



DESIGN ENGINEER SUSTAIN

WWW.FUTURESERV.CO.UK

Great Jackson Street, Plot D

Manchester

External Lighting Strategy

QA

Document ref: GJS-FS-G600-RP-XX-001

Document History

Issue	P3			
Date	22 nd February 2023			
Purpose	Comments Incorporated			
Created by	J Shaw			
Signature				

Approvals

Name	David Cleary			
Title	Director			
Signature	<i>D Cleary</i>			
Date of Issue	22 nd February 2023			
Version	Issued for Planning			

Distribution

Document Issue	Name	Organisation	Role
Issued for Planning	P. Mills/J. Sidlow	Renaker	Client
	R. Poole	Deloitte	Planning Consultant

Futureserv Ltd

10 Oxford Court
Bishopsgate
Manchester
M2 3WQ

enquiries@futureserv.co.uk



Contents

Section 1 - Introduction..... 4

Section 2 – Site Constraints and Requirements 4

Section 3 – Design Criteria..... 5

Section 4 – Light Pollution & Control of Obtrusive Light. 5

Section 5 – Lighting Components 5

Section 6 – Lighting Controls 6

Section 7 – Conclusions..... 6

Section 1 - Introduction

This report has been prepared in support of the planning application for the development of the Great Jackson Street, Plot D Mixed Use Scheme located in central Manchester.

The proposed development includes the formation of a single mixed use tower with perimeter service road and detached low rise office block set within public realm landscaped areas.

This report outlines the 'high level' principles which will be adopted when developing the detailed external lighting design to ensure that the effects of lighting are controlled in line with best practice and to minimise light pollution.

A fully detailed lighting design will be carried out for the plot prior to project commencement include layout drawing(s), luminaire specifications, control philosophy and calculated lux levels with obtrusive light study.

The overall lighting philosophy for the development is to achieve a good level of artificial lighting to ensure a safe environment for residents, visitors and staff whilst also minimising light spill & light pollution to the nearby existing developments.

The detailed lighting design will be developed and coordinated with the landscaping design to achieve a visually attractive and interesting environment, complimenting the sites natural and architectural features.

The use of high efficiency LED luminaires with automatic control systems will minimise energy usage and also ensure that lighting levels can be maintained over an extended period by use of luminaires with a long useful lifespan.

Section 2 – Site Constraints and Requirements

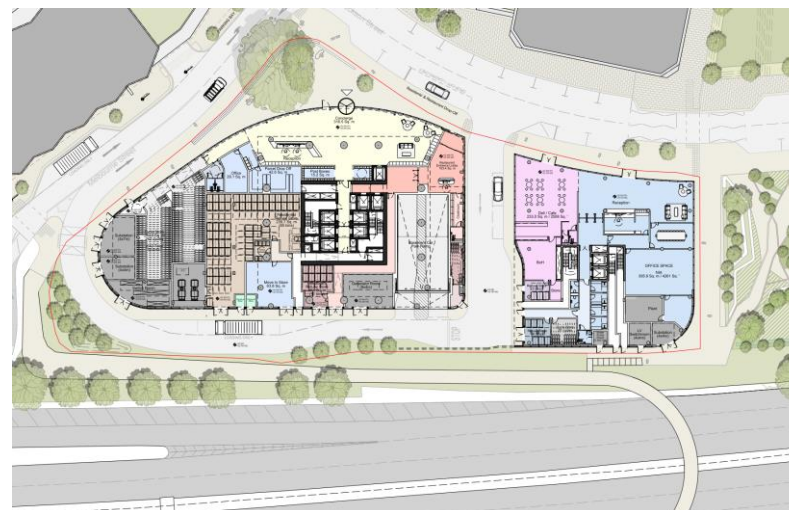
The development site is located with Great Jackson Street to the north and Trinity Way to the south. The recently completed Deansgate Square residential

development lies to the north east of the plot on the opposite side of Great Jackson Street.

The main objectives for providing external lighting to the development site are:

- Provide safe access for pedestrians, cyclists and vehicles.
- Ensure appropriate illumination is maintained for operation of CCTV.
- Highlight building entry points, illumination of the loading bay and drop off points.
- Provide safe access to the below ground carpark.
- Provide subtle illumination of natural and Architectural features across the site.

The designed lighting schemes will help promote residents, staff and visitors feeling of safety & security whilst assisting with direction finding around the two buildings.



Section 3 – Design Criteria

The external lighting solutions to all areas of the plot will be designed in accordance with the following key design standards and follow industry best practice.

- SLL Code for lighting
- CIBSE LG6 - Lighting Guide 06 : The Exterior Environment.
- GN01 – Guidance Note For The Reduction of Obtrusive Lighting.
- BS5489 – Road lighting (Where applicable).
- BS12464 – Lighting of workplaces (where applicable).
- Crime Impact Statement specific requirement for the project.

The lighting design will also take into account any recommendations of the Ecological Appraisal and measures required to protect bats and other wildlife.

Design Lighting Levels

A summary of target lighting levels is included below following the design criteria standards. During the detailed design stage, the use of industry standard modelling and simulation software (Relux or Dialux) will be utilised to calculate resulting lux levels and spill light surrounding the site prior to installation.

	<i>Illuminance</i>	<i>Uniformity</i>
▪ Service Roads/Footpaths	10 lux	0.25
▪ Public Realm Footpaths	5 lux	0.4
▪ Building Entrances	30 lux	-

Section 4 – Light Pollution & Control of Obtrusive Light.

Selection of all exterior luminaires and light sources will be made to minimise both light spill to adjacent residential areas and in particular, control of upward light to properties overlooking the site as defined by ILP for Category E3 areas.

This will be achieved by the use of lower output fittings appropriately spaced to avoid excessive upward reflected light/glare. Careful selection of luminaire optics will be carried out to ensure light distribution is directed to the ground.

For the areas of the site which are adjacent to the public highway, luminaires will be positioned to avoid causing unnecessary glare to drivers and cyclists.

Lighting levels will be in accordance with the stated design standards and best practice ensuring that areas are not unnecessarily over-illuminated.

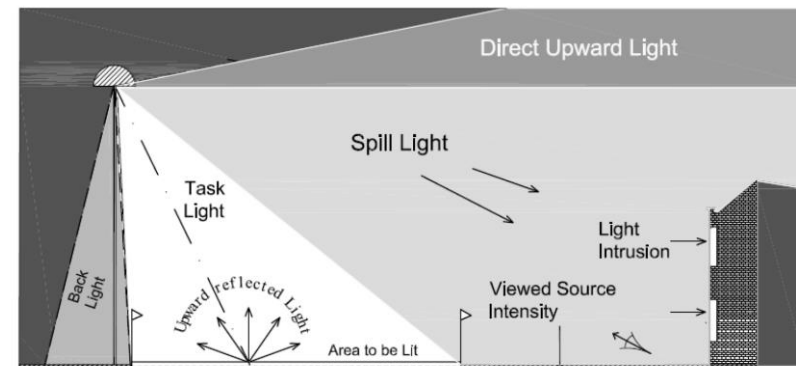


Fig 1 – Sources of intrusive Light

Section 5 – Lighting Components

The use of colour matched, high efficiency LED light sources will be employed across key external areas of the site to help achieve a high quality, visually interesting environment.

The exact lighting solutions and layouts will be established during the detail design stage; however it is anticipated that the scheme will include the following main components.

Pedestrian walkways

The inclusion of low/mid-level architectural bollards will allow use of lower output LED light sources which can be directed onto the footpath and minimise glare. This will be subject to achieving satisfactory facial illumination for recognition as stipulated by the Crime Impact Statement.

Service / Access Roads

Architectural lighting columns equipped with zero upward light optics to efficiently provide illumination for cyclists and vehicles accessing service areas and the carpark ramp, also adding visual interest and minimise obtrusive spill light.

External Public Areas

Concealed LED light linear strips recessed within fixed seating bases and handrails to add visual interest and provide localised lighting to amenity spaces. Ground recessed uplights will be provided to highlight selected trees and topiary around the site carefully positioned to minimise glare from above.

Building Entrances

The use of architectural wall mounted luminaires and recessed Uplights will be used to clearly highlight building entrances to the tower and office block and also provide emergency lighting to facilitate safe egress during power outages.

Section 6 – Lighting Controls

Control of the external lighting systems will be automatic by means of electronic programmable timeclocks and photocells which will ensure that artificial lighting remains operational only when necessary, during the hours of darkness.

The external lighting scheme will be arranged in individually connected 'zones' to allow separate control of each area (roadway, footpath, public realm, landscaping, office block etc). This will allow areas which are not intended to be

in use during the night to be either switched off or for lighting levels to be reduced saving energy and further reducing obtrusive light.

There will also be local task lighting provided manually controlled to provide enhanced lighting levels for deliveries and servicing.

Section 7 – Conclusions

A well designed, energy efficient external lighting scheme will help provide and maintain safe access for residents and visitors to the development during the evenings and during night time hours.

Careful selection, control and positioning of luminaires will ensure that the effects of obtrusive spill light is minimised to both the development and to neighbouring properties.

Inclusion of elements of feature lighting will help enhance the ambience of the public realm areas thereby encouraging use, and helping maintain a feeling of security for the residents at night.