

# ELLEN WILKINSON QUAD

## LIGHTING IMPACT REPORT



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### Approval for issue

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# 1 INTRODUCTION

## 1.1 Purpose of the Report

This report has been created to consider the environmental impact of the proposed External Lighting Installation.

The Lighting Strategy study is undertaken for The Ellen Wilkinson Quad at the University of Manchester.

The study has been carried out by RPS to establish the most appropriate External Lighting and associated control and mitigation strategy for the building/development.

This study covers as a minimum:

- a. Design criteria
- b. Appraisal of National Environmental guidance
- c. Selection of Control and Mitigation Strategy

## 1.2 Background to Project

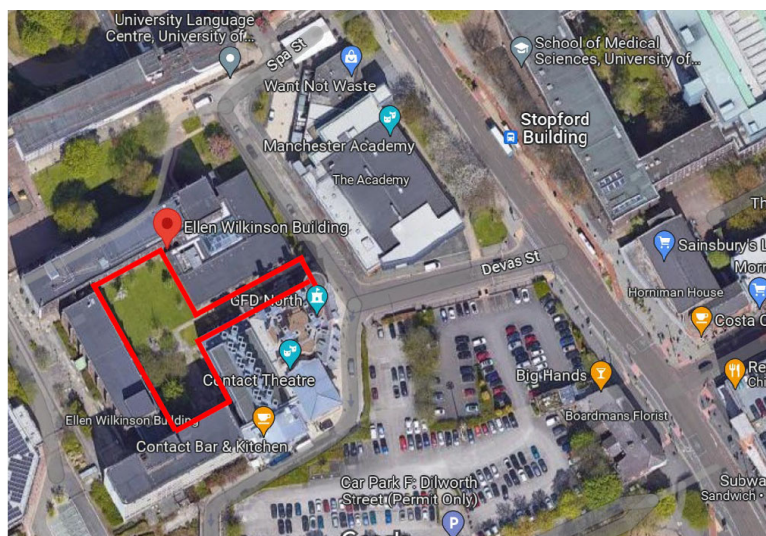
The University of Manchester wish to enhance the outside space within the quadrangle outside of the Ellen Wilkinson Building at the University of Manchester.

Ellen Wilkinson building is part of The University of Manchester campus and is located just off Oxford Road in central Manchester. The existing Quadrangle area is flanked by the Contact Theatre and the Ellen Wilkinson building itself

The Current proposals for the modifications to the existing quadrangle area are to introduce new pathways, pond, seating and table to the lower level with retaining wall structure around the upper level in order to accommodate a much needed external space for the students and staff to relax, socialise, learning and collaboration.

## 1.3 Location

The Site is located within the University of Manchester Campus close to the Oxford Road main thoroughfare within the centre of Manchester



Aerial View of the Site

## 2 NATIONAL GUIDANCE

### 2.1 ILP Guidance notes for the reduction of obtrusive light GN/01/20

The Institute of Lighting Professionals (ILP) has provided obtrusive lighting guidance and criteria for local authorities with a recommendation that these are incorporated at the local plan level. The ILP Guidance notes define various forms of light pollution and describe a series of environmental zones. The ILP Guidance notes provide suitable criteria against which the artificial lighting can be assessed.

### 2.2 ILP Environmental Zone Classification

The ILP has developed an Environmental Zone Classification system for the categorisation of areas with regards to suitable obtrusive light limits. The Environmental zone classifications are reproduced in the table below.

| ILP Environmental Zone Classification |             |                            |                                                                                                                |
|---------------------------------------|-------------|----------------------------|----------------------------------------------------------------------------------------------------------------|
| 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 -20.5)        | Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc. |
| E2                                    | Rural       | Low District Brightness    | 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                                                      |

### 2.3 ILP Environmental Zone Criteria

For each Environmental Zone, obtrusive light limits for exterior lighting installations have been determined. These are summarised in the table below and are intended to support decision makers in establishing whether artificial lighting is detrimental to local amenity or a potential statutory nuisance.

Table 3.2: ILP 'Light Intrusion' (vertical illuminance) Limits Ev - lux

| Application Conditions | Environmental Zone |     |    |    |    |
|------------------------|--------------------|-----|----|----|----|
|                        | E0                 | E1  | E2 | E3 | E4 |
| Pre-curfew             | N/A                | 2   | 5  | 10 | 25 |
| Post-curfew            | N/A                | 0.1 | 1  | 2  | 5  |

## 2.4 Determination of ILP Environmental Zone

As described above the site sits within the existin University of Manchester campus within the city centre of Manchester. As such it is deemed that the ILP Environmental Zone E4 is applicable.

## **3 DESIGN CRITERIA**

### **3.1 Pathways**

The scheme has been designed to BS EN 13201:2 2015

Road Lighting, Part 2, Performance requirements

Category P5 – Pedestrian pathways

3 lux Horizontal Average Maintained illuminance (Eav), 0.6 lux maintained minimum point illuminance (Emin)

## 4 PROPOSALS APPROPRIATE TO THE SITE

### 4.1 External Lighting Proposals

An external lighting scheme will be provided to give adequate illuminance in and around the Site, and the footpaths around the Site Designed to meet the external road lighting category P5 as defined within BS EN 13201 Part 2 2015 to achieve an average maintained illuminance of 3 lux.

External lighting will generally comprise of discrete low level LED bollard luminaires strategically placed around the Site as indicated on the external lighting Planning drawing. Additionally wall mounted LED lighting shall be provided to the raised break out area.

External illumination shall be to have minimum/zero light pollution.

Automatic photocell (or astronomical timer) and time clock arrangement for the lighting control will be provided with manual override facilities for test purpose and isolation. External lighting will be installed in compliance with ILP guidance note for reduction of obtrusive light to meet the requirements of the ILP Environmental zone E4 as described above.

### 4.2 External Lighting Impact Mitigation Proposals

As described above the Site External Lighting will be designed to meet the external road lighting category P5 as defined within BS EN 13201 Part 2 2015 to achieve an average maintained illuminance of 3 lux.

The External Lighting will also be installed in compliance with ILP guidance note for reduction of obtrusive light in accordance with the ILP Guidance note GN01/21 to meet the requirements of the ILP Environmental zone E4 as described above.

Additionally the external lighting will be arranged to include curfew hours outside of the following times where all external lighting will be switched off.

5am – 5 pm Monday -Friday

7.30 – 4pm Saturday

7.30am – 12noon Sunday

The controls will have the integral flexibility to be amended to accommodate any changes in terms of operating hours.

All luminaires to be energy efficient LED type and arranged to have zero upward light ratio (UWLR)