiring wayfinding, with negligible light extending beyond the site boundary. As a result, the installed lighting is not predicted to have a noticeable effect on local sky brightness or contribute meaningfully to sky glow. The impact of the installed lighting on the wider area is therefore considered negligible.

8.7. Potential Mitigation

Since **Section 8.2** to **Section 8.6** of this report note that all impacts are negligible or can no further mitigation is required.

8.8. Summary of Residual Effects

8.8.1. Human Amenity

The levels of lighting proposed are consistent with good practice for an E2 environment and are typical of a campsite within a rural area, meaning that while there will be a visual change, it will not significantly increase the existing ambient lighting.

Overall, the targeted nature of the lighting, ensures that any residual effects are insignificant. The lighting has been installed in accordance with relevant British Standards and guidance to provide safe, efficient illumination without causing unacceptable obtrusive light impacts

8.8.2. Human Safety

The assessment has shown that vertical illuminance will be below the E2 limits on Ringwood Road and the mitigation measures proposed will limit glare. Therefore, providing the recommendations contained within this report are implemented, the lighting proposals should have a negligible impact on human safety.

8.8.3. Ecological Receptors

Ecological receptors considered in the assessment include semi-natural habitats along the western boundary of the site (Receptor 01), designated sites including Holt and West Moors SSSI and the Dorset Heathlands Ramsar Site (Receptor 02), and areas identified as having bat potential (Receptor 04). The western boundary habitats are considered to have medium sensitivity, while the designated sites are of high sensitivity due to their national and international ecological importance. Receptor 04 is also considered sensitive to artificial lighting due to the potential presence of commuting or foraging bats, which may be affected by changes in nighttime illumination.

The magnitude of effect from the installed wayfinding lighting is considered to be small. The lighting is low intensity, limited in spatial extent, and orientated away from adjacent habitats. The ecological assessment applies an Environmental Zone E1 classification at the boundary with the designated sites, reflecting the intrinsically dark character and ecological sensitivity of these areas. The limited scale and directional nature of the lighting, together with the distance to the designated sites and intervening landscape features, means that light spill into these habitats is expected to be minimal.

8.8.4. Sky Glow

The lighting proposals should have a negligible impact on sky glow.

9. CONCLUSION

This report considers the effects of the lighting installed within Gundry's Farm Campsite, Three-legged Cross, Dorset, BH21 6RU. It assesses the potential effects of obtrusive light associated with the lighting design, which has been prepared to ensure safe and efficient illumination of operational areas while minimising impacts on nearby receptors and the surrounding environment.

9.1. Baseline Conditions

The Application Site is within a Rural/ Semi environment which is assessed to be an **E2** Environmental Zone.

In the absence of baseline survey data, the appropriate guidance documents have been used to establish the likely baseline light levels within the immediate area surrounding the site.

A comprehensive desktop assessment was undertaken to determine likely baseline conditions. Although a site-based survey was not undertaken, the area is typically rural with limits examples of exterior lighting and aligns with an **E2** Environmental Zone as described in ILP *GN01:2021*. District brightness associated with suburban environments is described as low, with CPRE night blight mapping indicating limited levels of skyward radiance into the night sky (**Figure 6.1**).

9.2. Residual Effects

The lighting impact assessment finds that the impact and therefore residual effects are assessed to be **insignificant** for the identified residential receptors. This is due to the low potential for obtrusive light to have a significant impact, primarily through the targeted nature of the lighting.

Potential human sensitive receptors or sensitive ecological receptors located outside the boundaries of the site are unlikely to be subjected to obtrusive light from the development, due to the limited lighting across the site.

An overview assessment of vehicle headlights has also been undertaken. Vehicle movements within the site are expected to be limited in number and restricted to **low speeds**, typical of campsite access and internal circulation. As a result, headlight glare and light spill are anticipated to be minimal and short-term in nature. Given the low traffic volumes, controlled access routes, and absence of direct lines of sight to sensitive receptors, vehicle headlights are not expected to result in any adverse lighting impacts.

Internal lighting within caravans has also been considered. Such lighting will be inherently limited in intensity and duration, and occupants are expected to make use of **curtains or blinds**, which will substantially reduce light transmission to the exterior. Consequently, internal caravan lighting will not contribute meaningfully to external obtrusive light or impact surrounding receptors.

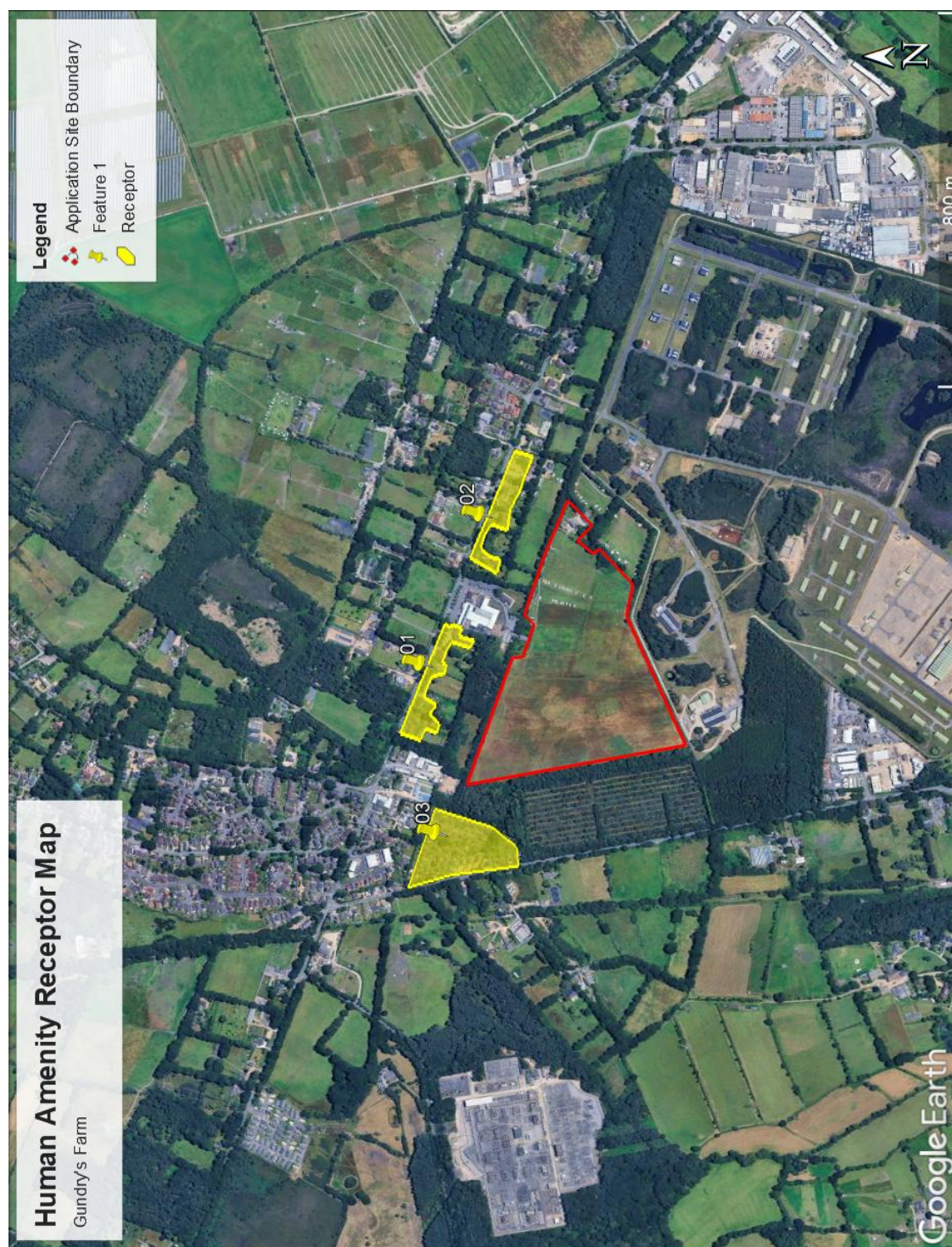
In conclusion, lighting levels associated with the Development will be appropriate for the Environmental Zone in which they are set (**E2**), and lighting will be designed to minimise obtrusive light. As such, there are unlikely to be permanent residual effects that are of significance from artificial lighting installed as part of the development.

Lighting levels indicated with the Light Spill diagram represent the most adverse worst-case scenario, shielding effects such as the Trees have been not taken into consideration. Lighting has been modelled at the start of life with a MF of 1.00, not considering luminaire depletion.

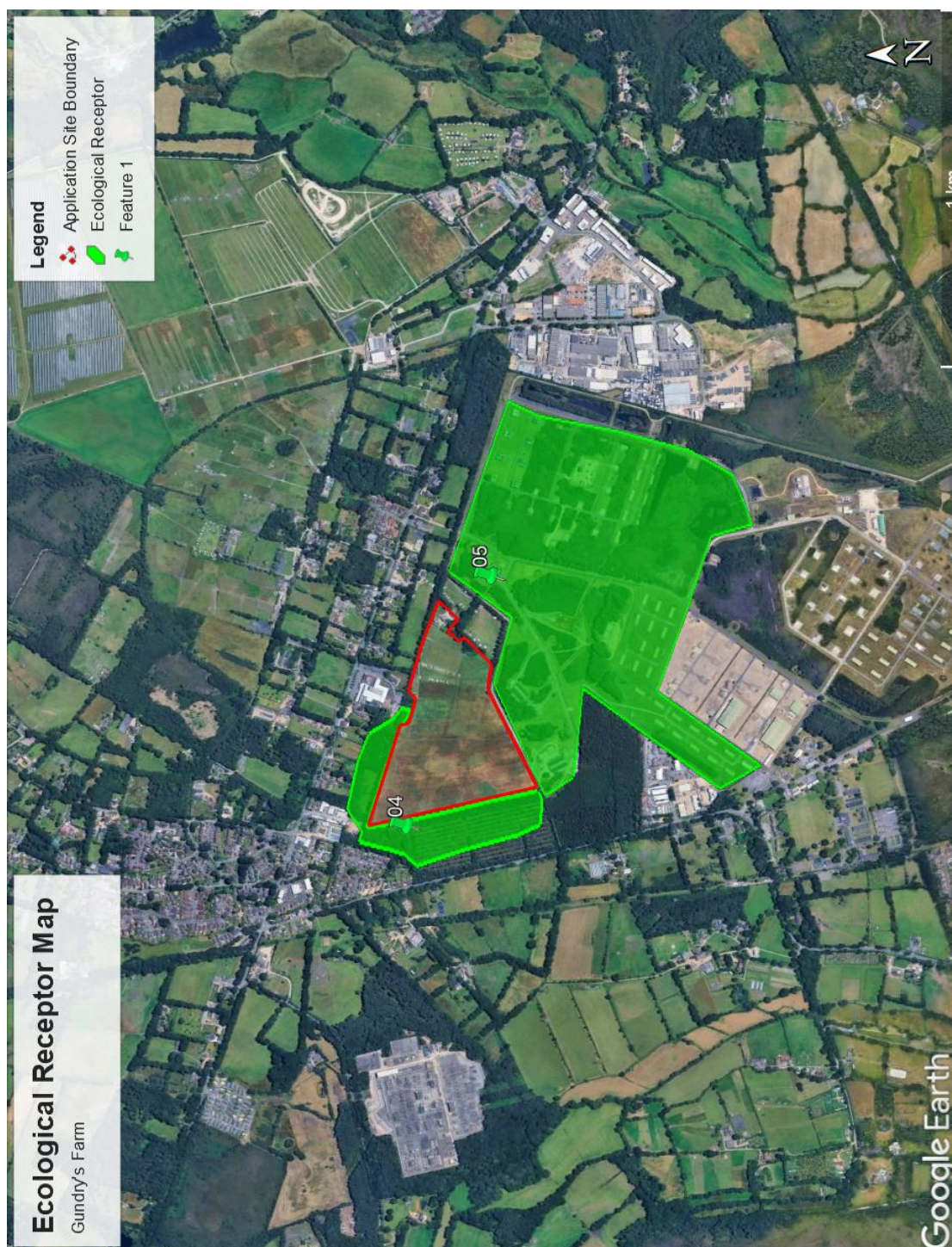
Overall, lighting to the development is considered minimal and accordance with all relevant standards.

Appendix 1 Human Receptor Map

Appendix 1: Human Receptor Map

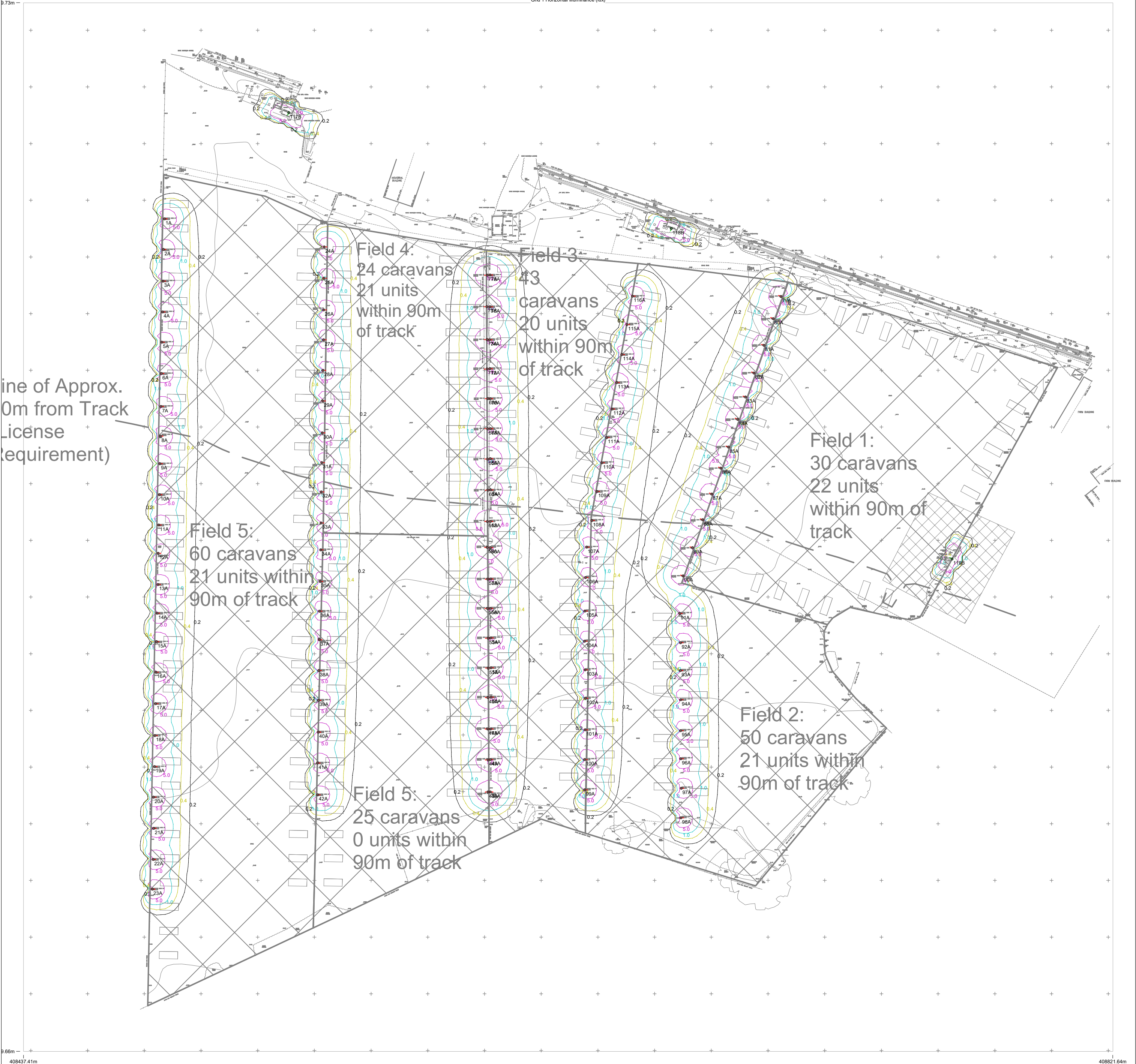


Appendix 2: Ecological Receptor



Appendix 2

Light Spill Model



PROJECT NAME: Gundrys Farm, Three Legged Cross	
PROJECT No: H4738	
SCALE: 1:1000	DATE: 21 January 2026
CALCULATION: Horizontal Illuminance (lux)	
DESIGNER: Hawkins Environmental (FE)	
-Indicative Light Spill Diagram -Not for Construction -Initial Light Spill shown MF = 1.00 -Modelling does not consider the blocking effect or physical obstructions or site topography -Indicative light spill must be read in conjunction with H4738 - Gundry's Farm, Lighting Impact Assessment Isolux contours shown 5.0 Lux - Purple 1.0 Lux - Blue 0.4 Lux - Yellow 0.2 Lux - Black Paper size and scale 1000@A2	