



LIGHTING CONSULTANCY

Exterior Lighting Design Specialists

Finchwood Park, Wokingham

Sports Lighting Impact Assessment

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**FINCHWOOD ROAD, WOKINGHAM –
SPORTS LIGHTING IMPACT ASSESSMENT**

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1.0 INTRODUCTION

MMA Lighting Consultancy has been commissioned to provide a sports lighting impact assessment report on a proposed multi-use games area (MUGA) pitch as part of the Finchwood Park development.

The purpose of the assessment is to gauge potential lighting impact on the surrounding area of the MUGA pitch. It is envisaged the lighting will only be operational during autumn and winter months, and potentially up to 10:15pm to allow games to finish at 10pm and 15 minutes to clear the pitch. It is not known at this stage how many nights per week it is anticipated to be operational.

2.0 SITE LOCATION

The aerial view below shows an overview of the proposed site with the lighting overlaid with lux contours shown. The proposed sports pitch is part of a much larger Finchwood Park development consisting of 1500 homes for Finchampstead and associated, community infrastructure including, road upgrades, green spaces, a new school, neighbourhood centre, children's play areas, allotments and the sports facilities.



3.0 BASELINE CONDITIONS

The following describes the site with a review of area and features of the surroundings are also described.

To the north of the illuminated pitch is a proposed full size senior football pitch. To the south of the illuminated pitch is an informal kick-about area and also an area reserved for a sustainable urban drainage system. To the east is a bridle way, proposed carparking for 94 vehicles, proposed allotments and another area reserved for a sustainable urban drainage system. To the west of the illuminated pitch remains a green field site. The nearest property is approximately 230m to the west and is the West Court Retreat hotel and spa.

4.0 PROPOSED SPORTS LIGHTING

The MUGA pitch lighting level was based on a previous preliminary design by others and this level has been maintained in this assessment. The level is based on the Chartered Institution of Building Services Engineers (CIBSE) Society of Light and Lighting (SLL) Lighting Guide 4 – Sports Lighting and Section 3.21 Football (association and five-a-side, outdoor) and Table 3.21 Class II. – 200Lux average and 0.5 uniformity.

Table 3.21 Lighting requirements for football (association and five-a-side, outdoor)

Class	Horizontal illuminance		Glare rating
	E_{Ave} (lx)	E_{Min}/E_{Ave}	R_G
I	500	0.7	55
II	200	0.6	55
III	75	0.5	55

Class II lighting is defined as

- Mid-level competition; principal local clubs and county regional competition
- Medium spectator capacities with medium viewing distances
- High level supervised training

The proposed lighting luminaires have been selected based on it being an industry standard supplier within the sports lighting field. Abacus Lighting are a renowned provider of sports lighting with multiple installations around the world.

The mounting heights and quantity of columns are based on good practice and standard sport layouts to achieve the required lighting levels and uniformity with the minimum number of high masts and minimum mounting height.

A lighting calculation has been carried out to show these levels being achieved and also to provide Lux contours to show the impact on the surrounding area. Various

contours have been used to show the “spill” light. However, the more significant is the 200Lux average target and the 1.0Lux level which is commonly used as the maximum allowable at a site perimeter, where possible.

The calculation result is shown below which shows the 200Lux average being met and the 0.60 Emin/Eav uniformity being met.

Horizontal Illuminance (lux)	
Eav	=208.88
Emin	=127.45
Emax	=341.79
Emin/Emax	= 0.37
Emin/Eav	= 0.61

The lighting spill to the north, east and south is not critical as it encroaches the sports pitch to the north, the carparking to the east and an informal play pitch to the south which are all part of the proposed development. It does not impact at all the proposed and existing residential properties to the north as the lux level contours show on the lighting layout drawing.

The west is onto undeveloped land but doesn't affect any significant hedgerow, bat foraging route or the nearest property 230m away as the spill light falls to less than 1.0Lux within 18m of the edge boundary.



5.0 RECOMMENDATIONS

Results shows that the spill light does encroach outside the site boundary but by an insignificant level. If the spill light, is deemed to be unacceptable for ecology or other reasons it may be possible to limit this further using side mounted shields. However,

the photometry is not readily available to assess this. The previously selected Lighting Class II could be reduced to a Lighting Class III. However, this would be determined by the client whether this would be acceptable. A Lighting Class III is defined as the following;

- Low- level competition; local or small club competition
- Minimal or no spectator provision
- General training; school sports and recreational activities.

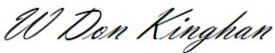
It may be also possible to relocate 4No. columns to the corners of the pitch to direct the light inward which would re-aim the side spill light from the open area towards the pitch, but the present column locations are based on the preferred sports lighting layout.

6.0 CONCLUSION

In summary, the light spill has negligible effect on the surrounding area. However, it does encroach slightly onto the undeveloped land which is not highlighted as being part of the future works. This report to be submitted to the Wokingham Council for their comments.

If the proposal is deemed to be an issue. There are potential solutions to limit the spill further including shields, lower light level and/or column relocations.

Prepared By: -

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