



Norwich Western Link Lighting Scheme

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1 Introduction

1.1 Details of the location, height, design luminance and operation

1.1.1 See submitted lighting plan: PK1002-RAM-HLG-MLE-DR-CH-1310
(Document Reference 2.09.01).

1.2 Overview of lighting design including maintenance factor and lighting standard applied

1.2.1 See submitted lighting plan: PK1002-RAM-HLG-MLE-DR-CH-1310
(Document Reference 2.09.01).

1.3 Justification for the proposed lighting design

1.3.1 No new lighting is proposed along the corridor of the Proposed Scheme or on any of the structures. The only lighting will be on the approach to the A47 where a short section will be lit to the required lighting level from the give way line on the new A47 roundabout. The lighting has been designed to meet the relevant highway safety standards. The lighting proposals are illustrated on the Lighting Design Plans (Document Reference 2.09.00) and refined at Detailed Design.

1.4 Lighting drawing showing lux levels on the ground, angles of tilt and average lux (minimum and uniformity) for all proposed lighting

1.4.1 See submitted lighting plan: PK1002-RAM-HLG-MLE-DR-CH-1310
(Document Reference 2.09.01).

1.5 Contour plan detailing likely spill light from proposed lighting, in context of adjacent site levels

1.5.1 See submitted lighting plan: PK1002-RAM-HLG-MLE-DR-CH-1310
(Document Reference 2.09.01).



1.6 Identify areas/features on site particularly sensitive for bats and those likely to cause disturbance in or around their breeding sites and resting places or along important routes used to access key areas of their territory (e.g. foraging)

1.6.1 There are a number of figures which detail the roosting locations, commuting routes and resting places of bats contained within Environmental Statement – Chapter 11 – Bat Chapter (Document Reference 3.11.00). The entire baselines section of the chapter (Pages 86 to 200) provides this in detail.

1.7 Details of how and where external lighting would be installed through provision of appropriate lighting contour plans and technical specification to demonstrate that areas to be lit will not disturb or prevent bats using their territory or having access to breeding sites or resting places

1.7.1 At the A47 / the Proposed Scheme junction, eight 10-metre-high lighting columns would be installed. These lights are being installed approximately 300 metres south of the closest confirmed roost (brown long-eared bat day roost) and not within an area identified of importance for commuting and foraging bats. Due to the minimal lighting being installed at the new junction, it is not considered that this would have an adverse impact on bat commuting.

1.7.2 Within the remaining areas of the Proposed Scheme, no artificial lighting is being installed and the only anticipated night-time lighting impacts are from vehicle headlights. Solid screens would be installed above underpasses to stop light spill from vehicles on the road above deterring bats from entering the underpasses. Solid screens are also being installed along green bridges parapets, to avoid light incursion from the vehicles below deterring bats from crossing them.

1.8 Details of proposed hours of operation

1.8.1 See submitted lighting plan: PK1002-RAM-HLG-MLE-DR-CH-1310 (Document Reference 2.09.01).



1.9 Details of the impact on lighting on:

- 1.9.1 *The amenity of neighbouring properties, specifically if light has the potential to extend beyond the boundary of the site* – no new lighting is proposed along the corridor of the Proposed Scheme or on any of the structures. The only lighting will be on the approach to the A47 where a short section will be lit to the required lighting level from the give way line on the new A47 roundabout. Lighting columns will be up to 10 metres high. Lighting design will include associated cabling ducts and feeder pillars as required. The lighting proposals are illustrated on the Lighting Design Plans (Document Reference 2.09.00) and refined at Detailed Design.
- 1.9.2 *Roads/highway safety* - no new lighting is proposed along the corridor of the Proposed Scheme or on any of the structures. The only lighting will be on the approach to the A47 where a short section will be lit to the required lighting level from the give way line on the new A47 roundabout. The lighting has been designed to meet the relevant highway safety standards. The lighting proposals are illustrated on the Lighting Design Plans (Document Reference 2.09.00) and refined at Detailed Design.
- 1.9.3 *The character of the area and the wider landscape, specifically Conversation Areas, Listed Buildings, Designated Areas (SSSI, AONB) or rural areas with little background light* - no new lighting is proposed along the corridor of the Proposed Scheme or on any of the structures. The only lighting will be on the approach to the A47 where a short section will be lit to the required lighting level from the give way line on the new A47 roundabout.
- 1.9.4 *Ecology, specifically European protected species* - the Proposed Scheme is generally to remain unlit during the operational period, and this will be restricted to minimal lighting to specific elements. These include a minimal number of lighting columns at the southern extent of the Proposed Scheme, leading to the junction with the re-aligned A47. It is also proposed that signage lighting will be required at junctions. Low level and directional lighting close to ecological features, and the use of construction lighting with well located,



modern light fittings in accordance with best practice to minimise light intrusion to surrounding sensitive features. The signage lighting at junctions is not considered to be of a level to significantly disturb sensitive ecological features, as outlined in Environmental Statement Chapter 10 – Biodiversity (Document Reference 3.10.00).

1.10 Proposed mitigation measures

1.10.1 The Proposed Scheme is generally to remain unlit during the operational period, and this will be restricted to minimal lighting to specific elements. These include a minimal number of lighting columns at the southern extent of the Proposed Scheme, leading to the junction with the re-aligned A47. It is also proposed that signage lighting will be required at junctions. Low level and directional lighting close to ecological features, and the use of construction lighting with well located, modern light fittings in accordance with best practice to minimise light intrusion to surrounding sensitive features. The signage lighting at junctions is not considered to be of a level to significantly disturb sensitive ecological features, as outlined in Environmental Statement Chapter 10 – Biodiversity (Document Reference 3.10.00).