

EXTERNAL LIGHTING STRATEGY REPORT



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WORCESTER CLOSE

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1.0 INTRODUCTION

The report has been compiled by Frankham Consultancy Group (FCG) on behalf of Gravesham County Council and is intended to provide an indicative external lighting strategy to support the planning application of the proposed residential development in Istead Rise village.

The strategy aims to provide an external lighting scheme that presents safe levels of illumination to support the proposed use of the site whilst mitigating its impact in terms of obtrusive lighting and light pollution.

This development consists of 8 flats consisting of a mix of 1-bed and 2-bed flats within a 2-storey building. The site is bounded to the East by Worcester Close, the North by Downs Way Medical Practice and to the West and South by existing housing.

Istead Rise village lies within the administrative area of Gravesham Borough. Gravesham's planning policy is based upon its Local Plan (adopted September 2014), with the Core Strategy covering the period April 2011 – March 2028.

2.0 INDICATIVE DESIGN ASSESSMENT

The indicative design assessment for this development has been undertaken via a desktop study utilising drawings provided by the client team and incorporates recommendations based upon industry guidelines and best practices.

The indicative design assessment will be the basis upon which a full external lighting design can be developed once all interested parties agree with the proposals.

The full external lighting design will consist of calculations, designed to the latest CIBSE (Chartered Institute of Building Services Engineers) guidelines, from which illuminance plots can be produced. These illuminance plots would illustrate the illuminance levels throughout the site and will enable the full impact of the lighting scheme to be assessed.

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3.0 EXISTING SITE

The existing site where the development is proposed to be located is currently unused and has been deemed to provide limited amenity value.

The proposed site consists of an open green space with established trees and grassland.

A Public Bridleway runs along the West and South edges of the open green space.



Figure 1 - Existing Site photo shown from Worcester Close facing the footpath and existing housing on the West and South boundaries of the proposed development.

A single streetlight is located on the North-East boundary of the proposed development adjacent to the entrance to the North Downs Medical Practice.

Currently the streetlight is located within the proposed boundary of the development, although it is located away from where the main building and the proposed tenanted areas are to be constructed. As such there will be no need for the streetlight to be relocated for the works to go ahead.

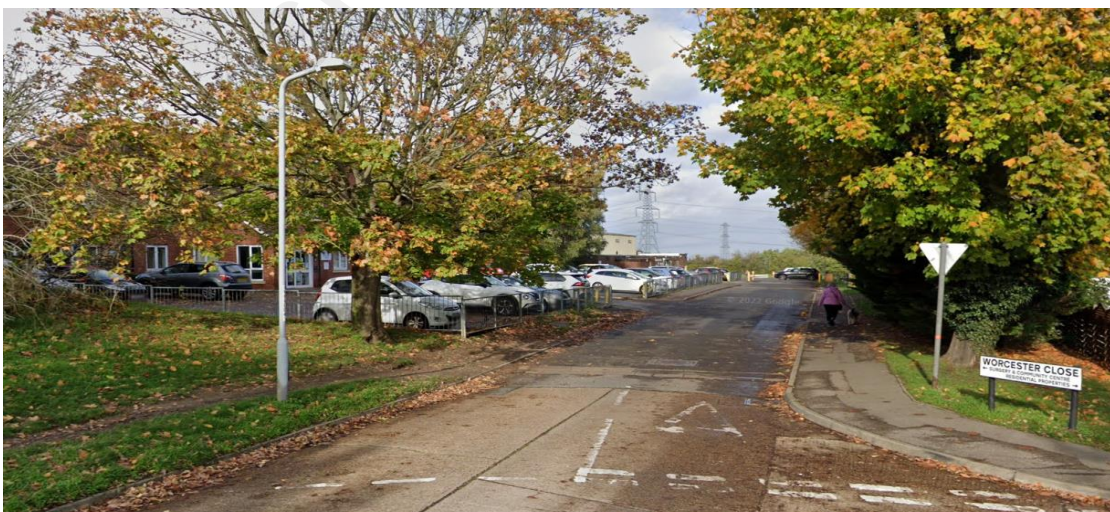


Figure 2 – Existing streetlight on the north-East edge of the property near Worcester Close leading to the Downs Way Medical Practice.

4.0 RECOMMENDATIONS

Please refer to the proposed external lighting strategy which is detailed on the drawing listed below:

522326-FCG-MB-ZZ-DR-E-6301-S2-P02 – Electrical Services Site Plan Proposed External Lighting Layout

The recommendations for the external lighting strategy are as follows:

4.1 Street Lighting

As mentioned previously the existing streetlight on the North-East boundary of the site, circled red in the Figure 3 below, is located within the proposed boundary of the development, although it is located away from where the main building and the proposed tenanted areas are to be constructed. As such there will be no need for the streetlight to be relocated for the works to commence.



Figure 3 – Location of existing streetlights (Looking towards to the Downs Way Medical Practice).

4.2 Car Park Lighting

Within the car park area of the development, it would be best suited to use a street-light style luminaire, as in Figure 4 below, to provide illumination to the areas where vehicle traffic would be prevalent. These lights would also provide illumination to the refuse store.



Figure 4 – Example Car Park Luminaire.

These car park luminaires can be mounted on columns of varying height. The surrounding area and the required illumination levels within the car park would determine the mounting height of these fittings.

In addition to these fittings, it would be best practice to install them on base-hinged columns as this will allow easy maintenance of the luminaires by completely removing the need to employ any work at height equipment such as a cherry picker or MEWP (Mobile Elevated Work Platform) for access.

4.3 Landscape Lighting

For the pedestrian areas of the landscaping, namely the pathways and paved entrance areas it would be best suited to use a column mounted luminaire as denoted in Figure 5 below.



Figure 5 – Example Column mounted Luminaire

This style of luminaire used on the pedestrian walkways will provide ample lighting for both user safety and security. These fittings can also be incorporated into the landscaping of the development, utilising columns of varying heights, so as to provide an aesthetically pleasing installation. This will still maintain the lighting requirements and removes any potential issues such as damage caused by antisocial behaviour.

Adjacent to the Public Bridleway, which runs along the West and South Edges of the development, a wall is to be built to denote the site boundary. This wall will consist of brick pillars with metal fencing installed between the pillars. It is proposed to install bulkhead style lights on these pillars as denoted in Figure 6 below.



Figure 6 – Example Landscaping Bulkhead Light

These bulkhead style lights will help illuminate the landscaped areas of the development that would not normally see foot traffic. These lights are only to be installed along the internal boundary of the development and will not be installed to illuminate the Public Bridleway.

4.4 Building Mounted Lighting

For building mounted lighting it would be suggested to install Bulkhead style luminaires as denoted in Figure 7 below.



Figure 7 – Example building mounted Bulkhead Light

This style of luminaire will provide adequate light output to illuminate areas around the perimeter of the building, namely the Ground Floor apartment Private Amenity spaces and the landlord's area housing the Air Source Heat Pumps (ASHP) and Acoustic Enclosures.

The design on these type of bulkheads with the incorporated hood will provide adequate light to the amenity areas whilst also preventing light leakage into neighbouring areas such as adjacent residential properties/amenity spaces. These hoods will also reduce light pollution for the residents on the first floor.

4.5 Controls

For the external lighting at the development, it is suggested to incorporate a mixture of controls to manage the installation.

For the majority of the installation, namely the car park and landscape lighting it would be suggested to utilise a combination of photocells and timeclocks to control the external lighting. This method would allow the installation to be illuminated under pre-determined conditions which would both have to be met, for example once sunset has occurred but only between the hours of 7pm and 2am. The times of operation can be determined by the client and/or end user.

This would provide the greatest control for the entire installation, but it would also prevent any unauthorised adjustments from occurring. It would be a suggestion to have an override switch installed in a secure area, such as in a landlord's utility cupboard, that could only be accessed by authorised persons for any ad-hoc purposes such as maintenance.

For the building mounted luminaires, within Private Amenity Spaces, it would be suggested to have these controlled via traditional manual switching, which would be located within the apartments. This would give the owner/occupier of the unit complete independent control over the lights.

For landlords areas with building mounted luminaires, namely where the ASHPs are located, traditional switching with the addition of a PIR sensor set to absence detection would be suggested. This will provide manual control as required but will also turn the lights off if they are accidentally left on, thus aiding in the reduction of the building's energy usage. The duration period of the absence detection can be determined by the client and/or end user.

Alternatively, the building mounted landlords' lights can be controlled via a photocell and timeclock as per the landscape lighting. This again can be determined by the client and/or end user.

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5.0 CONCLUSION

In conclusion, the strategy proposed above would be deemed as the minimum requirement for an external lighting design to provide both safety and security to the building residents and members of the public.

To confirm the images within the above report, denote proposed styles of luminaires only. The final selection of the luminaires will require input and approval from both the architect and the client.

Once specific luminaires have been chosen, design calculations will need to be undertaken to determine both the required quantity and final position of the luminaires on the site so that the lux levels meet the requirements of the British Standards.

It should be noted that any lighting over the residential entrances of the building, such as in building canopies or building signage, is deemed to be excluded from the external lighting strategy. As such this is to be included as part of the internal lighting scheme.