

1 December 2019

## **Channing Junior School Lighting Strategy**

### **Introduction**

Channing Junior school sits immediately adjacent to Waterlow Park. The school is very conscious of it's direct relationship with Waterlow Park (which is also designated as a Site of Importance for Nature Conservation SINCC.) As part of this relationship, the school will seek to minimise the impact of any lighting on the surrounding area, whilst also ensuring the safety of the school community and other users of the site. By minimising light pollution and light spillage, the school aims to minimise both the impact on wildlife and also the impact on local residents whose properties overlook the school.

### **Planning**

As part of the current developments at Channing Junior School the school must meet two planning conditions in relation to Lighting

#### ***Channing Junior School - 2019/2134/P***

##### ***Details of lighting strategy required by condition 11 of planning permission 2017/7080/P***

###### *11 Lighting Strategy*

*Prior to the commencement of use, a lighting strategy shall be submitted to and approved in writing by the Local Planning Authority. Such strategy shall provide details of all external lighting fixtures and fittings and shall demonstrate how their design, location and specification has taken account of community safety and security and reducing light spillage. The development shall not be occupied until the relevant approved details have been implemented. These works shall be permanently retained and maintained thereafter.*

*Reason: To safeguard the appearance of the premises and the character of the immediate area, to ensure community safety and to conserve biodiversity by minimising light pollution in accordance with the requirements of policy D1, D2, C5, A1 and A3 of the London Borough of Camden Local Plan 2017.*

#### ***Channing Junior School - 2019/2135/P***

##### ***Details of lighting strategy required by condition 12 of planning permission 2018/4925/P***

###### *12 Lighting Strategy*

*Prior to commencement of development, full details of a lighting strategy (both temporary and permanent) shall be submitted to and agreed in writing by the Local Planning Authority. This shall include information about potential light spill on to buildings, trees, lines of*

*vegetation and bat boxes plus a lux level contour plan which should extend outwards to incremental levels to zero lux.*

*The strategy should demonstrate how it will minimise impact on biodiversity by maintaining dark areas and corridors along boundary features in particular the adjacent SINC, bat boxes and lines of trees/vegetation, in line with recommendations in 4.2 of the Preliminary Ecological Appraisal. The strategy should also ensure no light spill outside of the site boundaries.*

*REASON: To limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation, in line with paragraph 125 of the National Planning Policy Framework (2012) and in compliance with the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended).*

### **Lighting Design**

The Channing Junior School site is usually occupied from 0630 each day until 2000. The school is then closed and unoccupied overnight. There are occasional events which extend beyond 2000, but these are very limited in number. It is essential that the site has sufficient illumination over this period to ensure the safety of pupils, parents and staff. In particular any external corridors and pathways around the school must be suitably illuminated whilst the site is occupied. Once the site is no longer occupied, there is only a minimal requirement for lighting around the site and the new development. The school will therefore seek to minimise lighting after this time in order to conserve biodiversity.

### **Lighting Parameters**

In order to ensure this is achieved, the school proposes the following approach:

- a. To install a lighting system which can be managed by a time cloak and which can also be shut down in agreed hours after pupil have safely left.
- b. The lighting would be timed to be off between the hours of 2000 to 0630 except on days when the site was being used beyond this time. At weekends lighting would not come on unless the site were in use.
- c. The site should produce zero upward lighting outside of the site. This is considered to be well within the 15% threshold set-out within BREEAM – Zone E3.
- d. Any horizontal spill will be kept to a minimum by using downward pointing lights with minimum upward light spillage.
- e. The only form of upward lighting spill will be via the bollards which are 1m tall at a maximum and produce a maximum of 10% upward light well within the 15% threshold within BREEAM – Zone E3.
- f. No lighting will be installed adjacent to any bat boxes with the exception of low level bollards, which will also be on a time clock.

- g. Lighting to the roofs of the classroom and dining hall playground areas, will not be illuminated outside of the hours of 0800-1800, except when the areas are in use.
- h. All lighting should be LED
- i. Lighting should be directed to where it is needed and light spillage avoided wherever possible
- j. No new permanent lighting will be installed in areas around the perimeter of the site adjacent to Waterlow Park, other than that in the immediate vicinity of the existing and proposed new buildings.

### **Implementation**

Based on the framework that the school has set out, a detailed review of the site was undertaken. All LED fittings were selected and the exact details of these are contained within an extract from the lighting schedule (Appendix 1).

All relatively level (flat) areas of the site were modelled within relux, the detailed calculations of this are contained within Lighting Distributions calculation document dated 09.10.2019 (Appendix 2). While this obviously provided a good level of data to review the scheme locally this did not allow us to analyse the wider impact. As such, the school commissioned a wider site study.

The lighting specialist in conjunction with the electrical detailer began to develop the design, in conjunction with manual calculations to allow interrogation of all areas of the site, taking into account the topography and analyse in more detail the wider impact of the scheme. This developed and revised the scheme to its current position. The output of this work is the annotated external site plan.

Annotated drawing No. 343.43 / WD 310 (Appendix 3) has been produced in conjunction with our lighting specialists and details the location of all fittings, along with lux levels across the site and surrounding areas. This clearly shows the incremental transition to lux levels of zero within the site with no spill into Waterlow Park. Based on this scheme is fully compliant with the approach detailed by the school in order to meet the planning requirements.

### **Temporary Condition**

In addition to including this approach within the permanent design, the temporary lighting that will be in place throughout the construction period will also managed as far as possible to achieve the same objectives as the permanent condition. Most importantly, the temporary lighting will seek to ensure that the site is safely illuminated during working hours for authorised works and that safety requirements are met

The site temporary lighting scheme is broken down into zones and is controlled and switched accordingly. The strategy will also allow for the following

- All external lighting to the site compound, walkways, haul road and building perimeters is controlled with the use of photocell and timer to ensure that the lights are only in use between 6:30am to 8:30am and 4:30pm to 8:00pm.
- All internal building lights are controlled by an on / off switch. These are only turned on during the working hours, from 8am to 6pm.
- All lights throughout the project are LED to reduce energy usage, glare and light pollution.
- External lighting is controlled by photocell, which means they are completely off during summer months and only between the hours noted above during winter.
- All areas utilise emergency lighting, a site wide plan of this is attached. These emergency lights have a battery back up in case power is off to provide a low but sufficient lux level for Safety and security purpose.

The contractors have provided details of their lighting plan which is attached to this paper at Appendix 4.

## **Appendices**

Appendix 1 – Lighting Distribution – Luminaire Schedule Extract – 11.03.2019

Appendix 2 – Lighting Distribution – External Relux Calculations – 09.10.2019

Appendix 3 – Lighting Distribution – Annotated External Lighting Drawings 343.43 / WD310

Appendix 4 - Temporary Lighting Site Plans