



BAXTER PARK & BROOKSIDE TENNIS CLUB

# Court Lighting Consultation Document

March 2021

# Purpose



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The purpose of this document is to share plans for the tennis club with local stakeholders before selecting a preferred lighting option and submitting a planning application.

The document aims to outline plans for lighting the tennis courts to provide a year round facility for members of the club.

The committee is seeking to provide a cost effective solution that provides suitable lighting whilst minimising the impact on local residents.

We really appreciate your feedback, we have set up a survey link via our website

Alternatively you can also email with feedback at this address:

[baxterparkandbrooksidetennis@gmail.com](mailto:baxterparkandbrooksidetennis@gmail.com)

We'll be collating all feedback on the 9<sup>th</sup> April

# Why are we engaging with you now?



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As a neighbourhood club set in the heart of the Baxter Park Estate we recognise how important it is to ensure that we have open lines of communication with you about any changes which may affect you.

We are engaging with you before we submit a formal planning application in order to assist us in minimising the impact on neighbours and to find the best solution and approach in lighting our courts.

# Why do we need lighting?



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- We love playing tennis and currently we can't do this all year round
- As the committee of the Tennis club we are always looking for ways to protect the long term future of our club.
- Until 2020 we had a strong core of regular members and money in the bank for future court refurbishment (likely 5-7 yrs time) but as we were making minimal profit each year we need to attract more members and find more ways to generate income to secure our future
- In 2020 we were thrilled to double our membership so there is more demand to play tennis
- As a community club we look to provide a place for people to improve their physical and mental wellbeing

# What are the Court Lighting Options?



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1. Philips Clear LED court lighting (6m pillars)

2. Tweener LED fence lighting

Please note the committee has investigated the possibility of using the portable court lighting inherited from another club, but this option has been discounted due to several reasons.

- The cost of repair,
- ongoing maintenance,
- replacement part availability,
- lack of knowledge on current lighting performance (making it harder to submit for planning)
- they would only illuminate 1 court.

# Pros and Cons Summary



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Option	Pros	Cons
Philips Clear LED court lighting	<ul style="list-style-type: none"><li>• Good quality lighting</li><li>• Warranty</li><li>• Known lighting for planning</li><li>• Widely used and tested across tennis community</li></ul>	<ul style="list-style-type: none"><li>• Expensive</li><li>• 8m-10m columns unattractive</li><li>• Visible during both during the day and when lit at night</li><li>• Ongoing maintenance costs</li></ul>
Tweener LED Lighting (Single and Double solution)	<ul style="list-style-type: none"><li>• Lower Up Front Costs</li><li>• Energy efficient</li><li>• Cheapest running costs</li><li>• 5 year guarantee</li><li>• No maintenance costs</li><li>• Suitable for residential area</li><li>• Most likely to be approved</li><li>• Ease of fitting</li></ul>	<ul style="list-style-type: none"><li>• Lower LUX* than some options (suitable for recreational / club tennis)</li></ul>

\*LUX: measure of light brightness (1 lumen per square metre)

# Lighting Requirements for Tennis



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sports field standard		
Class I	Top-level national and international competitions (non-television broadcast)	big-sized numbers of spectators.
		require long viewing distances for spectators
Class II	Mid-level competition, regional or local club competitions	medium-sized numbers of spectators.
		sports field is smaller than the Class I field
		viewing distances is shorter than Class I stadium, medium distance
		High-level training may also be included in this class
Class III	Low-level competition, local or small club competitions	meet the private recreation demand
		few spectators
		General training, school sports and recreational activities

Lighting parameters for outdoor courts					
	Horizontal illuminance	Uniformity of illuminance	Glare	Light colour temperature	Light colour rendering
	E <sub>h</sub> average (lux)	E <sub>min</sub> /E <sub>h</sub> ave	GR	(K)	Ra
Class I	> 500*	> 0.7	< 50	> 4000	> 80
Class II	> 300*	> 0.7	< 50	> 4000	> 65
Class III	> 200*	> 0.6	< 55	> 2000	> 20

We believe Baxter Park & Brookside Tennis Club is a class 3 venue and therefore the lowest level of lighting is required compared to some tennis venues



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# Option 1 - Philips Clear Flood LED

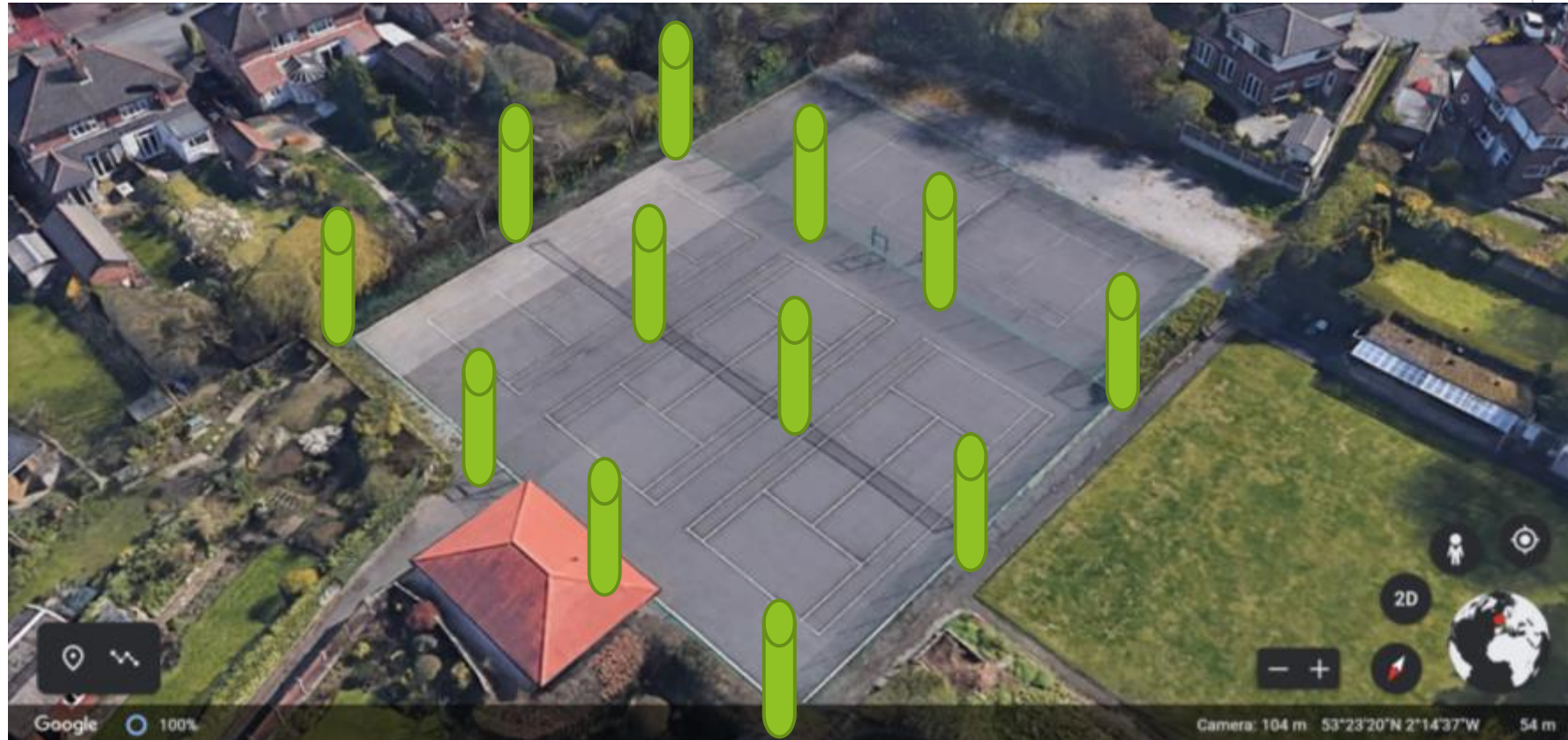


# Court lighting Options - 12 pillars 6m



Option 1  
6m court  
lighting

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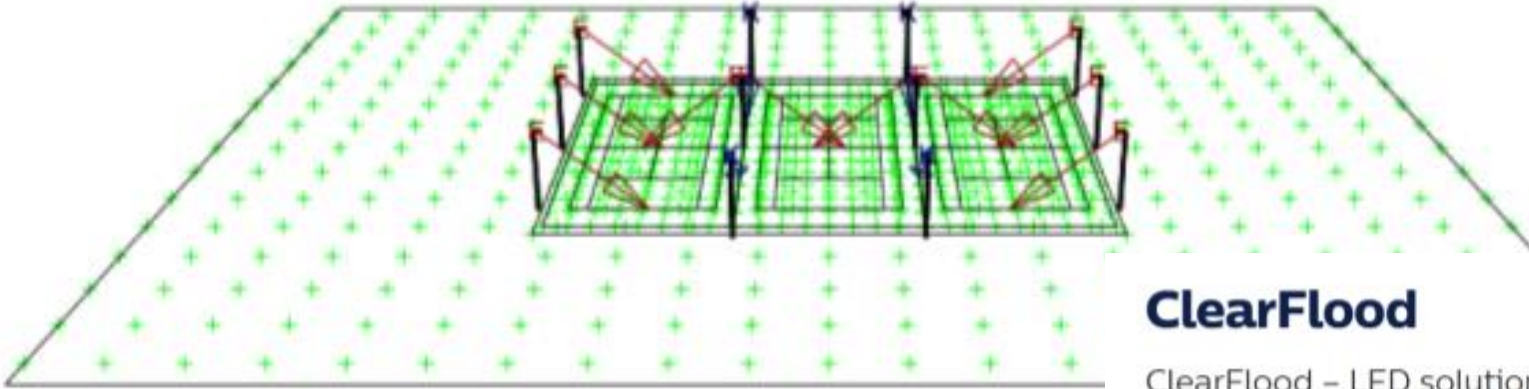


# Philips Clear Flood LED Court lighting



Option 1  
6m court  
lighting

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## ClearFlood

ClearFlood – LED solution for Sports and Area lighting

[View all 6 products](#)

**PHILIPS**

[More downloads](#)

[Download Family Data Sheet](#)



# Example of 6m Court Lighting



Option 1  
6m court  
lighting

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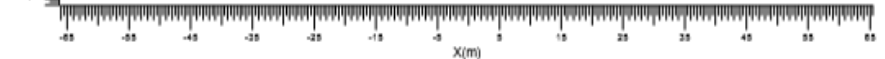
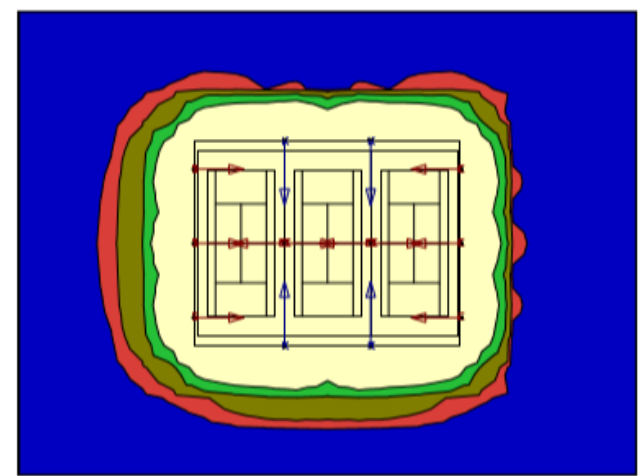
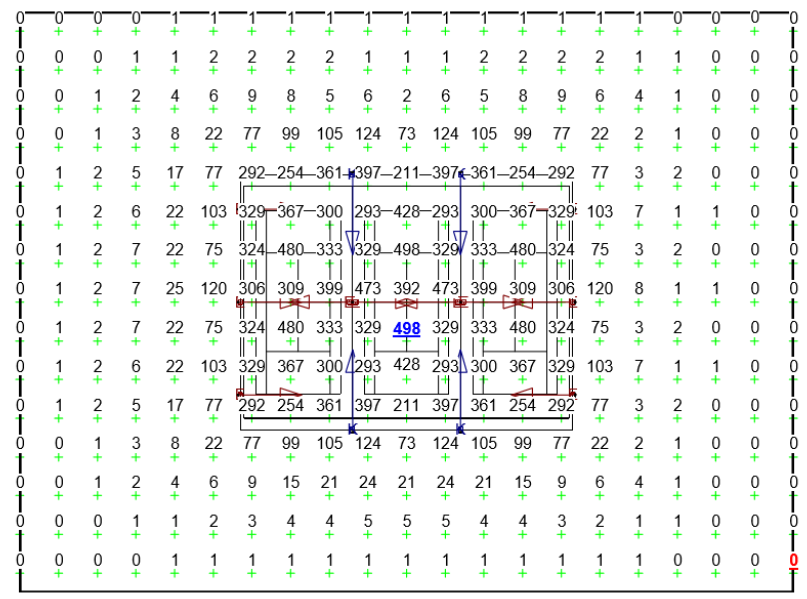
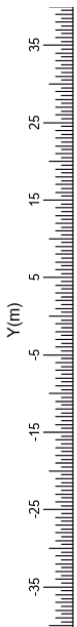




Option 1  
6m court  
lighting

# Philips Clear LED Lighting Light spillage (LUX)

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E	BVP650 T25 OFA52	K	BVP651 T25 OFA52		
Average	Minimum	Miry/Ave	Miry/Max	Project maintenance factor	Scale
81.4	0.1	0.00	0.00	1.00	12 1:750

# How will we minimise the impact on our neighbours?



Option 1  
6m court  
lighting

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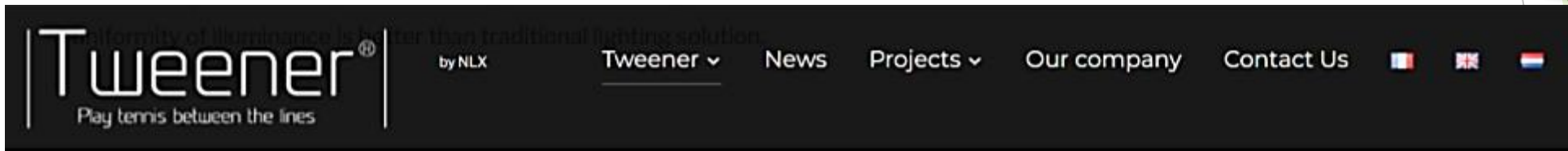
Issue	Impact	Mitigation
Light Spillage	Impact of lighting on neighbours	12 low level LED's focused inwards on court. Class 3 lighting levels
Noise	Additional noise from increased use	Curfew at 10pm. Club is already open during summer months to similar time
Traffic	Limited, many members walk	Encourage walking to club and use of car park
Visual	Impact of lighting columns	Lowest level solution of 12 x 6m, rather than 8 or 10m options
Disruption whilst works carried out	Potentially 1-2 weeks, may require drilling	We'll ensure works are in daylight hours



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# Tweener by NLX

LED lighting - located on existing fence at 2.75m high



## 2 solutions



**TWEENER® SIMPLE:** for lighting **1 tennis court**. *Compliant with tennis lighting standards.*

- Average illuminance level  $\geq 300$  lux
- Illumination uniformity factor  $\geq 0.7$
- Color Rendering Index  $> 70$
- Glare rate  $< 50$



**TWEENER® DOUBLE:** for lighting **2 tennis courts simultaneously**. These 2 courts must be within the same fence.

- Illumination uniformity factor  $\geq 250$  lux
- Color Rendering Index  $> 70$
- Glare rate  $< 50$
- Power **3500 W**

# Tweener Option - Courts 1-4



Option 2  
Tweener  
fence  
lighting

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# 4 court Option from Tweener Review of Lighting

Court	Lighting	LUX	Glare	Watts	Uniformity	Shadows	Cost / Hour	Guarantee
4	Tweener Single	>300	<50	1800	>70%	No	low	5 years 50,000 hours*
1	Tweener Double	>200		3500	TBC		low	
2		>160						
3		>200						

## Notes:

- LUX - Whilst LTA recommend 400, it is widely recognised 200 is ok for Class 3 tennis. Court 4 would offer high quality lighting for more competitive matches
- Glare - Should be less than 50, or less than 55 for Class 3 tennis
- Uniformity - Consistency of lighting across courts

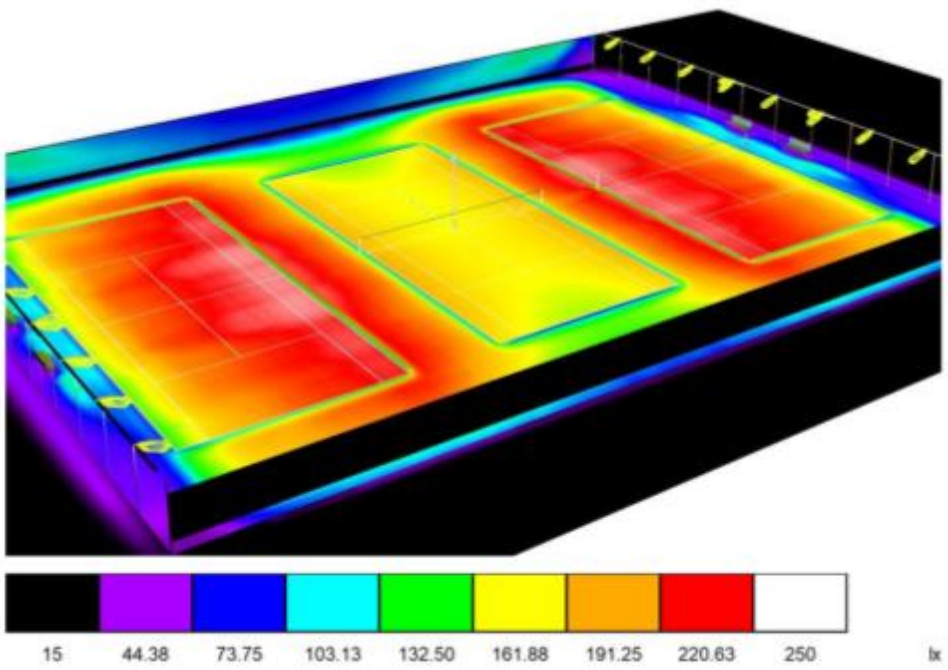
\* No returns from 200 projects



Option 2  
Tweener  
fence  
lighting

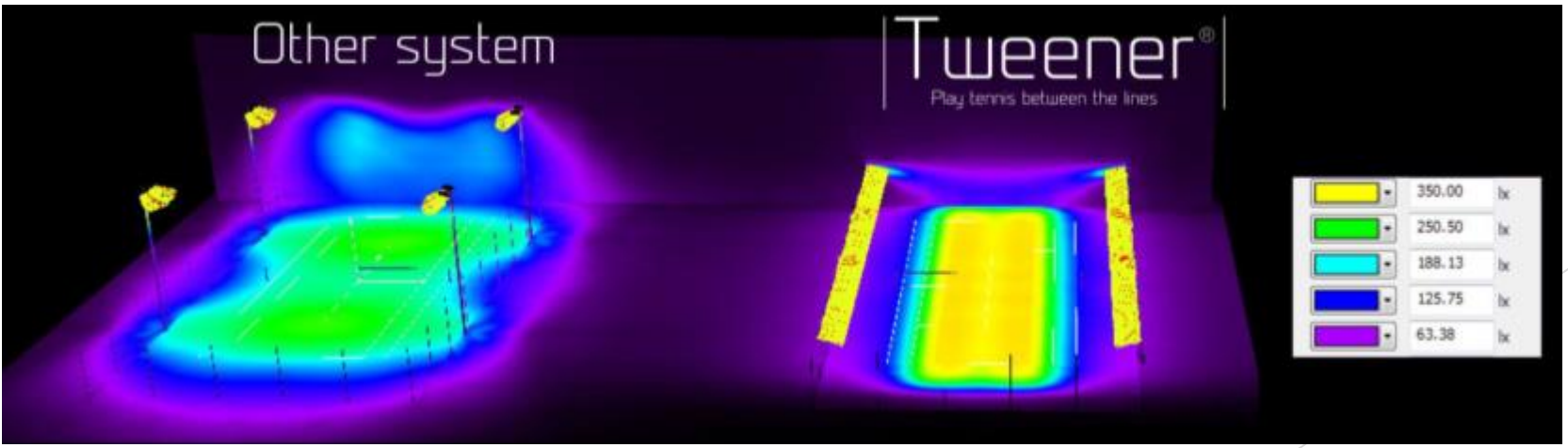
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# Double Tweener on 3 Courts and single on 1 court



Due to the format of courts 1-3 with no fencing separating the courts, using the double Tweener is an option

Whilst the single Tweener is perfect for Court 4.





# Court 2 Lux -

This court will be c10-20% below the recommended 200 LUX

**Tweener triple 36x36m - with extension / Calculation Grid 1 / Value Chart (E, Perpendicular)**



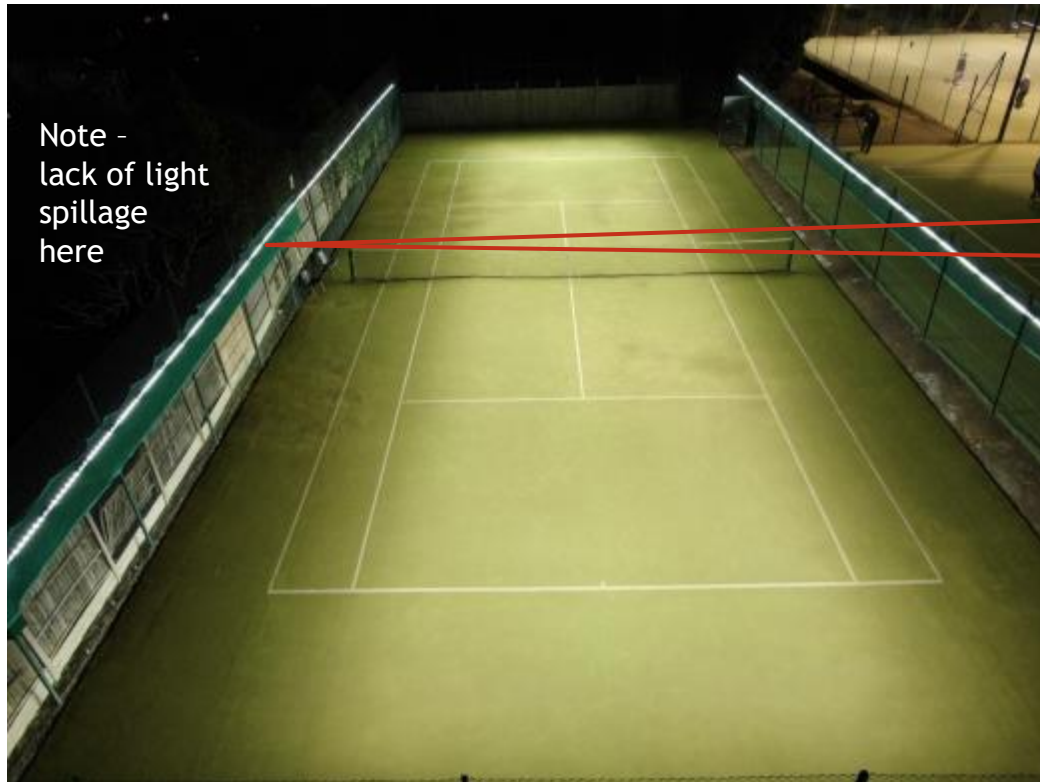
Values in Lux, Scale 1 : 170

# Tweener Case Study - Our Lady of Muswell Tennis club



Option 2  
Tweener  
fence  
lighting

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Note -  
lack of light  
spillage  
here

Fitted to fence at approx 2.5 -  
3m high

Netting behind lights to limit  
light spillage

Great feedback from members  
who now use this court as  
preferred choice

<https://www.tweener.fr/en/door-tennis-lighting/>

<https://www.youtube.com/watch?v=enUzCeOvNqA>

# Additional photos of Tweener



Option 2  
Tweener  
fence  
lighting

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# How will we minimise the impact on our neighbours?

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Issue	Impact	Mitigation
Light Spillage	Impact of lighting on neighbours	Minimal due to LED solution and location on fence at 2.75m. Netting can further reduce spillage
Noise	Additional noise from increased use	Light curfew at 10pm. Club is already open during summer months to similar time
Traffic	Limited, many members walk	Encourage walking to club and use of car park
Visual	Impact of lighting columns	Fence solution would make Tweener system virtually invisible during day
Disruption whilst works carried out	Minimal, can be installed relatively easily within 2 days with few workmen needed	No heavy works, drilling or otherwise required for this solution.

# Summary



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- Both options would provide sufficient lighting for Class 3 level tennis. By using a lower LUX level, this reduces light spillage and impact on neighbours
- Option 1- Philips lighting would require 12 x 6 m columns, the minimum height for tennis using this type of solution.
- Option 2- Tweener solution would provide a lower level of illumination on court 2 (centre of 3 courts) but there would be no columns required as located on existing fences at 2.75m high
- For Tweener solution a windbreak net can be fitted behind on fence to further restrict light spillage
- 10pm curfew would be in place with a timer connected to the electrics to make it impossible to light after this time



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# Appendices

Club Information



# Traditional Court Lighting Options - #1

## 4 pillars 10-12m



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# Court lighting Options - #2 8 pillars 8m



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# Fencing - existing fencing is ideal for Tweener solution



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2.75m



- Fence height 2.75m around entire perimeter
- Gap between fences 2.80m to 3.20m
- L Shaped Design
- Fully surrounded
- 6 years old and in good condition

# Court 4 Photos



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# Court 1-3 Photos



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- Bowling green on one side of court
- 12 posts on each side including end posts
- 2.8m to 3.2m apart
- 2.75m high