LIGHTING IMPACT ASSESSMENT FOR SMALLEY TENNIS CLUB – Lighting Assessment dated 23RD JULY 2026

Assessment Date: 23RD July 2026

Assessment prepared by: James Brunt BSc (Hons), AMSLL (Associate Member of the Society of Light and Lighting) Director– Midstream Lighting

Site Location: Smalley Tennis Club, 27 Wilmot Dr, Smalley, Ilkeston DE7 6EL

Midstream Lighting Design Outline

Midstream Lighting have been engaged by Smalley Tennis Club In designing a suitable floodlighting solution for the new floodlighting to be installed at the Tennis Club , specification issues had to be considered. These included the illuminance level required, the environmental zone category for the site, the minimum mast height & the number type of floodlights.

Details of how these issues were resolved are as follows: -

1. To ascertain the illuminance level required we referred to the guide from the
   Lawn Tennis Association for Lighting. This requires a maintained illuminance level of 500 Lux over each court. This is based on Training levels, competitive training and match play.

2. The mast height was calculated using the method detailed in the CIBSE guide LG4 “Sports Lighting”. This uses angles projected from the centre of the court & the edge of the court to produce a head frame location zone. When applied to this project the optimum mast height ranged from 8m to 12m for the courts. A 10m Maximum mounting height was chosen as it would allow the floodlights to be mounted horizontally. This will result in low vertical overspill and good uniformity on the playing surface, without compromising cost. The 10m high mast will offer a slimline profile which will minimise daytime impact. If the mounting height as reduced to 8m the floodlights would be elevated above the horizontal consequently increasing overspill. (Images of the lighting column below)



This column can be painted green or black to keep in line with the general appearance of the site if needed.

3. In order to meet the requirements of The Institution of Lighting Engineers: Guidance *Notes for The Reduction of Light Pollution, 2000,* (see attached) the MASTER M07 Floodlight was chosen. Details of the main features of this product are highlighted below.

4. Midstream Lighting have taken every care and consideration into the floodlighting design, this includes installing floodlight shields, and positioning of the masts to reduce the impact of floodlights on the local area. Midstream Lighting appreciate that the floodlights and masts are going to be noticeable, however everything has been undertaken and designed to ensure that this provides minimal impact on the neighbours.

5. This design has been based on the recommendations by Sport England Artificial Lighting Guide, CIBSE LG4 Lighting Guide and inline with the ILP Guidance Note GN01/21 The Reduction of Obtrusive Light – This is a document all councils refer to.

6. The Environment Zone Standard has been based on E2 for this lighting scheme as the site is located in a Rural Area

With relation to this I can confirm the following:

Planning Statement: External Lighting Scheme and Dark Sky Protection

This statement supports the planning application and addresses the external lighting design in relation to its impact on local amenity, landscape character, and dark skies, particularly given the site's location.

1. Compliance with Principles and Planning Policy
The proposed lighting scheme has been developed in accordance with national and local planning policy, including the **National Planning Policy Framework (NPPF)** and AONB management plan guidance, which emphasize the need to:

- Conserve and enhance the natural beauty of the landscape;
- Avoid adverse visual effects, especially from artificial lighting;
- Protect the tranquillity and intrinsic character of dark skies

2. Dark Sky-Friendly Lighting Design
The lighting scheme has been carefully specified to avoid contributing to sky glow or light pollution:

- **Fully Shielded Luminaires**: All fittings are full cut-off or downward-facing, ensuring zero upward light emission.
- **White Light (≤5000K)**: Low colour temperature lighting significantly reduces short-wavelength (blue-rich) emissions, which are known to scatter and affect sky clarity.
- **Low Illumination Levels**: Lighting is restricted to the minimum required for safety and functionality, following the "light only what you need, when you need it" principle.

3. No Significant Light Spill or Long-Distance Impact
The lighting will have **no appreciable impact beyond the immediate application site**. Specific measures include:

- Careful fixture placement and aiming to limit light spread and glare;
- Use of shields and low mounting heights to reduce visibility from public viewpoints;
- No lighting on elevated structures or in visually sensitive areas.

4. Visual and Ecological Sensitivity
The scheme supports environmental objectives by:

- Maintaining the area's dark skies, which are a key feature of its tranquillity and appeal;
- Minimising disruption to local wildlife, including nocturnal and light-sensitive species;
- Avoiding any cumulative lighting effects that could degrade the rural character of the area.

The proposed lighting scheme has been specifically designed to avoid adverse effects on the **dark skies, tranquillity, and scenic quality**. Through best practice lighting design and careful control of luminance and direction, the scheme will **not cause excessive light spill**, **will not be visible or intrusive from a distance**, and **will not compromise the protected character of the area.**
We respectfully submit that the lighting design is fully compliant with relevant guidance and planning policy and should be considered acceptable in this context.

As part of this design we have also not factored in the natural block of an excess Trees and Hedges which will provide a natural block of the light and will reduce the impact of the spill map below.



Midstream Lighting Master M07 Floodlight

The Master M07 Floodlight is a Low glare, broadcast-ready, flicker-free LED floodlight designed specifically for sport, field and large area lighting.
Floodlight mounted single IP67 electronic control gear for ease of installation, driving a maximum of 128 LEDs with multiple photometric distributions.
Feature rich dynamic controls and remote monitoring capability provides a highly scalable solution, whilst providing a high-end solution.

For full details of dimensions and specification please see the colour brochure enclosed.

Please see pictures below of recent installations using the above floodlights.



Midstream Lighting Design

The Midstream lighting proposals are detailed on the design, these show the mast locations, floodlight orientations, illuminance levels on the pitch and projected overspill values.

For the 2 courts, the design achieves a maintained minimum illuminance value of 500 Lux with a uniformity in excess of 0.70 which meets the requirements of the sport. The maintained illuminance values are calculated using a maintenance factor of 0.90. This takes into account light losses due to dirt accumulation on the floodlight front glass and lamp lumen depreciation, ensuring that the minimum requirements for safe play are achieved.

The use of the Master M07 floodlight ensures that horizontal and vertical overspill containment is excellent. As less than 0.5 Lux (moonlight illuminance) will be projected towards any residential property windows. With the proximity between the houses and the tennis courts, our proposed solution is the best that can be achieved in this current location. Upward waste light will also be minimised and at the floodlight elevations used, 0% will be projected into the atmosphere. This will meet the recommendations of The Campaign for Dark Skies, an organisation who lobby for low light pollution systems.

This design by Midstream is designed to provide minimal obtrusive light. This design shall have no direct light into any bedroom window, impedes the view of the night sky or adversely affects the performance of an adjacent lighting installation.

Sky glow at this site will not be applicable. The floodlights are flat to the ground, with a shield and will have a 0% ULOR (upward light ratio). Reflectance Light spill from the courts has been designed in our plan showing the spilling of light.

Definitions can be seen below:

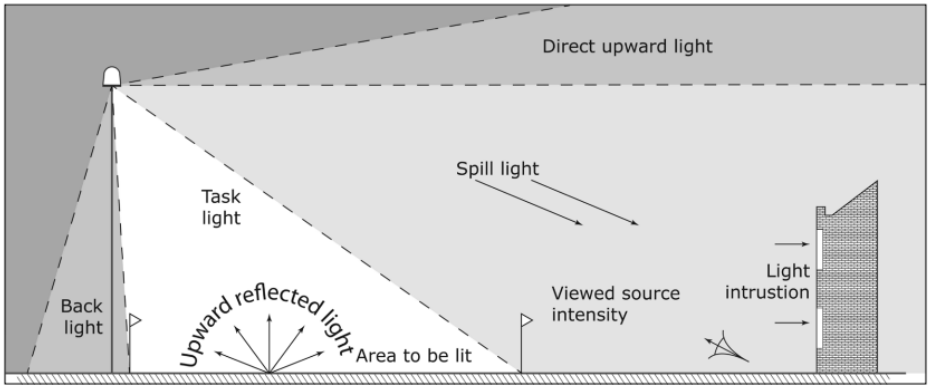

Figure 1: Types of obtrusive light

With the fence, trees and other blocks between the court and local properties, we expect the light to be completely blocked out but have factored our design on the worst case scenario.

Conclusion

The proposed system would be suitable for installing in this environmental zone, meeting the most stringent of light control parameters whilst maintaining the specified illuminance levels for the sports pitch. This system we have proposed is excellent in lighting levels, lighting overspill, has a significant carbon reduction and has no upwards light.

For reference, please see below a description of lighting levels.

Light Source	Horizontal Lux
Full Moon	0.3 to 0.5
Street Lights – Footpath	3 to 10
Street Lights – Residential Area	5 to 15
Typical City Centre Car Park(non retail)	20 to 30
Office/Classroom	250 to 750
Professional Stadium	800 to 2500
Sunny Day	80,000 to 120,000

Once installed the Master 07 series light control system will provide the optimum sports lighting solution, ensuring that light reaches the sports surface and not into the sky or polluting the environment.

MIDSTREAM

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