

# JLR Halewood, Eastlands

## Lighting Assessment - Part 1. Baseline Lighting Survey Report

Baseline conditions recorded to inform the Lighting Design for a new WIP and dispatch car park within the wider JLR site.

On behalf of JLR

416.066699.00001

1st April 2026 | 02





**Table 1 - Issue and Revision Record**

| Revision | Date     | Written | Checked | Authorised | Amendments     |
|----------|----------|---------|---------|------------|----------------|
| 01       | 27.02.26 | RD      | ND      | ND         | First Issue    |
| 02       | 01.04.26 | RD      | ND      | ND         | Updated Layout |

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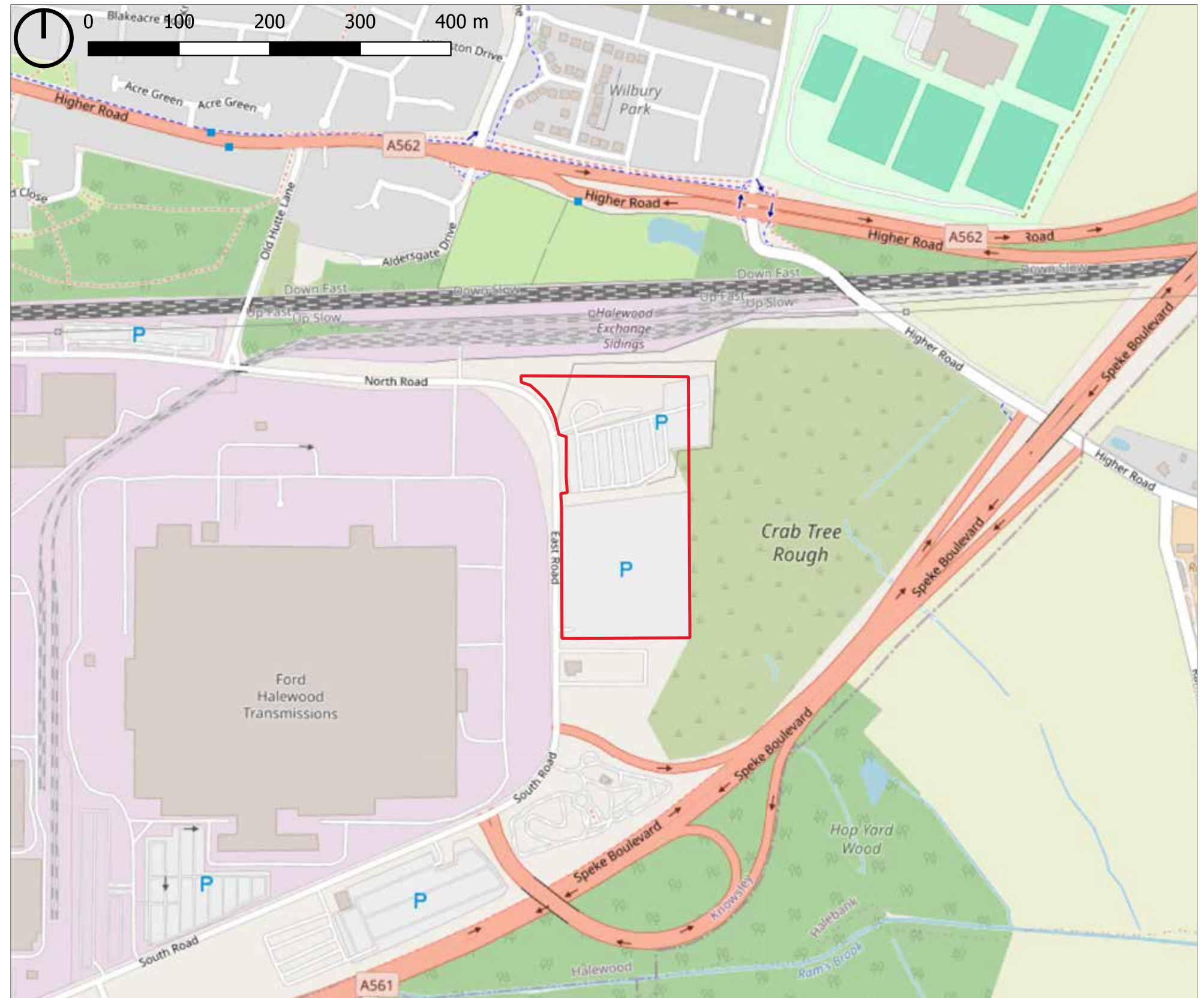
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**Figure 1 - JLR Halewood, Eastlands Proposed Development Site Location (Red Line Boundary)**

Scale 1:5,000 @ A3 - This mapping is made available under the Open Database License: <http://opendatacommons.org/licenses/odbl/1.0/>. Any rights in individual contents of the database are licensed under the Database Contents License: <http://opendatacommons.org/licenses/dbcl/1.0/>



Introduction

1 - About the Author

- 1-1 This document has been prepared by Noah Derrington, Associate Lighting Consultant who is a Lighting Designer and Assessor with extensive experience in this field of work and has stood as an expert witness in the field of Lighting Design and Lighting Impact Assessment.
- 1-2 The SLR Lighting design team have experience with master planning, architectural lighting design, urban realm, historic buildings and highways schemes. With specialisation in developing lighting schemes for ecologically and environmentally sensitive sites throughout the planning process including within protected National Landscapes.
- 1-3 The Brief
- 1-4 SLR Consulting Ltd (SLR) has been commissioned by Jaguar Land Rover (JLR) to provide lighting consultancy services to inform the design of a new WIP and dispatch car park, including new surfacing, lighting, drainage, security fencing and cabins ('Proposed Development') within the existing wider JLR site at Halewood, Liverpool (the 'Site'). JLR intend to apply for the Proposed Development to Knowsley Council (the 'Council').
- 1-5 A Lighting Design and Impact Assessment is required including a Baseline Lighting Survey to establish a compliant design within the Site boundary, that ensures the proposed redevelopment does not adversely affect identified ecological, landscape or human receptors, and establishes a compliant scheme

2 - Context

- 2-1 The Proposed Development Site currently comprises two unused former car parking compounds bounded by:
  - National Rail tracks and tree line running east-west along the northern boundary providing habitat corridor for ecology;
  - New residential development to the further north adjacent to higher Road;
  - Crab Tree Rough, a predominantly broadleaf woodland and vegetation parcel to the east of the Site;
  - Speke Boulevard (A561) to the southeast providing vehicular access to the Site;
  - Hop Yard Wood and the ancient woodland, Mill Wood to the south beyond the A561, and;
  - JLR Eastland DHL Office and dispatch area immediately to the south.

See. [Figure 3 - Proposed Development Site on page 5.](#)

3 - Methodology

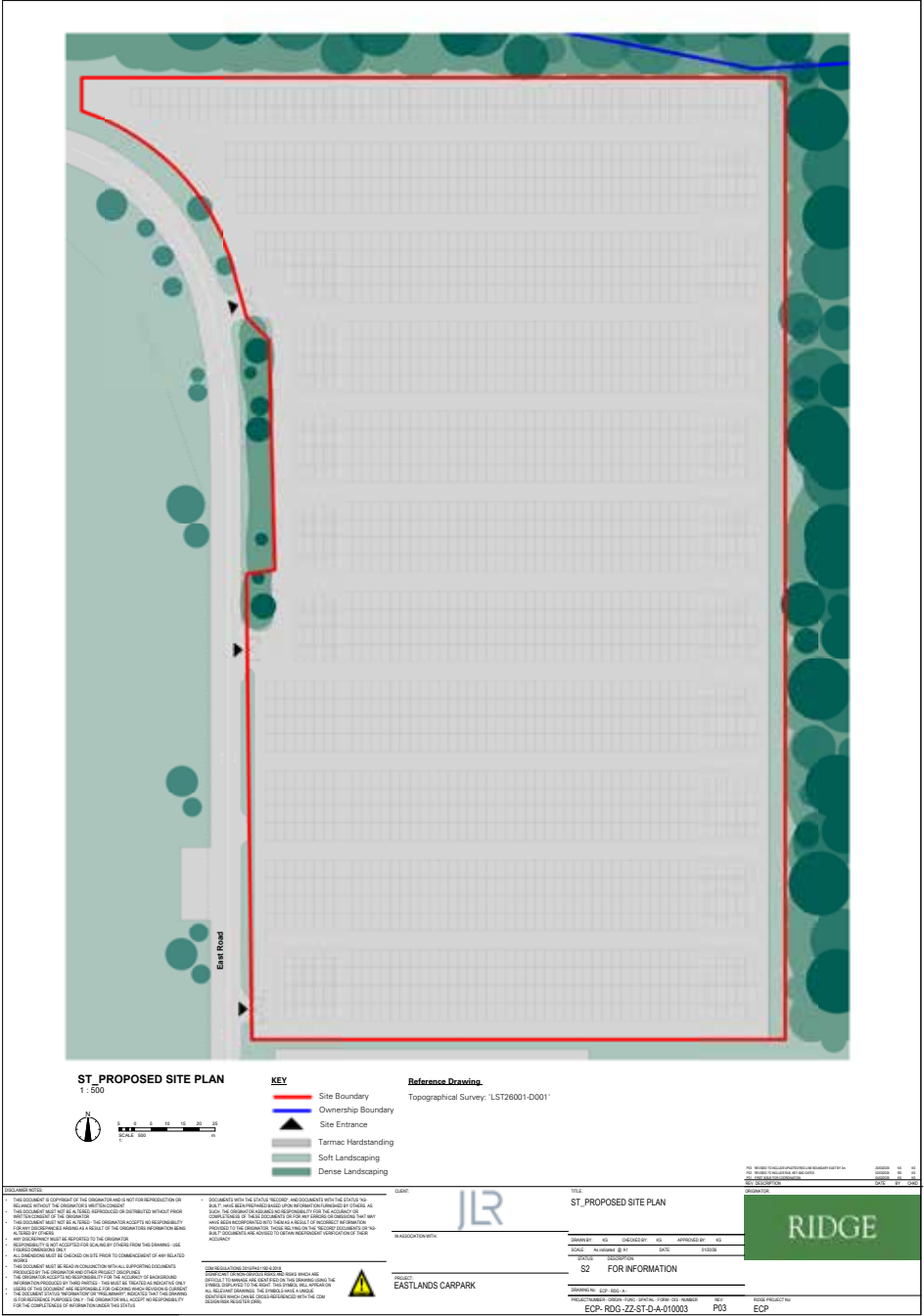
- 3-1 A Baseline Lighting Survey was undertaken by SLR Lighting Assessors on the day of the 17.02.2026.
- 3-2 In order to conduct the Baseline Lighting Survey, viewpoints were established by SLR based on suitable locations to assess the lighting conditions on and around the Proposed Development Site.
- 3-3 A daytime survey was conducted by SLR with photography taken along with relevant data on the location and prevailing weather conditions.
- 3-4 A night time survey was conducted on the same date with all viewpoints revisited after dark. Again relevant data and photography was recorded to establish the existing lighting conditions in and around the Proposed Development Site.
- 3-5 During the survey, potential receptors such as the residential properties to the north were identified along with any habitat features observed such as mature tree lines and woodland that may be suitable habitat for light sensitive ecology.

Figure 2 - Proposed Site Plan

Document Shown:

Drawing Name: ST\_Proposed Site Plan

Drawing Reference: 'ECP-RDG-ZZ-ST-D-A-010003-ST\_SITE PLAN\_ARRANGEMENT 01-P03' By Ridge (Not to Scale)



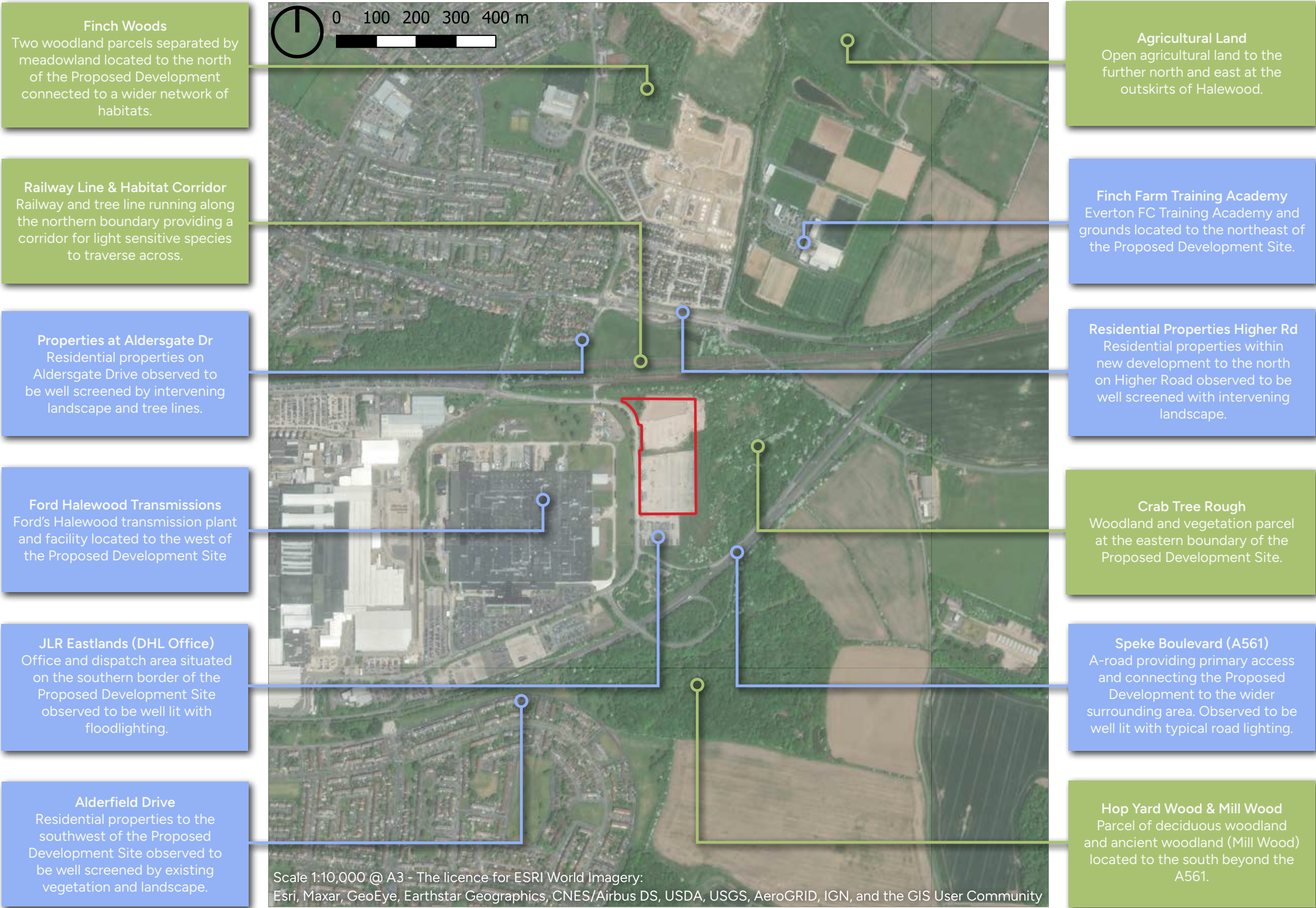
# Overview

## 4 - Context

- 4-1 The Proposed Development Site red line boundary is shown in context in **Figure 3** which identifies the areas of potential ecological sensitivity and locations of potential residential receptors in the surrounding context.
- 4-2 The Eastlands site comprises two unused compounds and former car parking area.
- 4-3 Ad-hoc lighting is currently active throughout the larger southern compound with peripheral security lighting along the eastern boundary.
- 4-4 The eastern boundary adjacent to an area of scrub and woodland, 'Crab Tree Rough' is observed to be subject to existing light pollution from the peripheral floodlighting.
- 4-5 The northern parcel is currently unlit and therefore the boundary is observed to be in relative darkness with minimal light pollution.

**Figure 3 - Proposed Development Site**

Location, Red Line Boundary & Surrounding Context

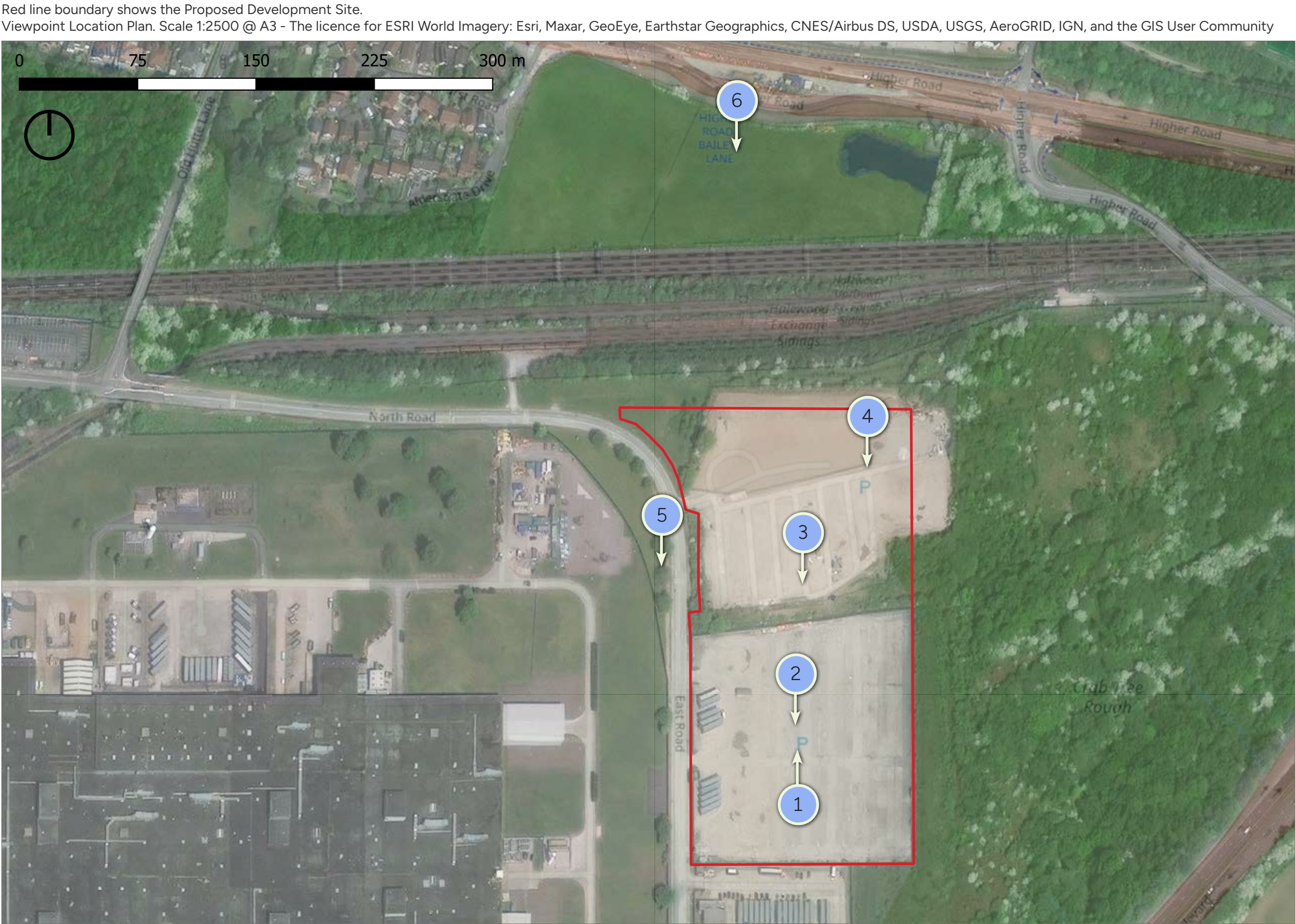


# Site Survey

## 5 - Existing Site Condition

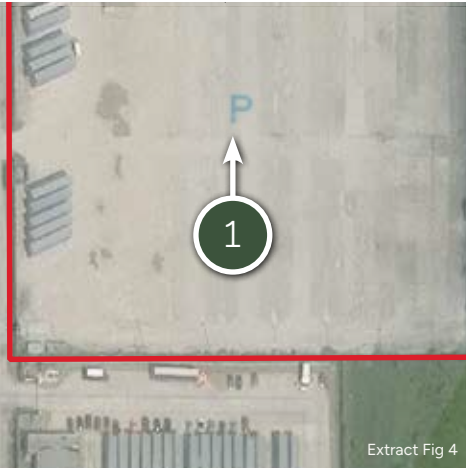
- 5-1 SLR conducted a Baseline Lighting Survey during the day and night of the 17.02.2026 to assess the extent of artificial lighting on and around the Proposed Development Site location.
- 5-2 Six on-site viewpoints were visited within the Development Area with photography taken and light measurements during the night time survey.
- 5-3 The plan in **Figure 4** displays the defined view points locations. For detailed location maps and GPS coordinates, refer to the individual view point survey pages within this document.
- 5-4 **Proposed Development Location:**  
*Eastlands Car Park, Speke Boulevard, Halewood, Liverpool, L24 9LE*  
  
*Google:*  
*952J+V9C Liverpool*  
  
*What3Words:*  
*///spellings.appeal.scoring*  
  
The boundary of the Proposed Development Site is shown in red with locations of on-site viewpoints marked in **Figure 4** with the orientation indicated and numbered sequentially.

Figure 4 - On-Site Viewpoint Plan



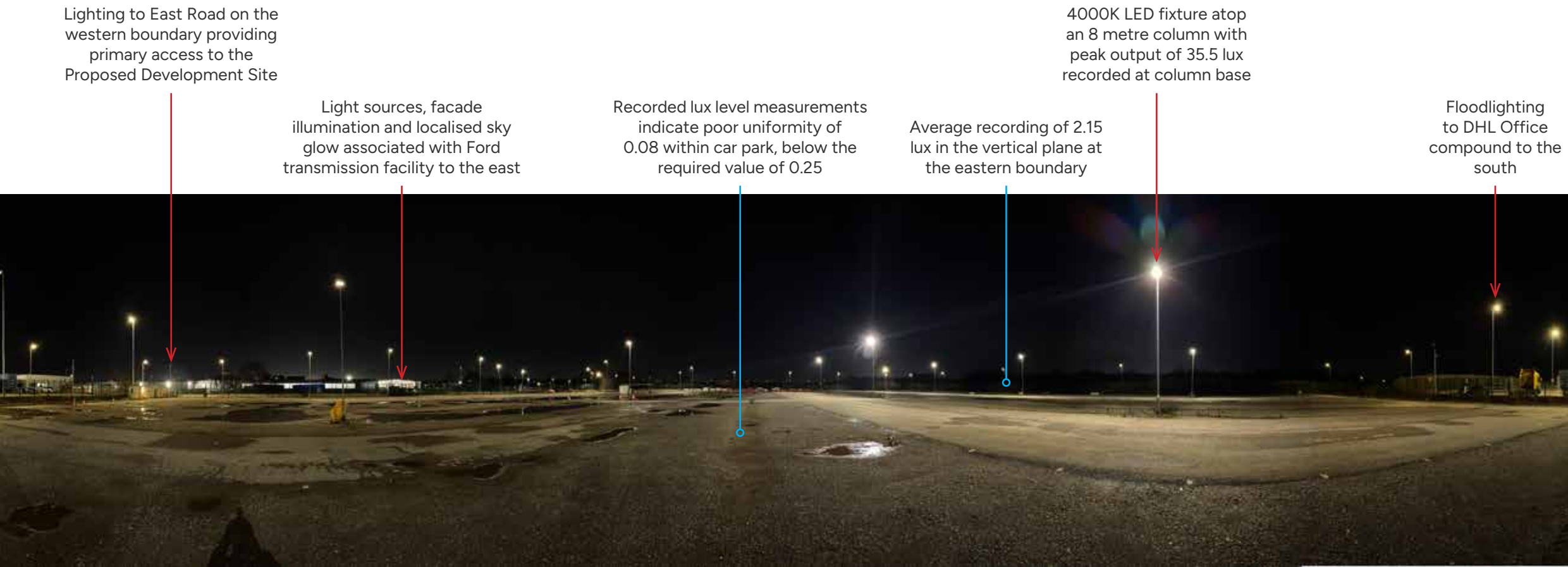
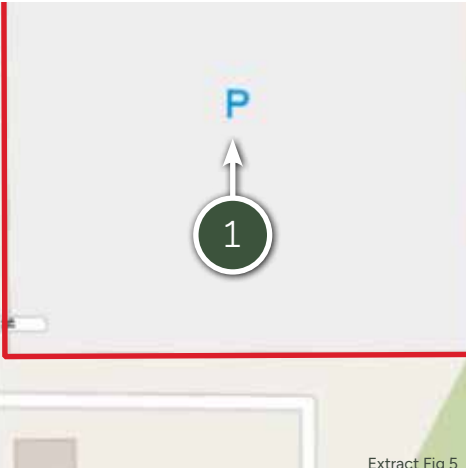
DAY SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 1                     |
| Date       | 17.02.2026            |
| Time       | 13:30                 |
| GPS        | 53.21060, 2.49086     |
| Compass    | 0 N                   |
| Temp       | 4°C                   |
| Visibility | Clear / Blanket Cloud |



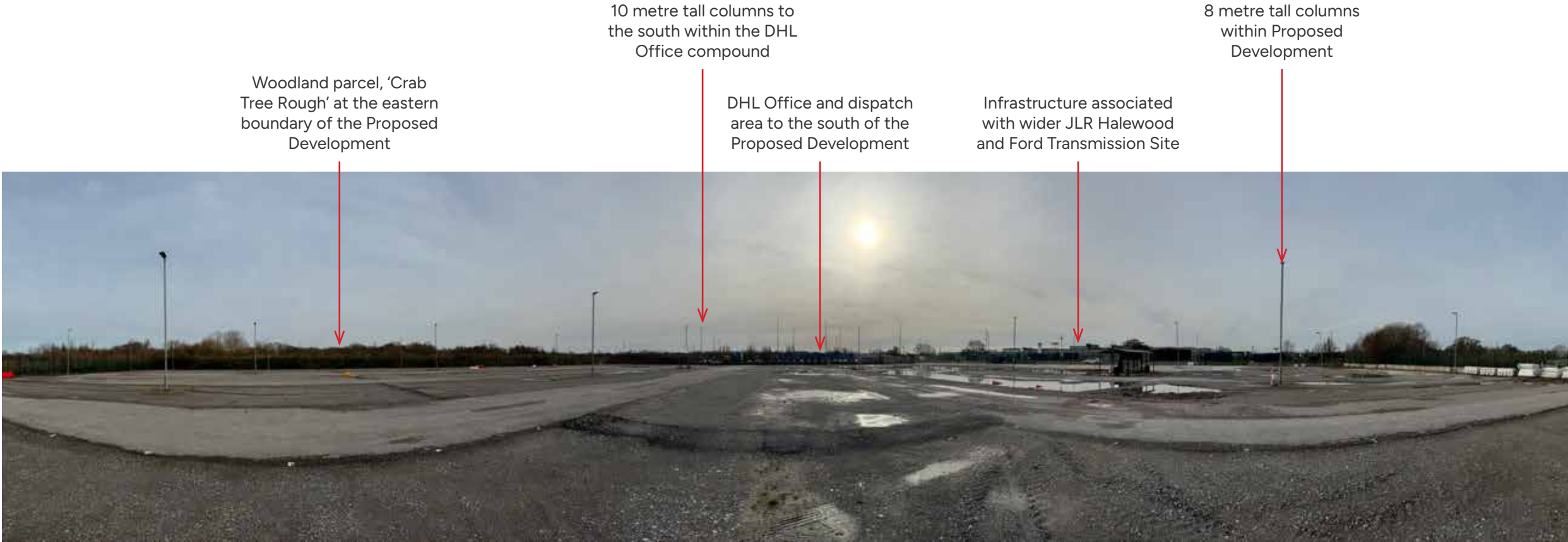
NIGHT SURVEY

|            |                   |
|------------|-------------------|
| Location   | 3                 |
| Date       | 17.02.2026        |
| Time       | 20:44             |
| GPS        | 53.21060, 2.49086 |
| Compass    | 0 N               |
| Temp       | 1°C               |
| Visibility | Clear / No Cloud  |



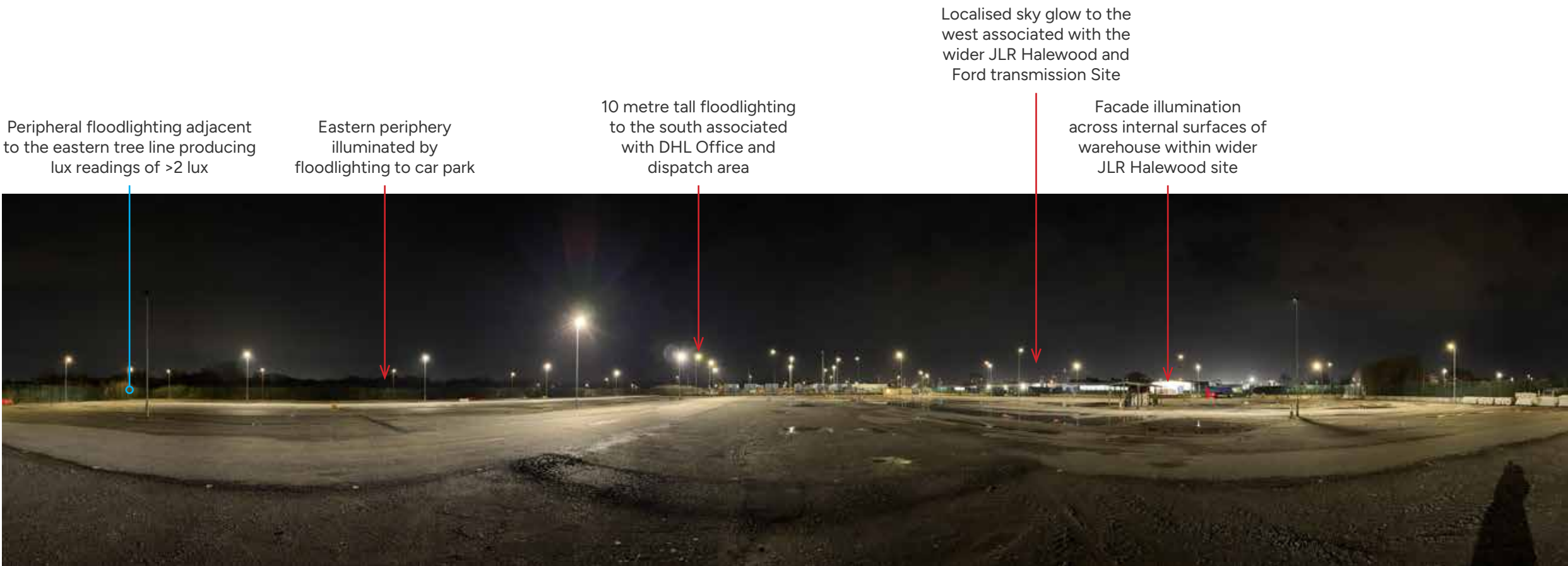
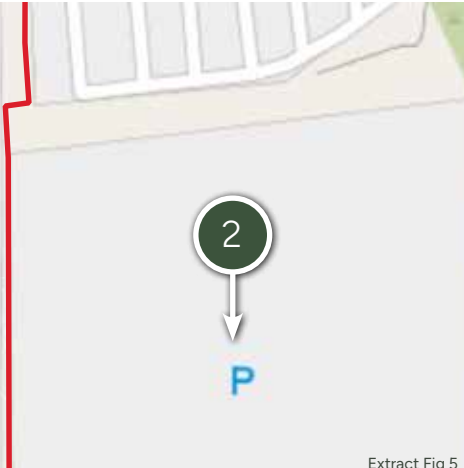
DAY SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 2                     |
| Date       | 17.02.2026            |
| Time       | 13:30                 |
| GPS        | 53.21088, 2.49089     |
| Compass    | 180 S                 |
| Temp       | 4°C                   |
| Visibility | Clear / Blanket Cloud |



NIGHT SURVEY

|            |                   |
|------------|-------------------|
| Location   | 3                 |
| Date       | 17.02.2026        |
| Time       | 20:44             |
| GPS        | 53.21088, 2.49089 |
| Compass    | 180 S             |
| Temp       | 1°C               |
| Visibility | Clear / No Cloud  |



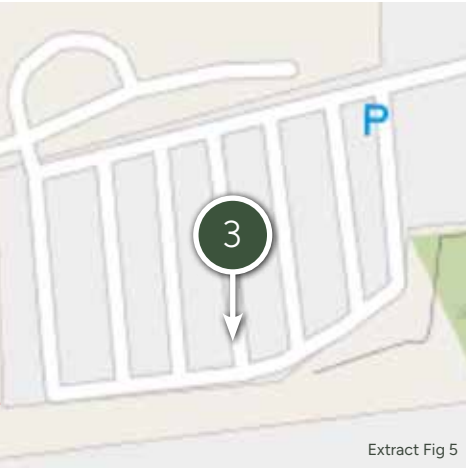
DAY SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 3                     |
| Date       | 17.02.2026            |
| Time       | 13:53                 |
| GPS        | 53.21117, 2.49087     |
| Compass    | 180 S                 |
| Temp       | 4°C                   |
| Visibility | Clear / Partial Cloud |



NIGHT SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 3                     |
| Date       | 17.02.2026            |
| Time       | 21:07                 |
| GPS        | 53.21117, 2.49087     |
| Compass    | 180 S                 |
| Temp       | 1°C                   |
| Visibility | Clear / Blanket Cloud |



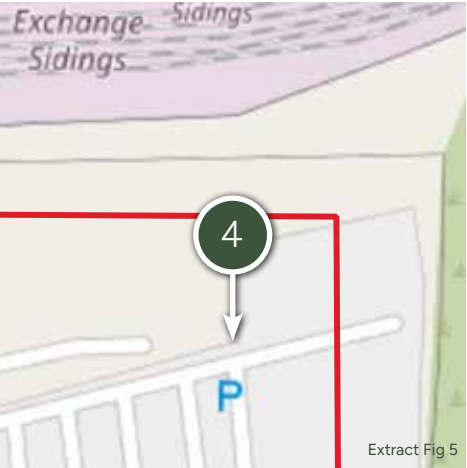
DAY SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 4                     |
| Date       | 17.02.2026            |
| Time       | 14:12                 |
| GPS        | 53.21141, 2.49066     |
| Compass    | 180 S                 |
| Temp       | 4°C                   |
| Visibility | Clear / Partial Cloud |



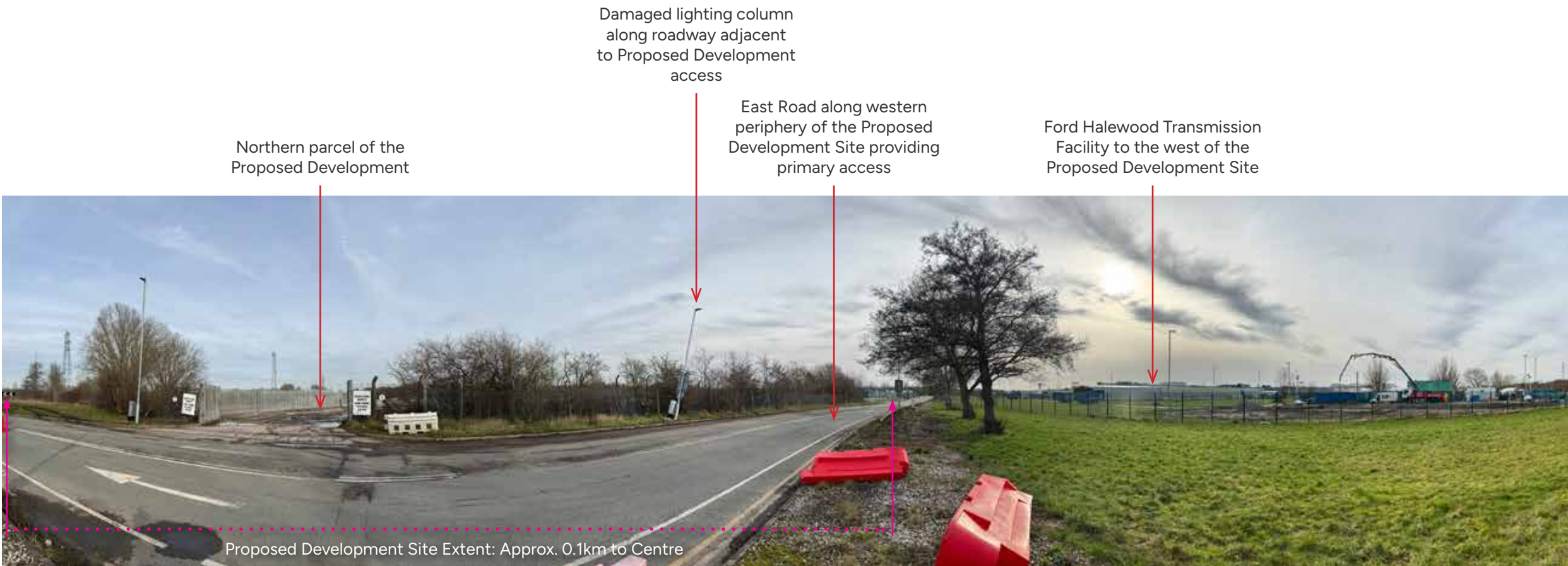
NIGHT SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 4                     |
| Date       | 17.02.2026            |
| Time       | 21:35                 |
| GPS        | 53.21141, 2.49066     |
| Compass    | 180 S                 |
| Temp       | 1°C                   |
| Visibility | Clear / Blanket Cloud |



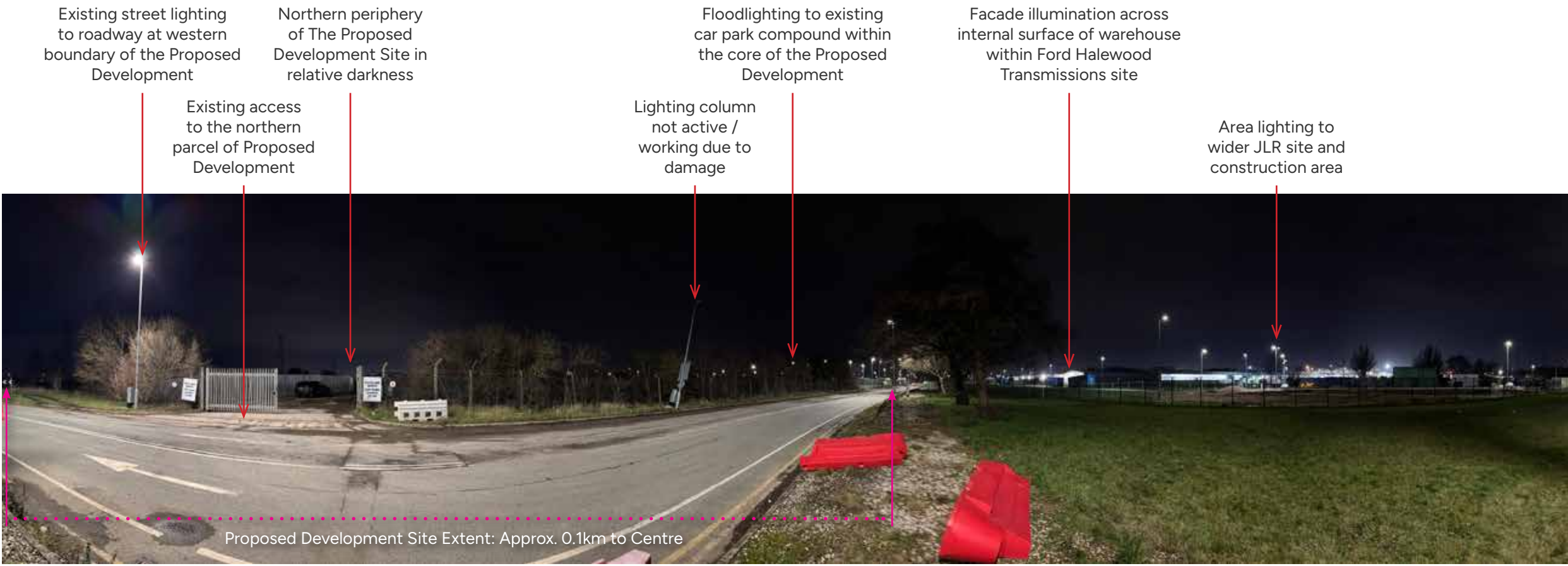
DAY SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 5                     |
| Date       | 17.02.2026            |
| Time       | 14:26                 |
| GPS        | 53.21120, 2.49135     |
| Compass    | 180 S                 |
| Temp       | 4°C                   |
| Visibility | Clear / Partial Cloud |



NIGHT SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 5                     |
| Date       | 17.02.2026            |
| Time       | 21:55                 |
| GPS        | 53.21120, 2.49135     |
| Compass    | 180 S                 |
| Temp       | 1°C                   |
| Visibility | Clear / Partial Cloud |



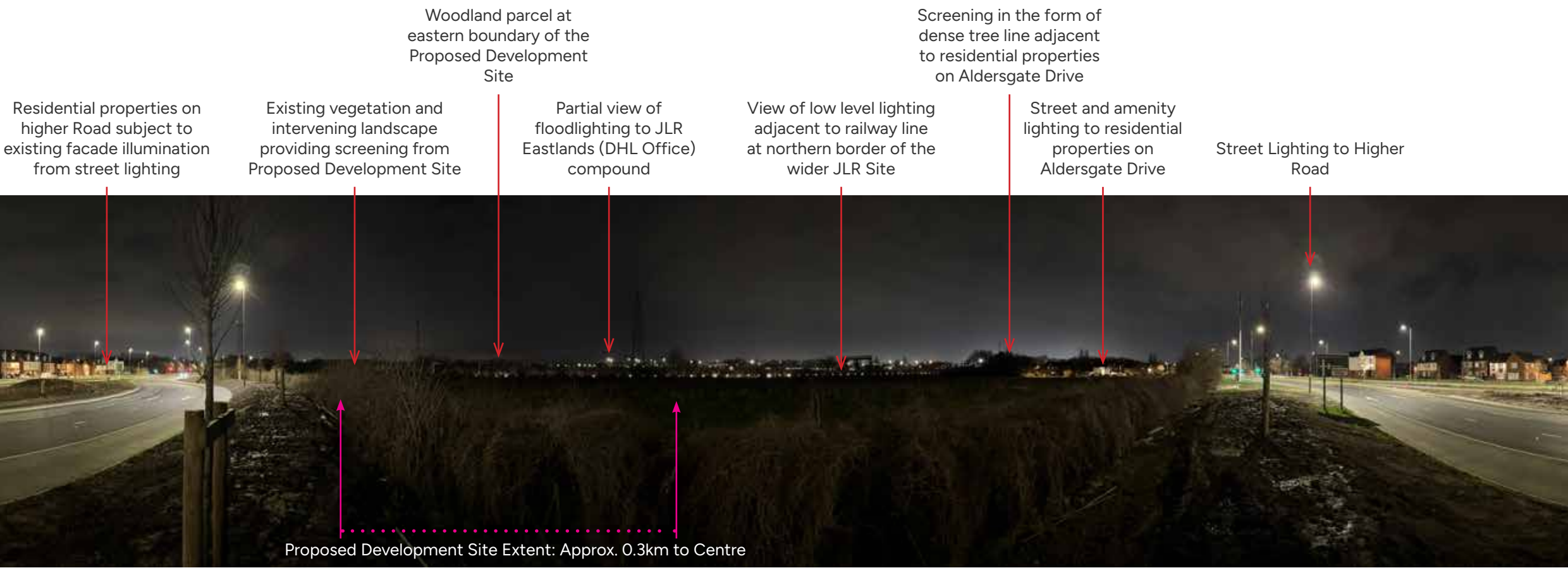
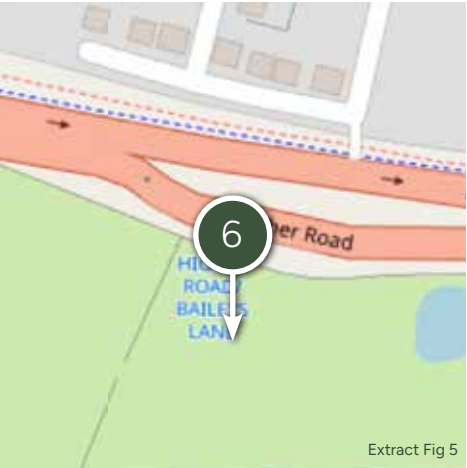
DAY SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 6                     |
| Date       | 17.02.2026            |
| Time       | 14:52                 |
| GPS        | 53.21204, 2.49112     |
| Compass    | 180 S                 |
| Temp       | 4°C                   |
| Visibility | Clear / Partial Cloud |



NIGHT SURVEY

|            |                       |
|------------|-----------------------|
| Location   | 6                     |
| Date       | 17.02.2026            |
| Time       | 22:20                 |
| GPS        | 53.21204, 2.49112     |
| Compass    | 180 S                 |
| Temp       | 1°C                   |
| Visibility | Clear / Partial Cloud |



# Viewpoint Lux Level Survey

## 6 - Methodology

- 6-1 The location plan in **Figure 5** displays the measurement points locations.
- 6-2 Existing lighting conditions were measured in lux to a precision of two decimal places using a professional calibrated light meter at 1.5 metres above ground for vertical measurements and at ground level for horizontal measurements in line with guidance set out in ILP PLG:04 (2013) Guidance on Undertaking Environmental Lighting Impact Assessments.
- 6-3 Measurements shown in **Table 2 - Viewpoint Lux Level Survey** were taken at each location with three sequential measurements recorded to check the results for accuracy. Prevailing atmospheric conditions will inevitably affect the measurements due to the variation of ambient illumination from moonlight or sky glow. Therefore, the results record the level of 'contextual darkness' at the time of observation.
- 6-4 The moon was 0.0% illuminated and was below the horizon during the survey (rising at 07:47).

Table 2 - Viewpoint Lux Level Survey

| Location | Time  | Horizontal<br>Max Lux<br>(Ground Level) | North<br>Max Lux<br>(Vertical 1.5m) | East<br>Max Lux<br>(Vertical 1.5m) | South<br>Max Lux<br>(Vertical 1.5m) | West<br>Max Lux<br>(Vertical 1.5m) |
|----------|-------|-----------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|------------------------------------|
| 1        | 20:11 | 5.64                                    | 5.11                                | 9.14                               | 3.08                                | 1.57                               |
| 2        | 20:44 | 3.87                                    | 0.78                                | 3.90                               | 5.92                                | 1.31                               |
| 3        | 21:07 | 0.19                                    | 0.16                                | 0.19                               | 0.51                                | 0.32                               |
| 4        | 21:35 | 0.12                                    | 0.12                                | 0.11                               | 0.22                                | 0.26                               |
| 5        | 21:55 | 22.85                                   | 21.08                               | 5.52                               | 1.49                                | 2.20                               |
| 6        | 22:20 | 1.28                                    | 1.20                                | 1.23                               | 0.15                                | 1.07                               |

## 7 - Summary of Observations

- 7-1 The Proposed Development Site features existing floodlighting throughout the southern compound and along its eastern periphery. The Site was observed to be subject to illumination and light spill from the floodlighting associated with the DHL Office compound to the south and from existing street lighting along East Road. The northern parcel however is observed to be in relative darkness, subject to minor light spill from the southern compound.
- 7-2 The wider JLR Halewood is observed to be well lit, with localised sky glow typical of this type of site and infrastructure visible within the Proposed Development Site. Light sources and minor localised sky glow associated with the residential development and adjacent streets are also visible within the Proposed Development to the north, however is not considered to be significant.
- 7-3 Lower measurements were recorded within the northern compound due to the absence of artificial lighting and distance from existing floodlighting to the south.
- 7-4 The peak measurements, shown in viewpoint 5 are due to the close proximity to existing street lighting along East Road, and therefore in line with the anticipated level of illuminance for the road type.
- 7-5 It should be noted that not all lighting was active during the survey.

Figure 5 - Vertical Lux Survey Location Plan

Vertical Lux Level Survey Locations. Scale 1:5000 @ A3 - The licence for ESRI World Imagery: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

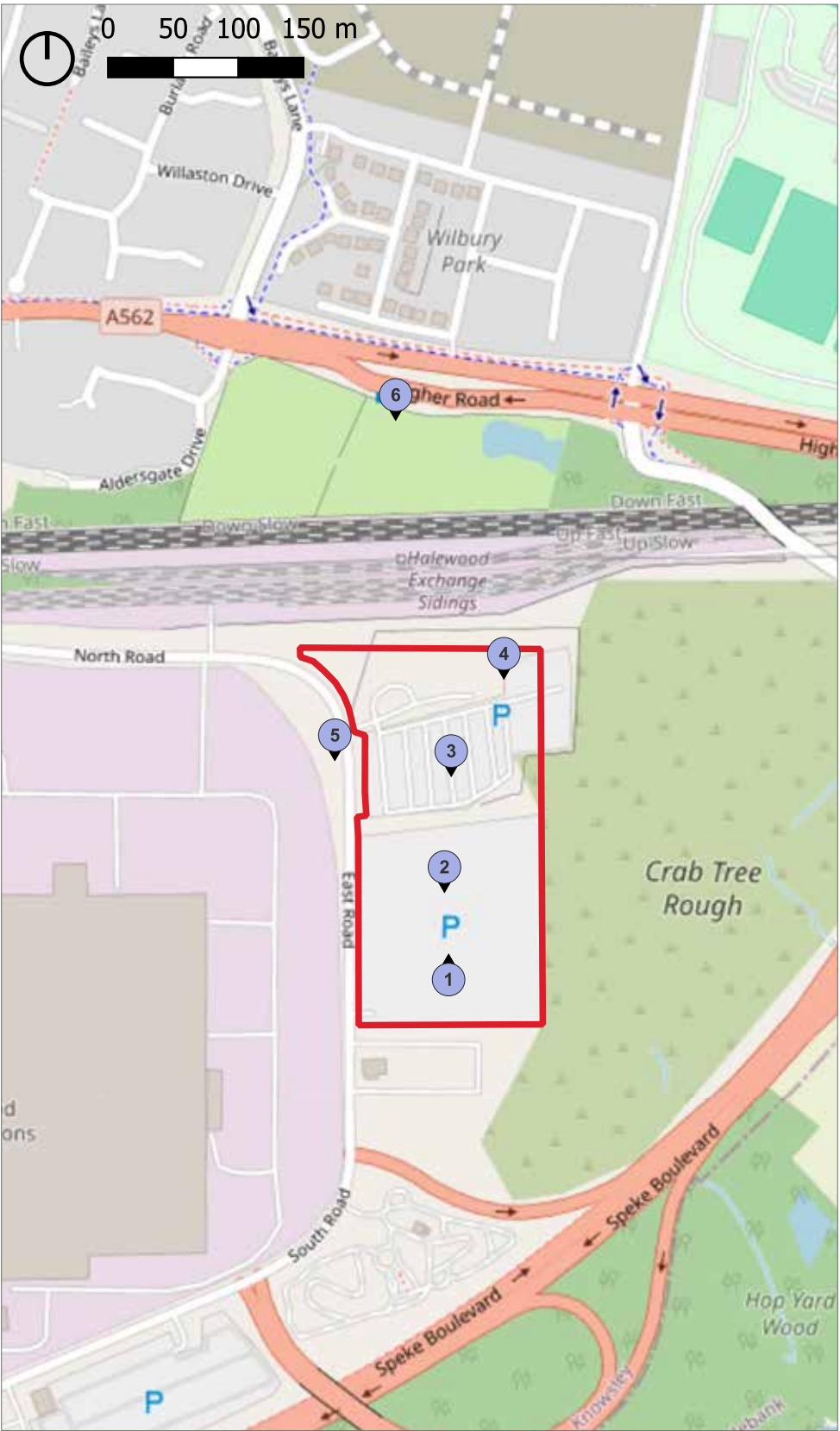


Figure 6 - Peripheral Lighting  
Floodlighting along east periphery



Figure 7 - Peripheral Lighting  
Floodlighting along west periphery

# Vertical Lux Level Survey

## 8 - Existing Site Condition & Methodology

- 8-1 Existing lighting conditions were measured in lux to a precision of two decimal places using a professional calibrated light meter at 1.5 metres above ground for vertical measurements.
- 8-2 Vertical measurements were taken at each location representing the face of the vertical feature, or as close to it as practical, with three sequential measurements recorded to check the results for accuracy. Prevailing atmospheric conditions will inevitably affect the measurements due to the variation of ambient illumination from moonlight or sky glow. Therefore, the results record the level of contextual darkness at the time of observation. The intention of the Lux Level Survey was to capture a baseline for the key features that may require preservation in contextual darkness for the benefit of ecology.
- 8-3 The vertical measurements taken at the north and eastern boundary associated within the northern compound demonstrate low to negligible amounts of light received from the Site, with the shared boundaries to be below 0.5 lux.
- 8-4 Higher readings were recorded at the periphery of the southern compound due to influence from existing floodlighting within the Site and to the south within the DHL Office compound.

Table 3 - Lux Survey

| Location                                                                                                                                                                                                                                                    | Max Lux<br>(Vertical @ 1.5m) | Group F<br>Light currently received at the eastern boundary of the northern Eastland compound site. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Group E</b>                                                                                                                                                                                                                                              |                              |                                                                                                     |
| Light currently received at the eastern boundary of the southern Eastland compound site adjacent to the parcel of scrub and woodland with influence of lighting from adjacent area floodlighting to the existing car park and peripheral security lighting. |                              |                                                                                                     |
| E1                                                                                                                                                                                                                                                          | 2.64                         | F1 0.24                                                                                             |
| E2                                                                                                                                                                                                                                                          | 1.20                         | F2 0.25                                                                                             |
| E3                                                                                                                                                                                                                                                          | 1.74                         | F3 0.21                                                                                             |
| E4                                                                                                                                                                                                                                                          | 1.15                         | F4 0.22                                                                                             |
| E5                                                                                                                                                                                                                                                          | 1.45                         | Average 0.23                                                                                        |
| E6                                                                                                                                                                                                                                                          | 2.11                         | <b>Group N</b>                                                                                      |
| E7                                                                                                                                                                                                                                                          | 4.79                         | Light currently received at the northern boundary of the Site.                                      |
| Average                                                                                                                                                                                                                                                     | 2.15                         | N1 0.36                                                                                             |
|                                                                                                                                                                                                                                                             |                              | N2 0.37                                                                                             |
|                                                                                                                                                                                                                                                             |                              | N3 0.26                                                                                             |
|                                                                                                                                                                                                                                                             |                              | N4 0.22                                                                                             |
|                                                                                                                                                                                                                                                             |                              | N5 0.21                                                                                             |
|                                                                                                                                                                                                                                                             |                              | N6 0.21                                                                                             |
|                                                                                                                                                                                                                                                             |                              | N7 0.23                                                                                             |
|                                                                                                                                                                                                                                                             |                              | Average 0.27                                                                                        |

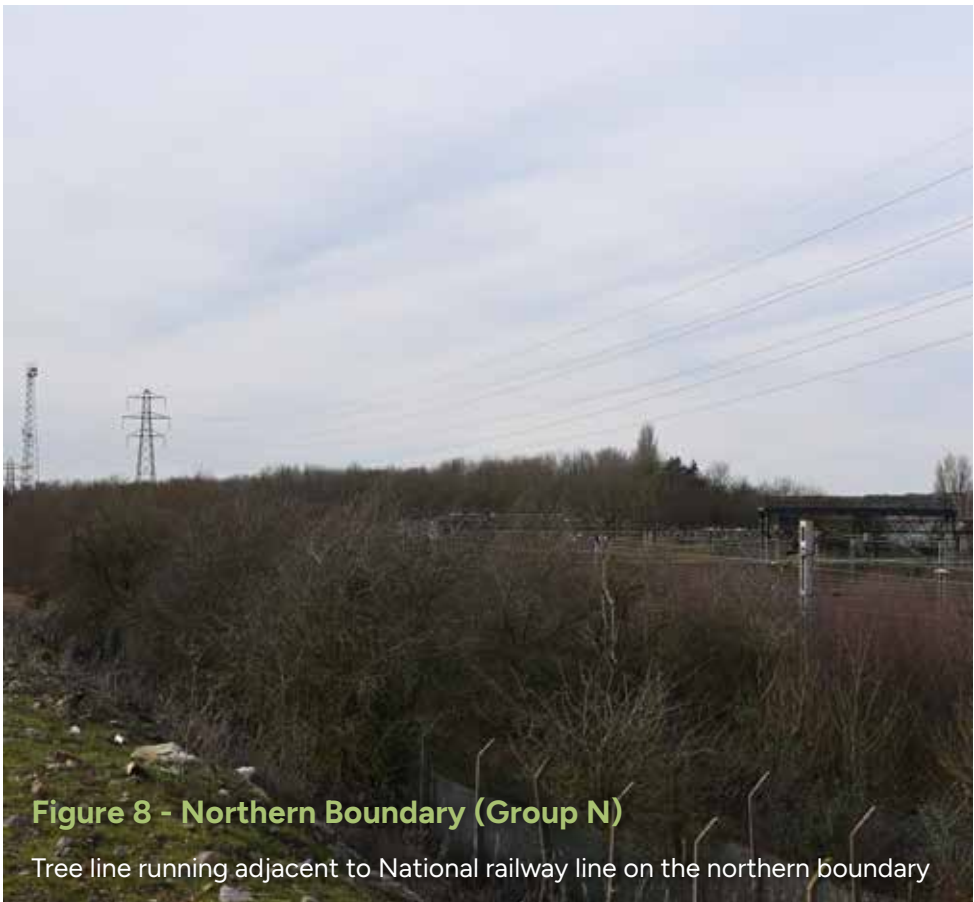


Figure 10 - Vertical Lux Survey Location Plan

Vertical Lux Level Survey Locations. Scale 1:2500 @ A3 - The licence for ESRI World Imagery: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Roadway & Area Lighting

## 9 - Methodology

- 9-1 Existing lighting conditions were measured in lux to a precision of two decimal places using a professional calibrated light meter at ground level for horizontal measurements.
- 9-2 The capturing of data is intended to demonstrate a representative sample and provides a baseline reference in terms of existing lux levels for both the existing roadway and task area within the Proposed Development.
- 9-3 Locations of measurement points and groups are shown in **Figure 12** and **Figure 14**.

Table 4 - Uniformity

| Location | Max Lux<br>(Horizontal @<br>Ground Level) |
|----------|-------------------------------------------|
|----------|-------------------------------------------|

Lux level measurements were taken at 5 metre spacings between the existing lighting columns within the southern compound to present the existing level of illumination and uniformity across the area:

|            |       |
|------------|-------|
| U1         | 35.5  |
| U2         | 23.8  |
| U3         | 5.1   |
| U4         | 1.2   |
| U5         | 0.9   |
| U6         | 19.2  |
| U7         | 24.6  |
| U8         | 7.6   |
| U9         | 2.6   |
| U10        | 2.4   |
| U11        | 9.9   |
| U12        | 11.0  |
| U13        | 8.7   |
| U14        | 7.1   |
| U15        | 9.9   |
| U16        | 20.4  |
| Average    | 11.87 |
| Uniformity | 0.08  |

Table 5 - Road Lighting

| Location | Max Lux<br>(Horizontal @<br>Ground Level) |
|----------|-------------------------------------------|
|----------|-------------------------------------------|

Lux level measurements were taken representing an indicative sample of the existing road lighting on East Road at the western boundary of the Site.

|            |       |
|------------|-------|
| R1         | 22.1  |
| R2         | 15.7  |
| R3         | 9.2   |
| R4         | 9.8   |
| R5         | 15.4  |
| R6         | 23.6  |
| Average    | 15.97 |
| Uniformity | 0.58  |

The access road is likely to have been designed to an equivalent of Lighting Class P1 (CRE 11:2010) for a low speed, low traffic area. P1 parameters are shown below:

| Lighting Class P1 Parameters<br>CRE 115: 2010. |       |
|------------------------------------------------|-------|
| Average                                        | >15.0 |
| Minimum                                        | >3.0  |
| Uniformity                                     | >0.20 |

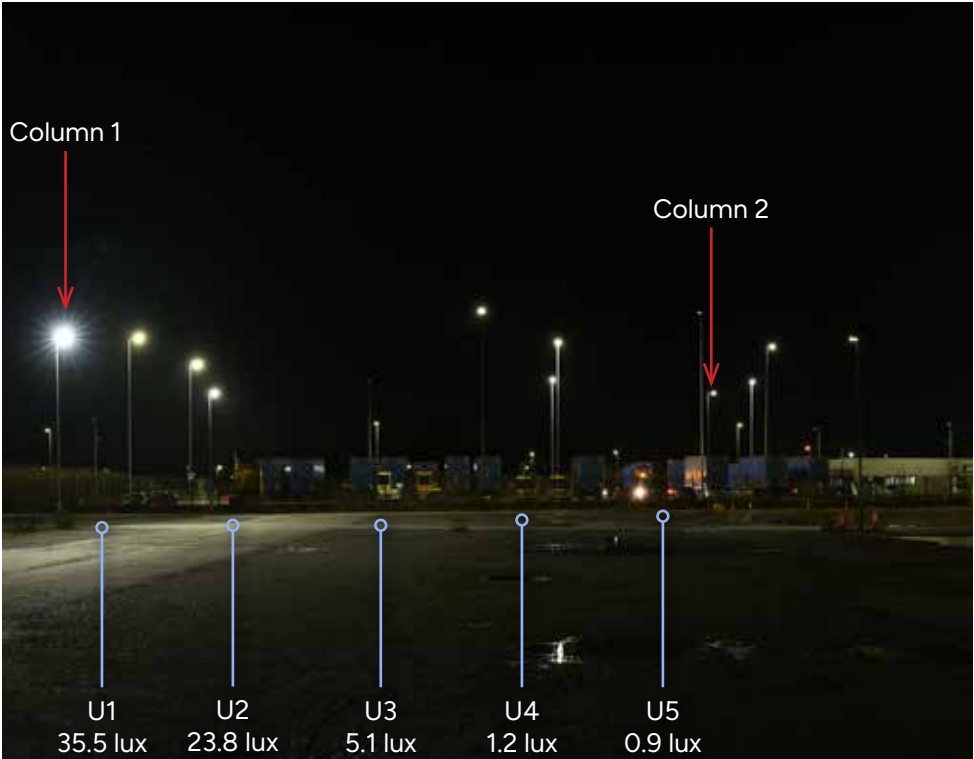


Figure 11 - Southern Compound Uniformity

Location of uniformity study within southern compound of Site

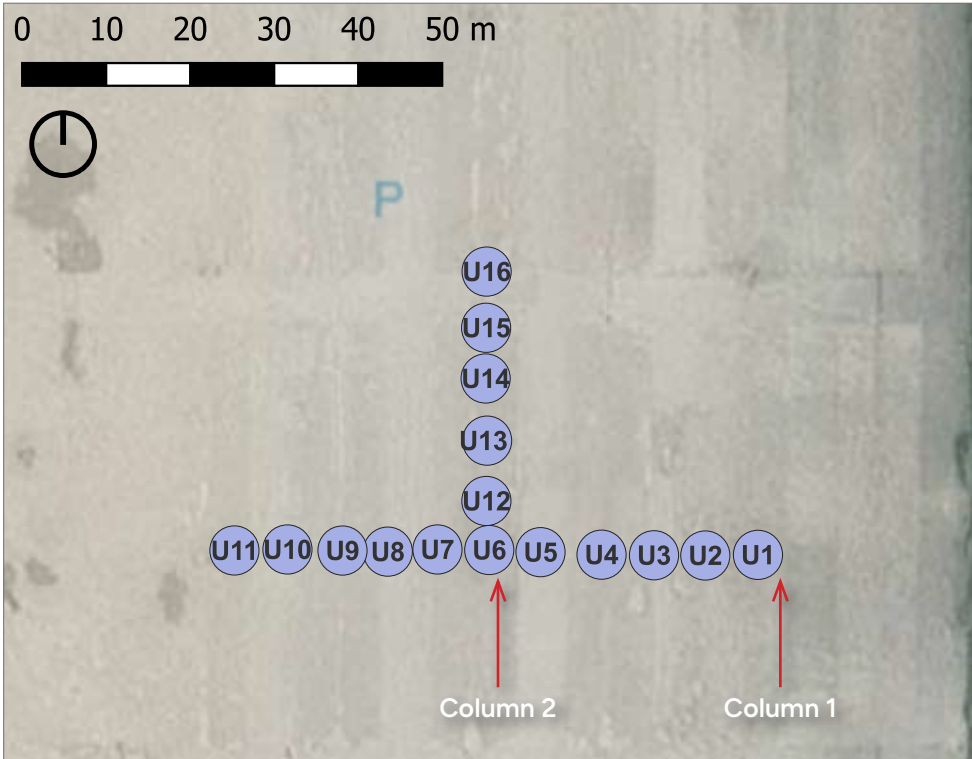


Figure 12 - Uniformity Study Measurement Locations

Location of uniformity study points within southern compound of Site

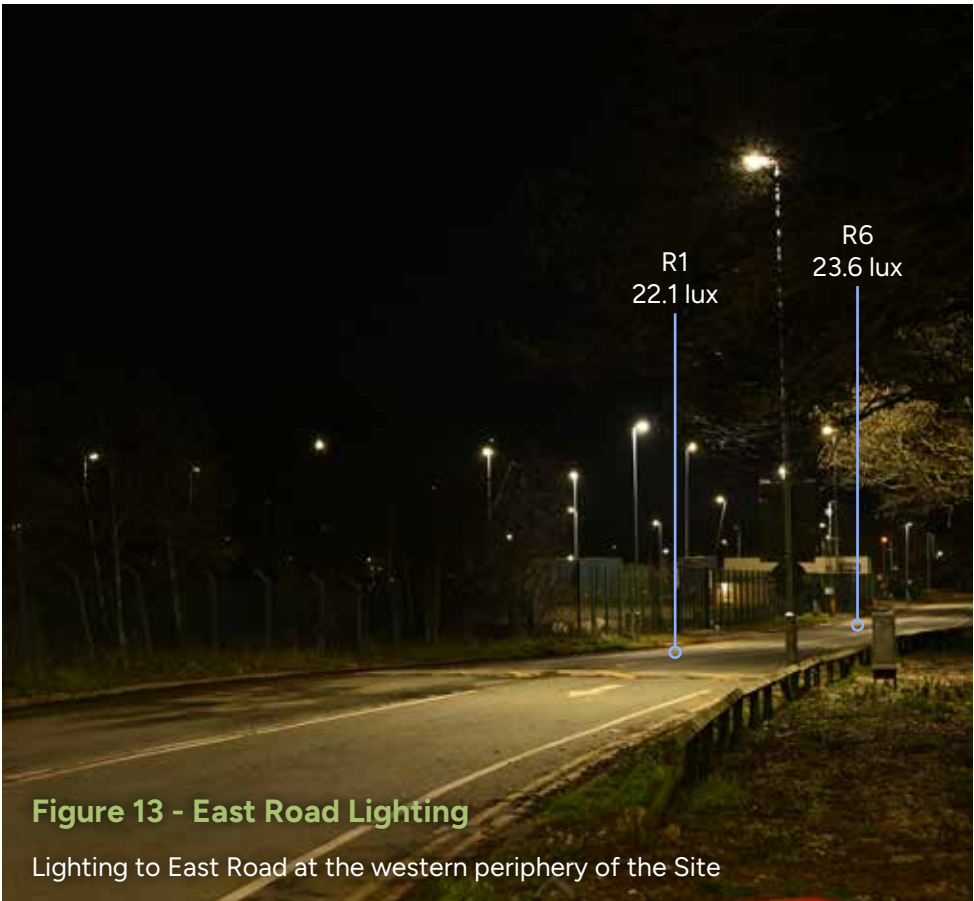


Figure 13 - East Road Lighting

Lighting to East Road at the western periphery of the Site

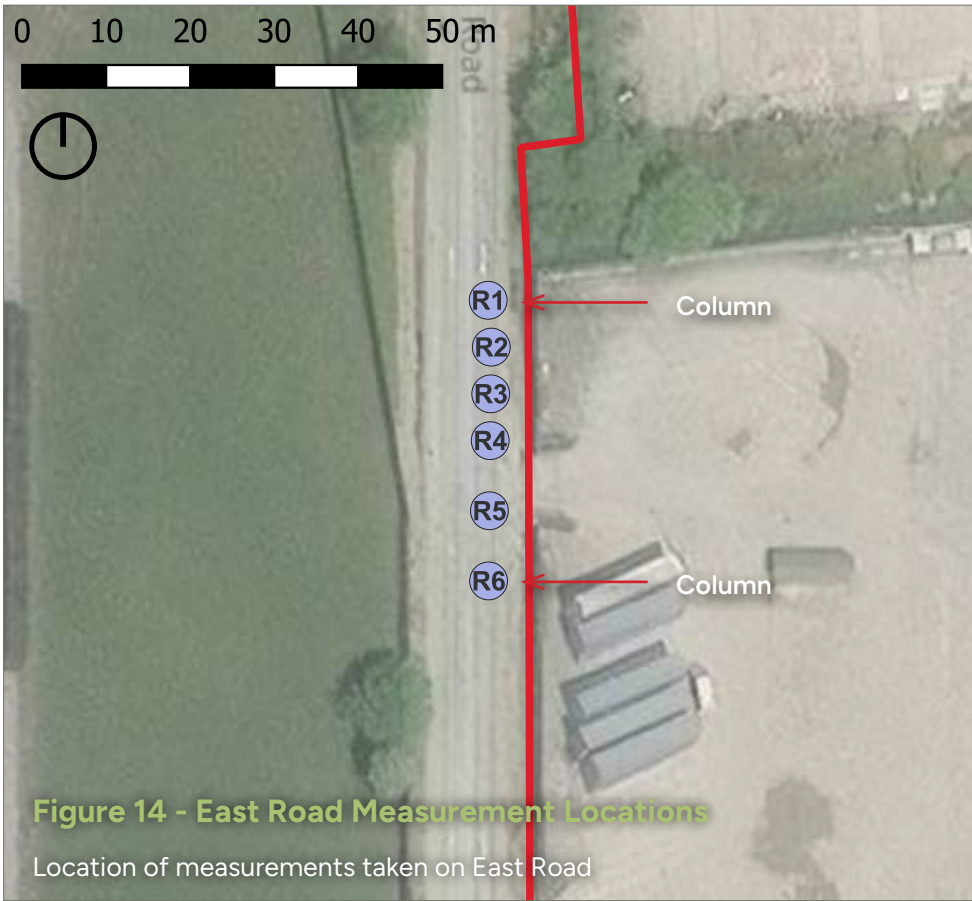


Figure 14 - East Road Measurement Locations

Location of measurements taken on East Road

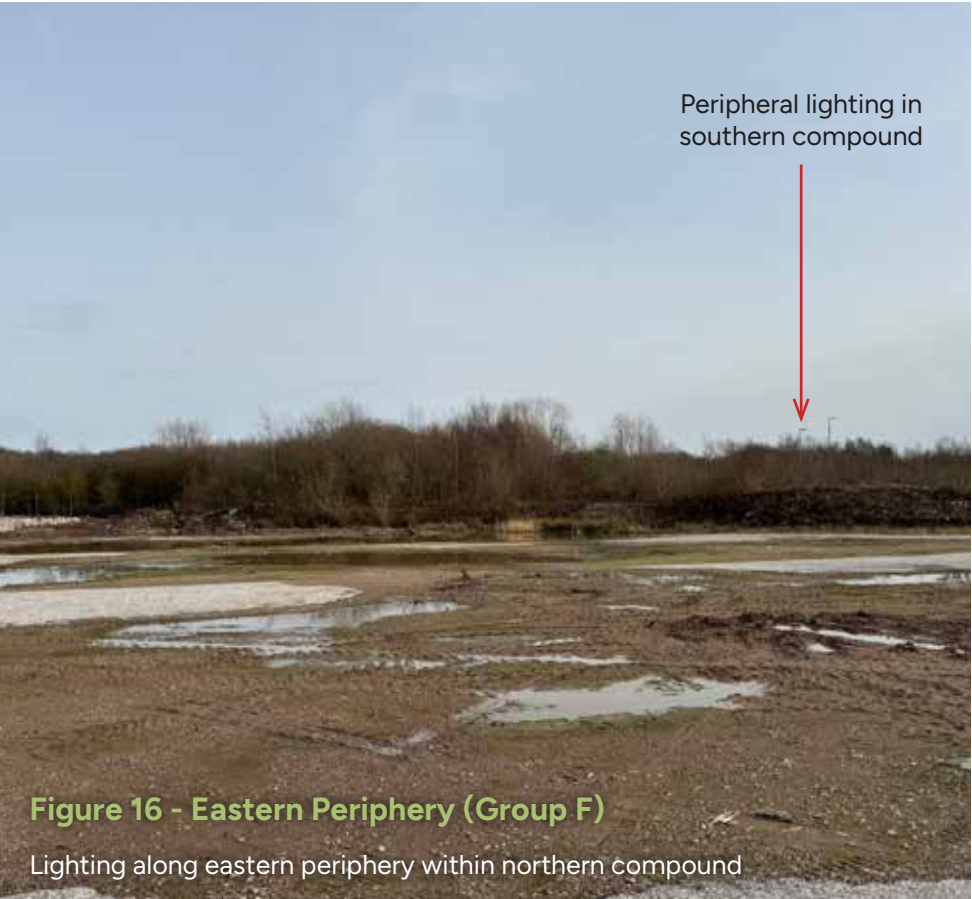
# Lux Level Survey Summary

## 10 - Summary of Observations

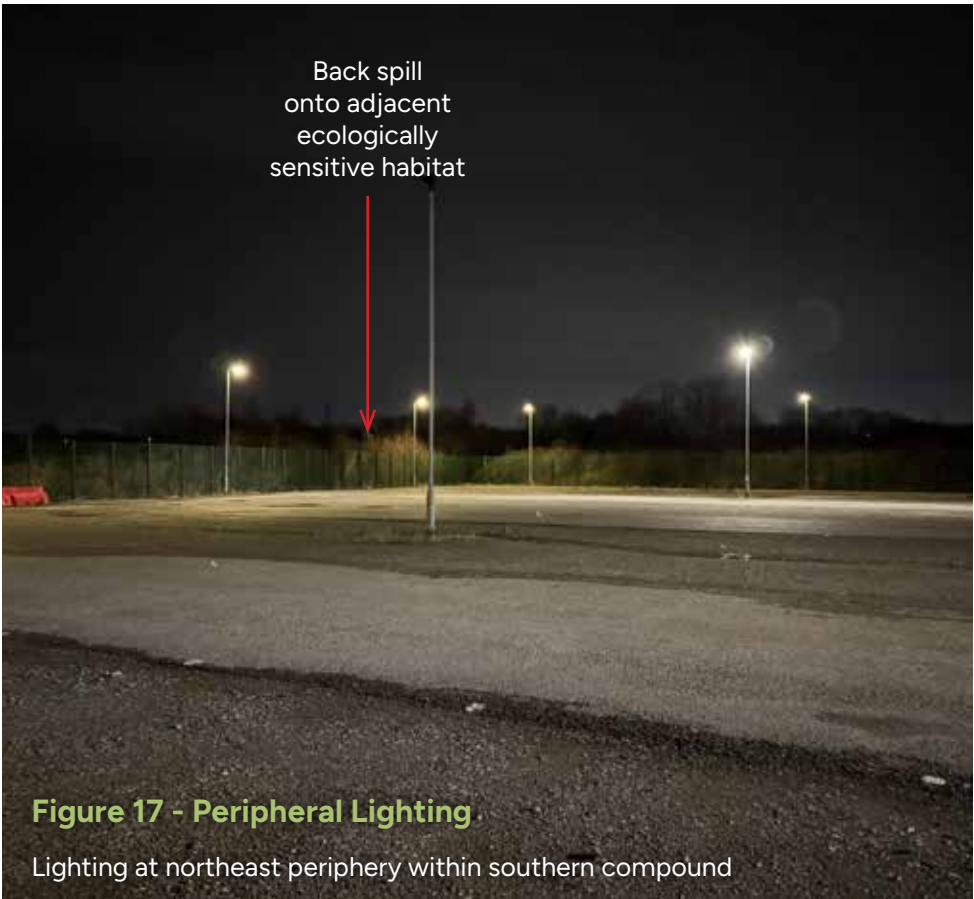
- 10-1 The Proposed Development Site consists of two unused parcels of land with existing peripheral and area floodlighting throughout the southern compound.
- 10-2 Due to an absence of lighting within the northern compound, the area was observed to be in relative darkness, subject only to minor light spill from the southern compound. The vertical measurements taken at key receptors including the woodland parcel to the east and the shared boundary with the railway to the north were measured to below 0.5 lux and in 'relative darkness'.
- 10-3 In addition to the existing floodlighting within the Proposed Development, the southern compound was observed to also be subject to illumination and light spill from the floodlighting associated with the DHL Office compound at the southern boundary and from existing street lighting along East Road.
- 10-4 The vertical measurements taken along the eastern periphery within the southern compound indicate that the area of existing vegetation and stands of trees within 'Crab Tree Rough' are subject to minor adverse light pollution with peak 'hot spots' adjacent to peripheral floodlighting at the boundary.
- 10-5 A contribution to localised sky glow was observed from the wider JLR Halewood and Ford Transmission Site in addition to the background sky glow associated with the wider conurbation of Liverpool to the west. However, this is unlikely to be a significant factor in the levels recorded at these features.
- 10-6 The scale of the existing lighting installations associated with the wider JLR Site suggest that minor changes within the Proposed Development Site are unlikely to be noticeable or present an additional adverse effect, however care should be taken to mitigate adverse light pollution to the northern and eastern boundaries.
- 10-7 Measurements taken along the existing roadway, East Road, indicate the lighting has been designed to an equivalent of Lighting Class P1 with an average lux level of >15 lux and a uniformity above 0.2.
- 10-8 The existing floodlighting throughout the southern compound within the Proposed Development was observed to be of an insufficient uniformity for a car park at 0.08 compared to the minimum requirement of 0.25.
- 10-9 It should be noted that not all lighting was active during the survey as shown in **Figure 17**.



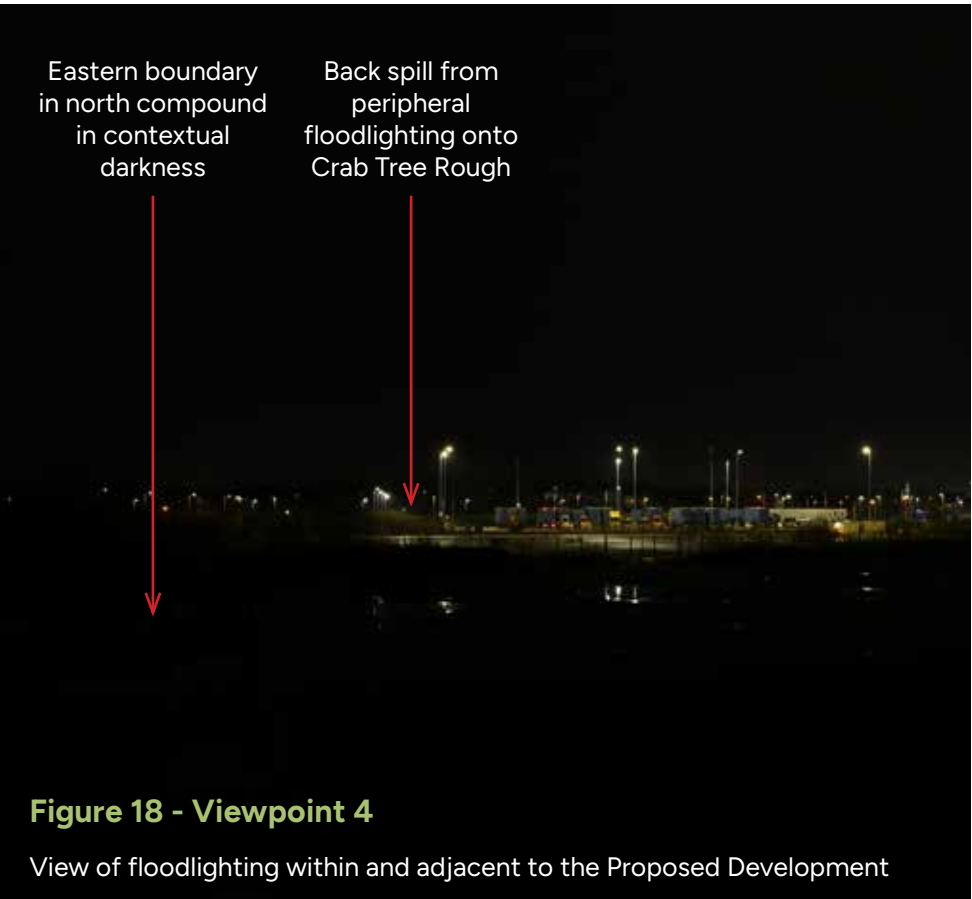
**Figure 15 - Eastern Periphery (Group E)**  
Lighting along eastern periphery within southern compound



**Figure 16 - Eastern Periphery (Group F)**  
Lighting along eastern periphery within northern compound



**Figure 17 - Peripheral Lighting**  
Lighting at northeast periphery within southern compound



**Figure 18 - Viewpoint 4**  
View of floodlighting within and adjacent to the Proposed Development



South Compound



North Compound



11 - Receptor 1

Crab Tree Rough (East)

- 11-1 Vegetation parcel of wood and scrub land at the eastern boundary of the Proposed Development Site.
- 11-2 The shared boundary within the southern compound is observed to be subject to minor adverse light pollution from existing peripheral floodlighting.
- 11-3 Light readings taken at the eastern boundary to the north indicate the area to be in 'contextual darkness' with measurements below 0.5 lux.
- 11-4 Care should be taken to preserve areas of 'contextual darkness' to allow light sensitive ecology to traverse through interconnected habitats.



12 - Receptor 2

Northern Habitat Corridor

- 12-1 Tree line running adjacent to the national railway line at the northern boundary.
- 12-2 Due to an absence of light within the northern compound and an approximately 2 metre high bund along the perimeter, minimal light was received at this receptor with measurements indicating the area to be 'contextual darkness' with readings below 0.5 lux.
- 12-3 Where possible lighting should be limited at boundaries areas observed to be in 'contextual darkness' to preserve areas of dark habitat for light sensitive ecology.



13 - Receptor 3

Higher Road Residential Properties

- 13-1 Residential properties approximately 0.3km from the Proposed Development Site.
- 13-2 The facades of the properties are currently subject to light pollution from existing street lighting along Higher Road.
- 13-3 The properties have partial overlooking views towards the Site.
- 13-4 Due to existing screening in the form of vegetation, distance and intervening landscape, these properties are not considered at risk of obtrusive light as a result of a sensitively designed lighting scheme within the Proposed Development Site.



## SUMMARY – SUMMARY OF OBSERVATIONS

### 14 - Summary of Observations

- 14-1 The Proposed Development Site includes two unused compounds, located to the west of the wider JLR Halewood and Ford Transmission site.
- 14-2 An existing lighting strategy is in place within the southern parcel of the Proposed Development Site utilising both area and peripheral floodlighting.
- 14-3 The eastern periphery of the Proposed Development is bounded by 'Crab Tree Rough', a parcel of vegetation and woodland, part of a wider network of linked habitats. The eastern face of this feature within the south compound of the Site is observed to be subject to light spill and illumination to varying degrees of intensity, consequently reducing its quality as habitat for light sensitive species.
- 14-4 As peripheral and area floodlighting only exists within the southern parcel, the eastern boundary to the north is only subject to minor illumination, with the majority of the feature observed to be in 'contextual darkness'.
- 14-5 Similarly, the northern boundary with national railway line and adjacent tree line is observed to be in 'contextual darkness' with vertical measurements recorded below 0.5 lux, indicating this area to be of potential higher value as part of a wider network of foraging and commuting routes for light sensitive species such as bats. As such, this habitat corridor must be considered in terms of impact of changes to lighting within the Proposed Development.
- 14-6 A noticeable contribution to localised sky glow was observed from the wider JLR Halewood site, with a more general background of significant sky glow from the wider conurbation of Liverpool beyond to the west. Therefore, any changes to lighting within the Development Area are unlikely to change the overall contribution of upward light when considered in the wider context.
- 14-7 Residential receptors were identified beyond the boundary to the north on Higher Road and Aldersgate Drive. However, these receptors are not considered to be at risk from obtrusive light or from changes to the Proposed Development due to distance, intervening landscape and natural screening.

### 15 - Technical Advice Note

- 15-1 The current conditions within the southern compound and wider JLR Site are typical of an industrial facility of this type and scale. Although there is significant illumination in use throughout the hours of darkness, the overall affect on the surrounding environment is not observed to be adverse to surrounding human or ecological receptors.
- 15-2 When considering the addition of new lighting within the Proposed Development, care should be taken to preserve where possible areas of 'contextual darkness' at the east and northern boundaries for the benefit of light sensitive ecology.
- 15-3 Whilst the observed conditions confirm the site to be of low risk in terms of changes to lighting within the Proposed Development Site, a sensitive design resulting in a net reduction in overall light pollution should be employed. The changes required to the existing lighting as a result of the Proposed Development should be used as an opportunity to seek to reduce light spill to the areas of ecological sensitivity to the east and north through careful design and specifications.



Figure 19 - View of Current Lighting Strategy at the Proposed Development Site

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Signatory

David Kendrew

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|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------|--------------|
| Customer:                 | Wardell Armstrong LLP<br>36 Park Row,<br>-<br>-, Leeds<br>LS1 5JL                                                                          |                 |                   |              |
| Date Received:            | 28 Jun 2025                                                                                                                                |                 |                   |              |
| Instrument:               | System ID :                                                                                                                                | ID464947        | Job Number :      | J367761-1    |
|                           | Description :                                                                                                                              | Light Meter     | Ref. Number :     |              |
|                           | Manufacturer :                                                                                                                             | Extech          |                   |              |
|                           | Model Number :                                                                                                                             | LT300           |                   |              |
|                           | Serial Number :                                                                                                                            | 2502076043      |                   |              |
|                           | Procedure :                                                                                                                                | 985 : 1.00.14   |                   |              |
| Environmental Conditions: |                                                                                                                                            |                 |                   |              |
|                           | Temperature :                                                                                                                              | 20 °C ± 3 °C    | Mains Voltage :   | 240 V ± 10 V |
|                           | Relative Humidity :                                                                                                                        | 50 %rh ± 20 %rh | Mains Frequency : | 50 Hz ± 1 Hz |
| Comments:                 | Specification reference: Extech LT300-en-GB_V2.4 2/16 Manual.<br>Instrument was placed in lab and allowed to stabilise before calibration. |                 |                   |              |

| Traceability Information                |               |                    |            |             |
|-----------------------------------------|---------------|--------------------|------------|-------------|
| Instrument Description                  | Serial Number | Certificate Number | Cal. Date  | Cal. Period |
| ORM400 & DH400VL Photometer & Luminance | 34985/1 &     | 149481/ACU         | 12/01/2024 | 104         |
| Sensor                                  | 35150/5       |                    |            |             |
| DH400VL Illuminance Sensor              | 35150/1       | 149481/ABU         | 12/01/2024 | 104         |

Calibrated By: J.Maidens

Date of Calibration: 28 Jun 2025

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Page 2 of 2 Pages

| Test Title               | Tolerance | Applied Value | Reading   | Pass/Fail |
|--------------------------|-----------|---------------|-----------|-----------|
| General Operation        |           |               |           |           |
| Display & Controls       | ---       | ---           | Pass      | Pass      |
| Lux Ranges               |           |               |           |           |
| 400 Lux Range            | 6.8 Lux   | 95.15 Lux     | 92.9 Lux  | Pass      |
| 4000 Lux Range           | 67.3 Lux  | 946 Lux       | 912 Lux   | Pass      |
| 40 k Lux Range           | 715 Lux   | 10.30 kLux    | 9.98 kLux | Pass      |
| **** END OF RESULTS **** |           |               |           |           |

**Uncertainties**  
*Light 20 to 1000 Lux* 20 to 200 Lux ±4.6 % 1.2 Lux ; 200 to 1000 Lux ±4.3 % 1.2 Lux ±1 LSD  
*Light 1K to 20kLux* 1 k to 2 kLux ±4.6 % 1.2 Lux ; 2 k to 20 kLux ±9 % 1.2 Lux ±1 LSD

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Signatory

David Kendrew

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|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------|-------------------|--------------|
| Customer:                                                                                                                                              | Wardell Armstrong LLP<br>36 Park Row,<br>-, Leeds<br>LS1 5JL |                 |                   |              |
|                                                                                                                                                        | Date Received: 28 Jun 2025                                   |                 |                   |              |
| Instrument:                                                                                                                                            | System ID :                                                  | ID464948        | Job Number :      | J367761-2    |
|                                                                                                                                                        | Description :                                                | Light Meter     | Ref. Number :     |              |
|                                                                                                                                                        | Manufacturer :                                               | Martindale      |                   |              |
|                                                                                                                                                        | Model Number :                                               | LM195           |                   |              |
|                                                                                                                                                        | Serial Number :                                              | 318263344       |                   |              |
|                                                                                                                                                        | Procedure :                                                  | 6522 : 1.00.19  |                   |              |
| Environmental Conditions:                                                                                                                              |                                                              |                 |                   |              |
|                                                                                                                                                        | Temperature :                                                | 20 °C ± 3 °C    | Mains Voltage :   | 240 V ± 10 V |
|                                                                                                                                                        | Relative Humidity :                                          | 50 %rh ± 20 %rh | Mains Frequency : | 50 Hz ± 1 Hz |
| Comments: Specification reference: Martindale (LM195) Instruction Manual.<br>Instrument was placed in lab and allowed to stabilise before calibration. |                                                              |                 |                   |              |

Traceability Information

| Instrument Description                         | Serial Number     | Certificate Number | Cal. Date  | Cal. Period |
|------------------------------------------------|-------------------|--------------------|------------|-------------|
| ORM400 & DH400VL Photometer & Luminance Sensor | 34985/1 & 35150/5 | 149481/ACU         | 12/01/2024 | 104         |
| DH400VL Illuminance Sensor                     | 35150/1           | 149481/ABU         | 12/01/2024 | 104         |

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| Test Title              | Tolerance | Applied Value | Reading    | Pass/Fail |
|-------------------------|-----------|---------------|------------|-----------|
| General Operation Tests |           |               |            |           |
| Display & Controls      | ---       | ---           | Pass       | Pass      |
| Light Measurements      |           |               |            |           |
| 200 Lux                 | 3.4 Lux   | 95.15 Lux     | 95.1 Lux   | Pass      |
| 2000 Lux                | 33.4 Lux  | 946 Lux       | 966 Lux    | Pass      |
| 20 k Lux                | 359 Lux   | 10.30 kLux    | 10.55 kLux | Pass      |

\*\*\*\* END OF RESULTS \*\*\*\*

Uncertainties

Light 20 to 1000 Lux 20 to 200 Lux ±4.6 % 1.2 Lux ; 200 to 1000 Lux ±4.3 % 1.2 Lux ±1 LSD  
Light 1K to 20kLux 1 k to 2 kLux ±4.6 % 1.2 Lux ; 2 k to 20 kLux ±9 % 1.2 Lux ±1 LSD

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Paul Beswick

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| Customer:                 | SLR Consulting Ltd<br>3rd Floor, Brew House<br>Jacob Street<br>Tower Hill, Bristol<br>BS2 0EQ                                                   |                 |                   |              |
| Date Received:            | 04 Jul 2025                                                                                                                                     |                 |                   |              |
| Instrument:               | System ID :                                                                                                                                     | ID413555        | Job Number :      | J368625-1    |
|                           | Description :                                                                                                                                   | Light Meter     | Ref. Number :     |              |
|                           | Manufacturer :                                                                                                                                  | Amprobe         |                   |              |
|                           | Model Number :                                                                                                                                  | LM-120          |                   |              |
|                           | Serial Number :                                                                                                                                 | 23110598        |                   |              |
|                           | Procedure :                                                                                                                                     | 1243 : 1.00.18  |                   |              |
| Environmental Conditions: |                                                                                                                                                 |                 |                   |              |
|                           | Temperature :                                                                                                                                   | 20 °C ± 3 °C    | Mains Voltage :   | 240 V ± 10 V |
|                           | Relative Humidity :                                                                                                                             | 50 %rh ± 20 %rh | Mains Frequency : | 50 Hz ± 1 Hz |
| Comments:                 | Specification reference: Amprobe LM-100/120 (LM100_Rev003) Manual.<br>Instrument was placed in lab and allowed to stabilise before calibration. |                 |                   |              |

| Traceability Information                |               |                    |            |             |
|-----------------------------------------|---------------|--------------------|------------|-------------|
| Instrument Description                  | Serial Number | Certificate Number | Cal. Date  | Cal. Period |
| ORM400 & DH400VL Photometer & Luminance | 34985/1 &     | 149481/ACU         | 12/01/2024 | 104         |
| Sensor                                  | 35150/5       |                    |            |             |
| DH400VL Illuminance Sensor              | 35150/1       | 149481/ABU         | 12/01/2024 | 104         |

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Certificate Number  
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| Test Title              | Tolerance | Applied Value | Reading    | Pass/Fail |
|-------------------------|-----------|---------------|------------|-----------|
| General Operation Tests |           |               |            |           |
| Display & Controls      | ---       | ---           | Pass       | Pass      |
| Lux Measurement         |           |               |            |           |
| 200 Lux                 | 4.6 Lux   | 92.95 Lux     | 94.6 Lux   | Pass      |
| 2000 Lux                | 44.6 Lux  | 891 Lux       | 918 Lux    | Pass      |
| 20000 Lux               | 501 Lux   | 10.02 kLux    | 10.34 kLux | Pass      |

\*\*\*\* END OF RESULTS \*\*\*\*

Uncertainties

Light 20 to 1000 Lux 20 to 200 Lux ±4.6 % 1.2 Lux ; 200 to 1000 Lux ±4.3 % 1.2 Lux ±1 LSD  
Light 1K to 20kLux 1 k to 2 kLux ±4.6 % 1.2 Lux ; 2 k to 20 kLux ±9 % 1.2 Lux ±1 LSD



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