



Sensitive Lighting Strategy

Red House Museum, Oxford Road, Gomersal, Cleckheaton, West Yorkshire, BD19 4JP

Kingscrown Land & Commercial Ltd.

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Final	1	Amber Williams BSc (Hons), MSc, MPhil Consultant Ecologist	15/02/2026
Amended	2	Amber Williams BSc (Hons) MSc MPhil Consultant Ecologist	03/07/2026

Arbtech Consultant's Contact Details:

Amber Williams
BSc (Hons), MSc, MPhil
Consultant Ecologist
amberwilliams@arbtech.co.uk

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

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1.0 Introduction

Arbtech Consulting Limited was instructed by Kingscrown Land Commercial Ltd. to produce a Sensitive Lighting Strategy for Red House Museum, Oxford Road, Gomersal, Cleckheaton, West Yorkshire, BD19 4JP (hereafter referred to as “the site”).

This report is prepared to inform a planning application with the Kirklees Council. The proposal is described as: *Change of use and alterations to museum, cart shed and barns to form 3 dwellings (Class C3) with associated landscaping and car parking (Listed Building within a Conservation Area).*

A plan showing the proposed development is provided in Appendix 1.

This plan has been informed by Bat Report (Whitcher Wildlife Ltd., 2025) and Arboricultural Impact Assessment to BS 5837:2012 (JCA Ltd., 2025).

2.0 Site Context and Survey Information

2.1 Site Location and Landscape Context

The survey site is centred on National Grid Reference SE 20758 26236 and has an area of approximately 0.5ha. The site is located in the town of Gomersal, with the main Oxford Road to the east with woodland and some open fields beyond and residential areas to the north, west and south with pockets of green space and tree lines throughout. The site comprises four buildings, woodland, grassland, scrub and associated hardstanding. The surrounding landscape is predominantly residential dwellings with associated vegetated gardens. The wider landscape comprises of woodland parcels connecting to hedge and tree lined agricultural fields. The on site woodland connects the site to more extensive areas of woodland offsite to the east. These features likely enhance the site for foraging and commuting bats by providing a linear landscape feature to aid in dispersal.

2.2 Ecological Information

This plan has been informed by Bat Report (Whitcher Wildlife Ltd., 2025). There are four buildings on site (B1-4).

B1 – Low habitat value for roosting bats.

B2 – Low habitat value for roosting bats.

B3 – Negligible habitat value for roosting bats.

B4- Moderate habitat value for roosting bats.

B1-2 were subjected to one bat emergence and re-entry surveys during the optimal survey season 2025. B4 was subjected to two bat emergence and re-entry surveys during the optimal survey season 2025.

No bats were observed emerging or re-entering any building during the surveys.

During the surveys low but consistent activity from foraging and commuting bats was observed above the car park, gardens around the buildings and within the wooded areas. Key flight paths include from the woodland to the west across the site to the east, and from the north to forage above the car park (north of B1-2). Common pipistrelles were most frequently observed, in addition to occasional *Nyctalus sp.* and one account of a single *Myotis sp.*



3.0 Sensitive Lighting Strategy

The Wildlife Sensitive Lighting Strategy to be implemented at the site is detailed within Table 1 below. The Lighting Strategy aims to mitigate potential impacts of artificial light spill on wildlife as a result the proposed development.

Key Features and Areas that are Sensitive for Bats

- The buildings present on site have not been found to host roosting bats and therefore the proposed works to onsite buildings are not likely to disturb bats.
- The proposed works have been recommended to include 2no.bat boxes and these will be a sensitive area for bats.
- Trees to the east of B3- referenced T22, T27, G29, T35 within the Arboricultural Implications Assessment (JCA Ltd., 2025) are proposed to be felled due to facilitate works. However, the site is notably densely planted with trees and vegetation providing value for commuting and foraging bats. Aside from aforementioned trees, all other trees will be retained. Retained trees and vegetation represent sensitive areas for bats.
- In summary, the whole of this small site offers value for bats in the form of commuting and foraging opportunities, and therefore lighting must be controlled across the whole of the developed site.

Table.1: Lighting plan parameters

Prescription	Specification
Proposed dark corridors on site	Dark corridors around the site are planned to experience no more than +0.5lux of additional lighting as a result of the development illuminations. This is especially important for the mature trees on site which form a continuous canopy leading off site to the west and southeast.
Mitigating impacts of internal Lighting	Impacts of artificial light spill through windows will be mitigated by fitting internal lighting fixtures in line with recommendations within Guidance Note 08/23 (BCT & ILP 2023). See Appendix 5. Although the proposed new development lies relatively low to the ground, it comprises glazing, and internal lighting mitigation should be applied. Light spill onto the grassland, scrub and tree-line habitats are considered reduced to acceptable levels. The following advice must be adopted for internal lighting mitigation. • All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used. • LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition. • A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light.

- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill. These should be fitted a minimum of 1m from windows (see Figure 1). Lighting should be controlled by dimmers.
- In addition, black-out blinds or curtains are recommended to be used on all elevations to physically reduce to level of light spill from windows on this elevation. The use of window films, tints and low transmission glazing are now considered ineffective ways to fully mitigate against light spill from windows. As such, they are not recommended for use.

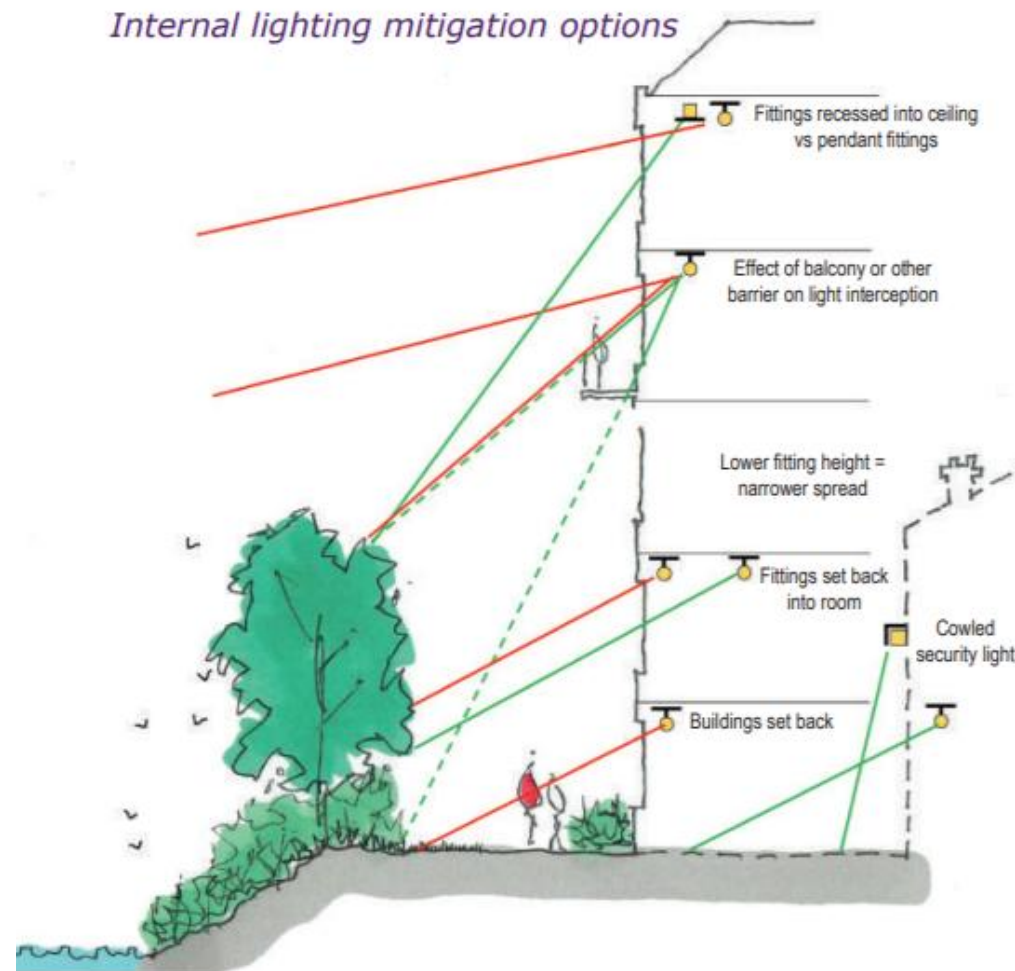


Figure 1: Internal Lighting mitigation options. Image taken from Guidance Note 08/23 (BCT & ILP 2023).

Mitigating impacts of external lighting	All external lighting will be installed in accordance with current guidance issued by the Bat Conservation Trust and Institute of Lighting Professionals: <i>Guidance Note 08/23: Bats and Artificial lighting at Night</i> (BCT & ILP 2023). External lighting will be installed in a way as to limit artificial light spill over habitats of value to protected and/or notable species potentially using the site. External lighting installation will avoid excessive light spill over: • Retained habitats of elevated value including retained trees and scrub. • The roof spaces of retained buildings. • The grassland areas. • The car park to north of site (outside of the RLB). • Any newly installed species-specific habitat prescriptions i.e bat boxes External lighting will be limited to low level lighting fixtures only, installed onto the southern elevation at the western aspect to provide low level illumination for safety and along the north elevation overlooking the rear of the site. High powered security lights will not be installed on site. The following lighting design prescriptions are considered suitable for the type and scale of the proposed development to minimise the impacts of artificial lighting on site on bats. Lighting design prescriptions recommended for the Site comprise: • Where appropriate, external security lighting should be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1- or 2-minute timer is likely to be appropriate. • Lighting will be set to “off” by default, to turn up to a predetermined low intensity output in response to a trigger and be combined with a timeclock or photocell to further add an element of seasonal or diurnal control. For example, Passive Infrared (PIR), Artificial Intelligence enabled cameras, on demand controls, or pressure sensors may be used to trigger lights to come on or dim in response to movements. • Lighting will be controlled so not to be triggered by the movement of small animals such as bats or birds. • Lighting will be downward pointing The below lighting type is suitable for installation on site:
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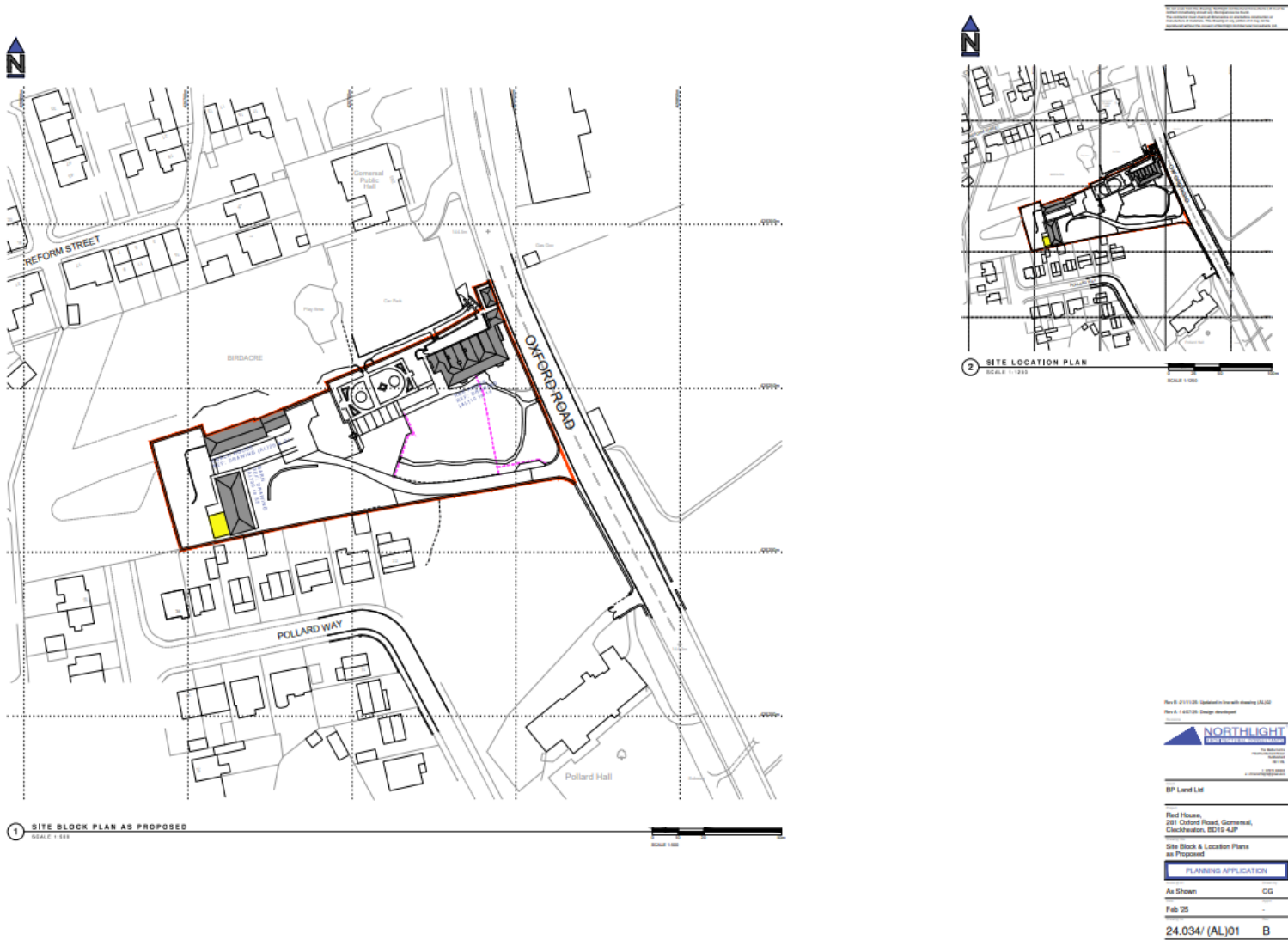
- Lucide Arne LED Outside Wall Light: <https://www.lighting-direct.co.uk/lucide-arne-led-outdoor-wall-light-with-pir-sensor-black.html>



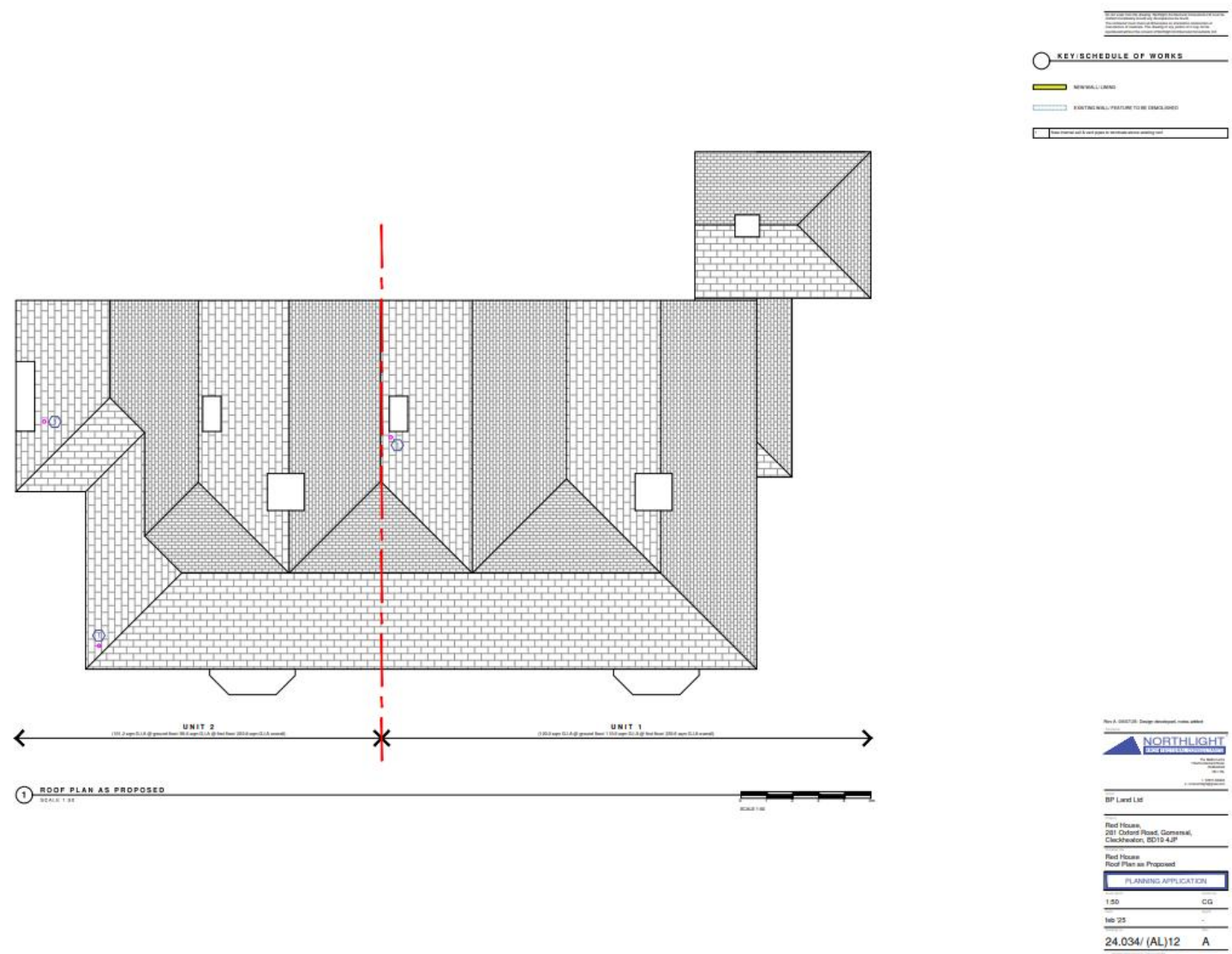
Figure 2: Recommended low level lighting suitable for the site. Image taken from: <https://www.lighting-direct.co.uk/lucide-arne-led-outdoor-wall-light-with-pir-sensor-black.html>

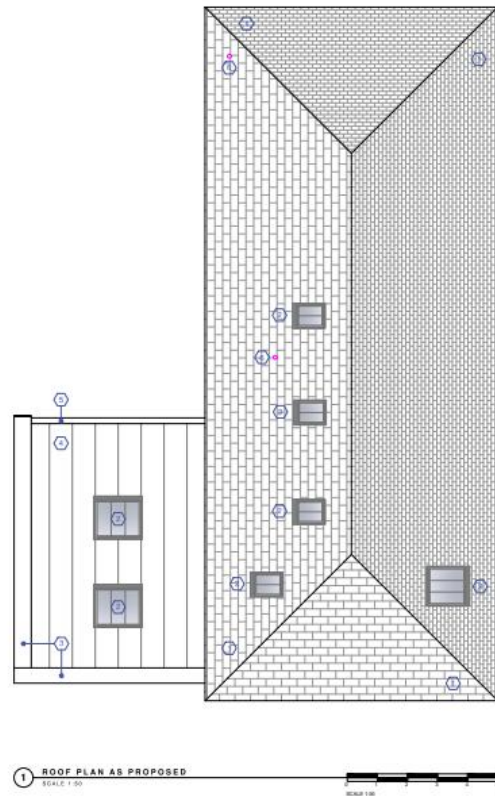
Appendix 1: Proposed Development Plan

Site overview



B2



[illegible]

Dec 5 - Dec 11/2012: New entrance to hotel is completed in alignment with main east entrance. 1 east entrance to building & 1 to maintenance building.
 Dec 5 - 11/20/2012: Design development, exterior details.

NORTHLIGHT
 COMMERCIAL ARCHITECTURE & DESIGN
 10000 Highway 100
 Northridge, CA 91324
 T 818.708.0000
 F 818.708.0000
 E info@northlightdesign.com

BP Land Ltd
 11200 Highway 100
 Northridge, CA 91324
 T 818.708.0000
 F 818.708.0000
 E info@northlightdesign.com

Flint House,
 281 Oxford Road, Genoa, UK
 Cuckinaston, SO19 4JP

Barn
 Rural Plan as Proposed

PLANNING APPLICATION
 1.50 CG
 Feb 25 -
 24.034/ (AL)31 B

2 ROOF PLAN AS PROPOSED

SCALE 1:50

[illegible]

Appendix 2: Site Location Plan



Appendix 3: Wildlife Sensitive Areas and Proposed Bat Box Locations



[illegible]