



Pyramid Park

Bury

Sensitive Bat Lighting Strategy Input

Prepared For: Campbell Reith

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Drawing 2: Bat Lighting Impact (over Phase 1 Habitat Survey Plan) G9302.02.013

1.0 Introduction

- 1.1 The Environment Partnership (TEP) was commissioned by Campbell Reith (on behalf of Bury Council) in October 2024 to provide input into a sensitive bat lighting strategy for a site known as Pyramid Park/Townfields, Bury (hereafter referred to as 'the site').
- 1.2 Proposals for the site include remediation, including the installation of an access road. (Drawing ref: 14111-CRH-ZZ-XX-SK-C-0002-P2).
- 1.3 TEP Have undertaken a suite of ecological surveys across the site in 2024 including bat activity surveys which consisted of night-time bat walkover (NBW) and static monitoring surveys, undertaken seasonally. The results of these surveys are included within the Bat Survey Report (TEP Ref: 9302.02.004).

Site Context

- 1.4 The site is located in Bury town centre, with railway lines running along both the western and southern boundaries of the site, and is situated south of the A58, and to the south and west of Bury College. The site is intersected in its eastern half by the B6218 (Market Street). The wider area comprises residential, business and industrial properties to the north, west and east, with Bury College and sports grounds to the south.
- 1.5 The location of the site is depicted by the red line shown in Figure 1. The approximate central grid reference of the site is SD 80511 10312.
- 1.6 The majority footprint of the site comprises three large pyramid structures which comprise neutral grassland and dense scrub with woodland banks surrounding the boundaries of the site. A pond has been previously present on the site as shown in Figure 1 this has since dried out with marshy grassland and willow scrub now present.



Figure 1: Scheme location

Designated Sites

- 1.7 There is one statutory designated site of international importance within 10km of the Scheme, none of national importance within 5km and two of regional or local importance within 2km. These are:
- Rochdale Canal Special Area of Conservation (SAC), located 8km to the east of the site, which is designated for its population of *Luronium natans*;
 - Chesham Woods Local Nature Reserve (LNR), located 1.8km to the northeast of the site, which is designated for its woodland habitats and bird and butterfly assemblages; and
 - Hollins Vale LNR, located 1.9km to the southeast of the site, which is designated for its woodland and wetland habitats and associated plant and animal assemblages.
- 1.8 There are ten non-statutory wildlife sites identified within 2km of the Scheme. Details are presented in the Ecological Desk Study. Of most relevance are the following:
- Townside Site of Biological Interest (SBI), located within the site boundary, which is designated for its swamp and marsh habitats, along with an exceptional population of smooth newts found in 2012.

- 1.9 None of the above sites are designated for bats.

Habitats

- 1.10 No notable or priority habitats were recorded on or adjacent to the site.
- 1.11 A Phase 1 habitat survey was most recently undertaken by TEP in May 2024. Habitats present within the planning application boundary include:
- Semi-natural broadleaved woodland;
 - Marsh/marshy grassland;
 - Dense/continuous scrub;
 - Scattered trees and scrub;
 - Semi-improved neutral grassland; and
 - Hardstanding.

Scope of Report

- 1.12 TEP has produced a map setting out those features/areas associated with the site that are sensitive for foraging and commuting for bats. This report provides advice on specifications for the lighting strategy to ensure the external lighting design strategy will not disturb or prevent bats having access to breeding sites and resting places. This includes advice on measures to be undertaken to prevent light spillage into the surrounding and retained foraging habitats, and ensure appropriate lux levels.

Associated Documents and Drawings

- 1.13 This bat lighting strategy is to be read and implemented in conjunction with the following documents and drawings.
- Ecological Impact Assessment (Report Ref: 9302.02.005)
 - Bat Survey Report (Report Ref: 9302.02.004)
 - Bat Lighting Drawing (Drawing Ref: G9302.02.013)

2.0 Bat Lighting Strategy

- 2.1 For this bat lighting strategy, due consideration is given to current guidance (BCT & ILP, 2023¹) and recommendations to reduce any potential impacts on bats are provided below.
- 2.2 Desktop records and bat surveys conducted by TEP in 2024, identified common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Noctule *Nyctalus noctula*, and four species of *Myotis* bats within 2km of the site.
- 2.3 Slower flying bat species such as *Myotis* species and brown long-eared bats are shown to avoid commuting and foraging routes illuminated by a number of different light sources. Faster flying species such as pipistrelles and noctule generally have a higher level of tolerance to light levels.

Sensitive Areas

- 2.4 Sensitive areas for commuting and foraging bats on site are highlighted within the drawing G9302.02.013.
- 2.5 The surveys conducted concluded that the Market Street Archways have suitability for bat roosting. These archways were also recorded during the NBW surveys to be a hotspot for foraging bats and so any light spillage onto this area should be avoided.
- 2.6 Other foraging and commuting hotspots, as recorded during bat surveys on the site, includes the areas of woodland in the east and west of the site; the poplar tree line adjacent to the current access road as well as the northern boundary scrub embankment. As above, light spillage onto these areas should be avoided.
- 2.7 In addition, the southern boundary of the site, adjacent to the railway line acts as a wildlife corridor. The railway line connects the site to other more suitable habitats in the wider area for commuting and foraging bats and again, as above, light spillage onto this boundary should be avoided so that dark corridors and commuting routes for local bat populations can be maintained.

¹ BCT and ILP Bats and Artificial Lighting at Night Guidance Notes 08/23.

Avoidance Measures

- 2.8 A sensitive lighting strategy will be required to avoid indirect impacts of artificial light at night (ALAN), on crepuscular species. Light spillage should be avoided on habitats identified as key commuting and foraging routes for bats.
- 2.9 The development plans are for remediation of the site solely, and so it is assumed that lighting will be for construction on site solely. Therefore, use of unnecessary lighting will be avoided, particularly onto retained trees and hedgerows.
- 2.10 There should also be a variable lighting regime where timers and bespoke dimming regimes may be used to ensure that luminaires are reduced at times of predicted low use. Timers will be used to switch off lights when human activity is low (e.g., 12.30 – 5.30am). Motion sensors provide further control to ensure that areas are illuminated only when required. Alternatively, lights can also be dimmed (e.g., to 30% power), during periods of high bat activity, for example the periods of two hours following sunset and two hours before sunrise. These can be set to change with the seasons and therefore reflect the shifting time of dusk and dawn throughout the year
- 2.11 In addition to the above, key lighting design principals, taken from the guidance, are listed below and should be consulted and implemented when completing the lighting strategy:
- 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 and dimming capability;
 - A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component;
 - Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)
 - Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards;
 - Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered;
 - Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt;
 - 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;
 - Use of a Central Management System (CMS) with additional web-enabled devices to light on demand;

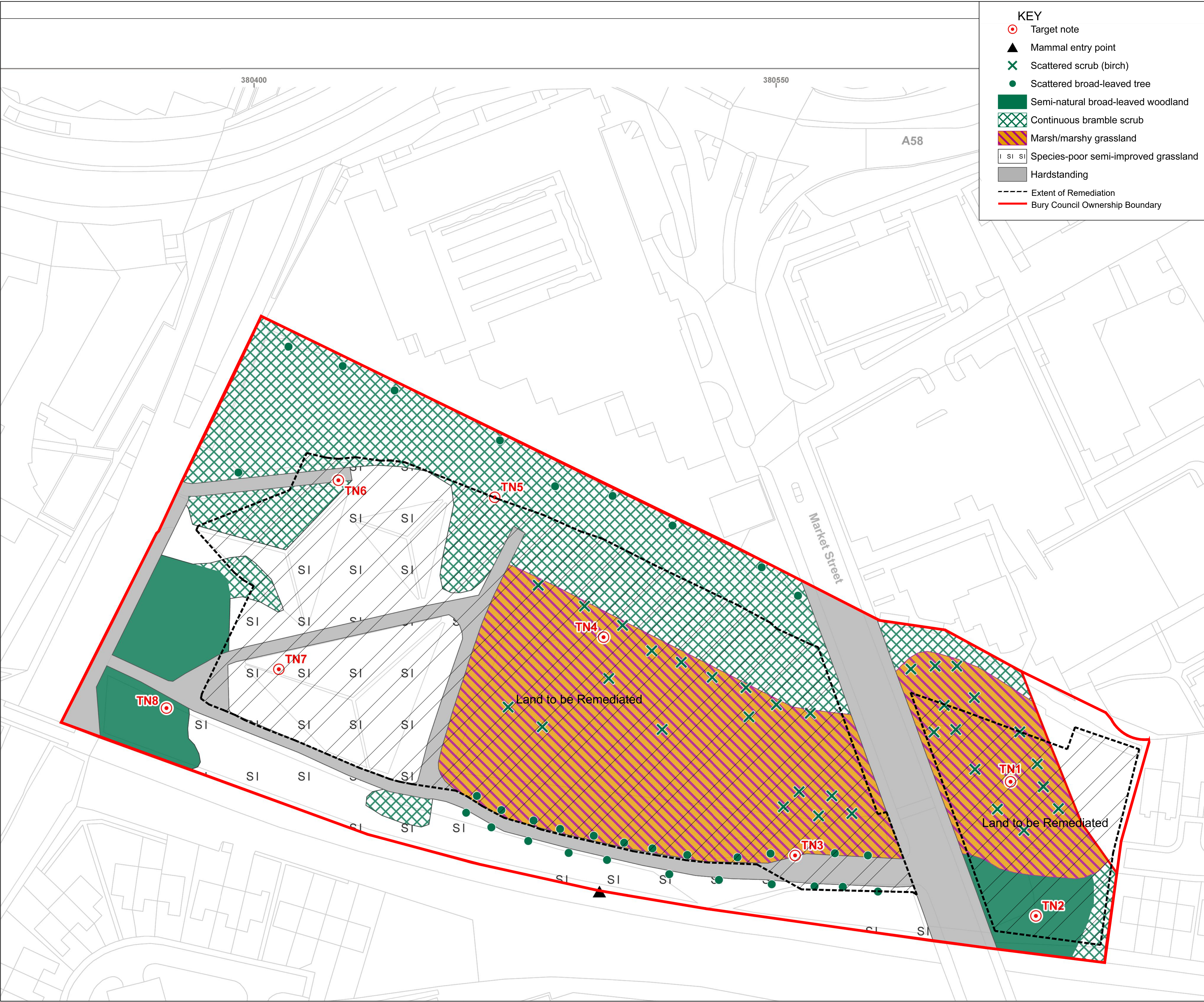
- Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS;
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues;
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

2.12 The approach proposed above to reduce lighting impact on bat foraging and commuting habitat should be followed. Following the production of the lighting strategy, TEP will review to ensure that the strategy proposed is acceptable and the impacts on foraging and commuting bats is reduced.

Drawings

Drawing 1: Development Proposals 14111-CRH-ZZ-XX-SK-C-0002-P2

Drawing 2: Bat Lighting Impact (over Phase 1 Habitat Survey Plan) G9302.02.013



KEY

Target note

Mammal entry point

Scattered scrub (birch)

Scattered broad-leaved tree

Semi-natural broad-leaved woodland

Continuous bramble scrub

Marsh/marshy grassland

SI

SI

SI

Species-poor semi-improved grassland

Hardstanding

Extent of Remediation

Bury Council Ownership Boundary

- Notes
1. Do not scale from this drawing on print or electronically. Work from figured dimensions only.

2. No deviation from the details on this drawing is allowed without CampbellReith's prior permission in writing.

3. Read this drawing with all Architect's, Service Engineer's and CampbellReith's relevant details, specifications and drawings.

4. All work is to be done in accordance with the relevant specifications issued by CampbellReith, British Standard Codes of Practice, Statutory Requirements and the Contract Documents.

5. Drawing revision:

P: Preliminary

Evolving drawings for approvals, tenders, billings etc.

C: Contractural

Drawings authorized and approved for stage completion.

6. Drawing status:

Work in progress

S0 - Initial status

Shared (Non-contractual)

S1 - Suitable for coordination, S2 - Suitable for information, S3 - Suitable for review and comment, S4 - Suitable for stage approval.

Published (For contractors purposes)

A1, An etc - Authorised and accepted ('n' relates to work stages)

B1, Bn etc - Partial sign-off (with comments)

CR - As constructed record document (Final Construction ONLY. Any deviations to that which is on site is not the liability of CampbellReith)

7. Work Stages:

2 - Concept, 3 - Definition, 4 - Design, 5 - Build & commission, 6 - Handover

8. Only drawings with revision Cn and status A5 to be used for Construction

P2	Issued for Information	10/09/24	ZA
P1	Issued for Information	12/12/23	ZA
Rev	Description	Date	By

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Job Title

Client

PYRAMID PARK

BURY COUNCIL

Phase 1 Habitat Survey

Drawn by

ZA

Date made

11/12/23

Scale @ A1

1:500

Checked by

BT

Suitability

S2

CR Project

14111

Project No.

14111

Originator

CRH

Volume

ZZ

Lvl/Loc

XX

Type

SK

Role

C

Number

0002

Rev

P2

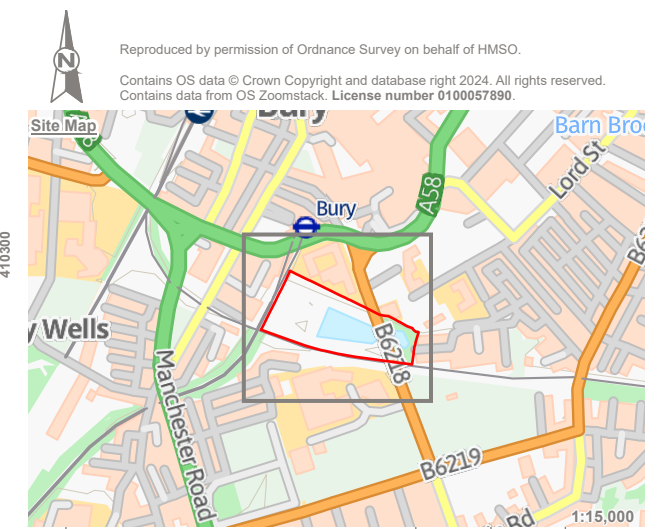
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KEY

- Site boundary
- Bat Lighting
 - Areas sensitive for commuting and foraging bats
- Phase 1 Habitat Survey
 - Target note
 - Japanese knotweed
 - Scattered scrub
 - Scattered broad-leaved tree
 - PRF-M: Tree with potential roost feature suitable for multiple bats
 - Semi-natural broad-leaved woodland
 - Continuous bramble scrub
 - Modified neutral grassland
 - Marsh/marshy grassland
 - Hardstanding

Note:
The locations of habitats and habitat features are indicative.



Rev	Description	Drawn	Approved	Date

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Project
Pyramid Park, Bury

Title
Bat Lighting Input

Drawing Number
G9302.02.013

Drawn	Checked	Approved	Scale	Date
MC	CW	EH	1:1,250 @ A3	11/11/2024

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