

# FLOODLIGHTING WEBINAR

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- **Ask questions in chat**
- **Webinar - recorded and shared**
- **Slides shared**



# AGENDA

1. BENEFITS OF FLOODLIGHTING COURTS
2. LED LIGHTING AND CONVERSION FROM HALIDE
3. PLANNING CONSENT
4. DESIGN CONSIDERATIONS
5. FLOODLIGHTING LAYOUTS
6. COSTS
7. HOW TO APPROACH YOUR PROJECT
8. OPERATIONAL CONSIDERATIONS
9. FUNDING
10. Q&A

# BENEFITS OF FLOODLIGHTING COURTS



- **On average (in GB) tennis clubs with floodlights have 50% more members.**
- **Improved member and coaching programme retention.**
- **Increased revenue – membership and pay and play.**
- **35% more playing time.**

# TENNIS LIGHTING – KEY POINTS TO CONSIDER

- Tennis court lighting is specific to tennis courts.
- There are many different solutions and layouts available, but the design must be tailored to each individual venue.
- To achieve planning permission the relevant information/surveys will be required to meet current regulations.
- Floodlighting is very technical. It is recommended that detailed designs are produced before approaching the local authority for planning or gaining quotations from contractors.

# LED LIGHTING



The UK sports floodlighting market has been largely transformed by the introduction of LED.

Advantages over metal halide floodlighting:-

- Sustainability (lower overall power requirement).
- Long design life with lower maintenance and no lamp replacement.
- Superior control features – instant on and ability to dim fittings.

# DESIGN CONSIDERATIONS – HEIGHT OF COLUMNS AND LUMINARIES

- The choice of luminaire with the right optical distribution at the right mounting height is critical to minimising light spill and obtrusive light effects while providing the right lighting performance for playing tennis.
- Luminaires should be installed with the front glazing at relatively low tilt angles of less than 35 degrees to the surface being lit.
- LED lights can be flat panels and therefore deflectors or shields might have to be installed on the fitting to control light.
- Tennis lighting systems consists of a number of different types of luminaries with varying optical distributions and wattages mounted on several columns located at various points around the courts.
- Generally column heights range from 6m – 10m.
- The luminaire should provide high quality colour rendition with minimum glare, sky glow and spillage.

# CONVERSION OF METAL HALIDE LIGHTS TO LED

1. Ensure you have the existing planning consent and all the associated documents at the time of approval. Check existing lighting meets the consent and all planning conditions have been discharged.
2. If the aim is to use the existing lighting columns. If they are over 20 years old they will need to be structurally checked for strength.
3. If the location of the floodlights are in close proximity to houses (30m) then seek specialist design advice to design a new scheme that meets the existing planning conditions. It is essential that the design has fully dimensioned plans, supplemented by ordinance survey maps and datapacks which model vertical light trespass onto the properties.
4. If the new design can meet the existing planning consent - the venue should apply to the Local Authority for a non-material amendment to the existing planning consent.
5. If this is refused then the venue would have to make a new planning application.
6. Once consent has been approved then tender the project making sure that the new fittings can be installed on the existing columns if they are being used.
7. The typical cost for conversion is £7k to £8k per court.

# PLANNING CONSENT

1. Floodlighting schemes will require a formal planning consent.
2. Each LA has a list of local requirements for applications in addition to national requirements.
3. Floodlight schemes should be designed by specialists using specialist software (such as AGI 32) to produce a lighting designs which:-
  - Demonstrate required performance standards.
  - Have minimal impact on the local environment.
  - Meet the planning regulations.
4. Before submitting an application ensure all relevant information, drawings and an accurate lighting design.



# DESIGN CONSIDERATIONS - PERFORMANCE

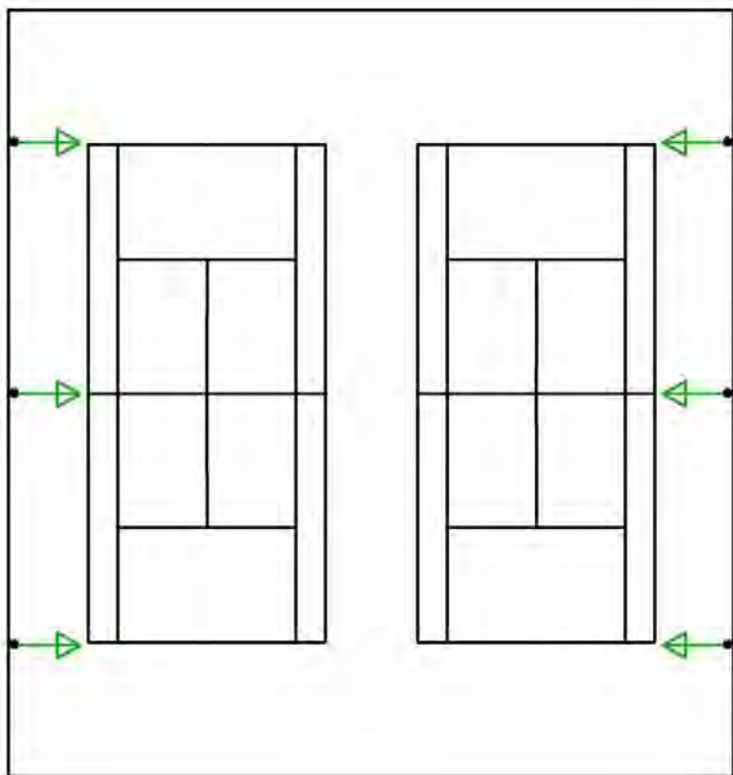
- Lighting system must provide adequate lighting to enable tennis to be played safely.
- The LTA has developed standards alongside the ITF.
- Lighting consultants and contractors should produce designs to meet this standard.

Standard	Maintained average illumination on P.P.A.	Maintained average illumination on T.P.A.	Uniformity within PPA <u>Emin/Eav</u>	Uniformity within TPA <u>Emin/Eav</u>
Recommended	500 Lux	400 Lux	0.7	0.6
Minimum	400 Lux	300 Lux	0.7	0.6

# FLOODLIGHTING LAYOUTS

# SIDE LIT SCHEME

This is typically lit with 10m columns with high wattage fittings.



## Advantages

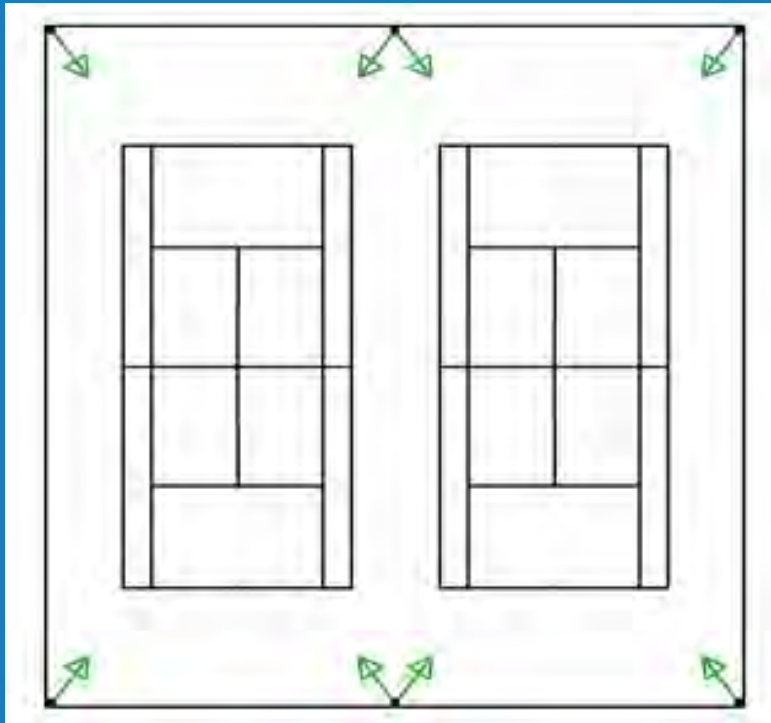
- Less glare within the court area.
- Less glare outside intended area.
- Good control of light spillage.
- With columns 8m high and above – high levels of uniformity.
- Multi court lighting in blocks of two only.

## Disadvantages

- Difficulties experienced where two or more courts are to be illuminated individually, unless a minimum of 6.1m is available to safely locate columns in-between courts at the baseline.
- Usually a minimum of three columns is required each side of each court, hence not as cost effective as other solutions when lighting courts individually.

# CORNER LIT SCHEME

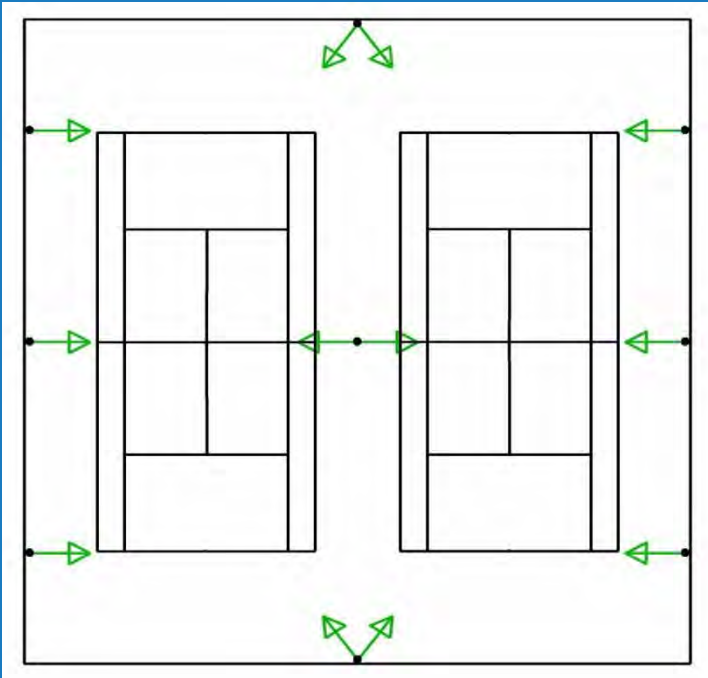
Corner lit layout - typically 10m with minimum column height 8m



Advantages	Disadvantages
<ul style="list-style-type: none"><li>➤ More suitable for three or more courts, where individual court switching is required and limited room is available between courts.</li><li>➤ High level of illumination on surface of ball approaching player.</li><li>➤ High standards of uniformity.</li><li>➤ Least number of columns.</li><li>➤ Cost effective.</li></ul>	<ul style="list-style-type: none"><li>➤ Potential for glare.</li><li>➤ Careful selection of aiming angles required.</li><li>➤ Column height may be considered obtrusive in daylight.</li><li>➤ Column locations usually required outside the fence area.</li></ul>

# CORNER AND SIDE LIT SCHEME

Corner and side lit – typically from 6.7m or 8.0m



Advantages	Disadvantages
<ul style="list-style-type: none"><li>➤ Uses lowest column heights.</li><li>➤ Uses lower wattage fittings.</li><li>➤ More suitable for two or more courts, where limited room is available between courts.</li><li>➤ Good control of glare, sky glow and spillage.</li></ul>	<ul style="list-style-type: none"><li>➤ Large number of columns required to achieve minimum standards</li><li>➤ Larger number of fittings than the equivalent corner lit scheme.</li><li>➤ Can be more costly to install.</li></ul>

# POWER SUPPLY

- Is the power supply adequate?
- Demands on the power supply to the site e.g. the clubhouse.
- Total of all existing loads will need to be checked to verify any spare capacity for the new floodlighting installation.
- Advice can be sought from a design consultant, electrical contractor or installer of the system.
- A club with up to 2 to 3 courts may be able to utilise the existing “domestic” single phase supply for floodlighting.
- At sites with more than three floodlit courts the Network Power Supply Company will usually require a “commercial” three-phase power supply to be installed to ensure they can match the overall demands of all consumers by balancing the loads on the supply.

# DUCTING AND DRAW PITS

- Cable ducts are heavy duty purpose designed plastic tubes that provide power cables that provide power to the floodlights.
- Drawpits are “manholes” that enable the cables to be installed and maintained.
- Together the cable ducts and drawpits form a containment system to facilitate the initial installation and or future replacement of the power cables serving each of the columns.
- Where possible ducting and drawpits should be kept outside of the court block or as a minimum be located outside of the playing area. This normally means that they are located in between courts.

# COSTS

Cost of floodlighting will depend upon:-

- Standard required
  - Initial cost of the system
  - Hourly running costs
  - Cost of maintenance and eventual replacement
- All these factors should therefore be given careful consideration
  - A more costly installation could also mean more efficient and therefore less expensive in the long term.
  - Guideline costs excluding site specific issues e.g., provision of underground ducting or new power supplies. Exc. fees, contingencies & VAT.

<b>Individual court</b>	<b>£17,000</b>
<b>Block of 2 courts</b>	<b>£30,000</b>
<b>Block of 3 courts</b>	<b>£42,000</b>
<b>Block of 4 courts</b>	<b>£48,000</b>



# HOW TO APPROACH YOUR PROJECT

1. Engage a sports lighting consultant or a specialist tennis lighting contractor/manufacture to prepare a design that meets the performance criteria and has maximum chance of receiving planning permission.
2. Undertake a review of the site to establish if there is adequate power supply and the location of the supply in relation to the courts. Also identify any facilities or objects in which the floodlighting could impact. This could be things such as neighbouring properties, trees or any wildlife around the site.
3. Prepare the initial design brief and present this to the local community and planning authority to gain their views on the proposal. If possible the venue should refine the design to mitigate any objections.
4. Use the initial design to obtain a quote from a minimum of 3 tenderers. It is important to understand that the potential contractors can provide a scheme that meets the design brief and who are NICEIC or ECA registered or similarly approved.

# HOW TO APPROACH YOUR PROJECT

5. Once the contractor has been appointed then finalise the design and submit a planning application with all the relevant documentation. Please note that the lighting design will need to be supplemented with plan and elevation drawings.
6. Once planning permission has been gained make sure that any conditions are discharged before starting on site.
7. Install floodlights and once complete and make sure that they are tested so that the installation has been installed correctly.
8. Manage the project on site and drawdown funding. Once the project is complete obtain the operation and maintenance manuals from the contractor.

# CONTRACTORS

Contractor	6m – 8m high columns	8m – 10m and above column solution
Highlights Floodlighting Limited	X	X
Halliday Lighting Limited	X	X
Luminance Pro Lighting Systems Limited	X	X
Surface Lux Limited	X	X
Exclusive Leisure	X	X
LTL Contracts	X	X

- LTA have reviewed concept designs and performance standards have been met.
- Contractors offer a wide range of solutions and the design must be tailored to each site.
- The LTA is not responsible for the contractor's designs and does not approve contractors.
- Venues should undertake own due diligence before engaging a contractor.
- Lighting schemes below 6m mounting height are normally very difficult to achieve adequate uniformity therefore they need to be designed by a specialist consultant.

# OPERATIONAL CONSIDERATIONS

- How will you operate the lights?
- Lighting Controls
  - clubSpark SmartAccess system can control lights
  - Direct switching
  - Tokens
- Running costs approx. £1 per court per hour
- Charging model – members and non members
- £600 sinking fund per court per year to cover lamps and column replacement



## **ClubSpark for LTA registered venues**

Simple set up for booking, memberships and more.  
Find out what ClubSpark can offer your venue.

# LTA QUICK ACCESS LOANS

- Quick Access Loan (QAL) provides interest free loans from £25,001 up to £250,000.
- Affordable repayment term (5-10 years).
- Funding from LTA Trust – projects must clearly demonstrate community accessibility and participation growth.
- Priorities – low cost indoor structures and floodlights.
- We will not fund the conversion from Metal Halide to LED.
- Applicants to contribute towards the project cost through reserves, fundraising, applying for other funding sources.
- Webinar recording on LTA website.

# FUNDING SOURCES

- Sport England
- Crowdfunding
- Charitable trusts
- Landfill trusts – entrust, Biffa
- CSR funding - Aviva
- Local Authority - s106/CIL funding
- Conduct local searches in your area

# VENUE SUPPORT TOOLKIT

LTA's venue support hub - providing information, resources and support to help you manage, develop and grow your tennis venue and get more people playing tennis.

- **Club Management** – Succeed with the right structure, leadership and plan.
- **Membership Growth** - Understanding your members and visitors needs and wants is key to the creation of new products and playing opportunities at your club
- **Membership Retention** –Resources to help you focus on strategy to retain members, build loyalty and how you can start tracking your own attrition or churn rate.
- **Financial Sustainability** - assure your club's future through strong financial management.
- **Programming and Court Utilisation** – Maximise court usage; sweating your assets
- <https://www.lta.org.uk/workforce-venues/tennis-venue-support/>
- Venue Registration and the benefits of registration
- Dedicated delivery network and [venue webinars](#)

The screenshot shows the 'Venue Support Toolkit' website. At the top, there is a header with the title 'Venue Support Toolkit' and a welcome message: 'Welcome to the LTA's venue support hub - providing the information, resources and support to help you manage, develop and grow your tennis venue and get more people playing tennis.' Below the header, there are three main content blocks. The first block is titled 'Coronavirus (COVID-19) - Advice for venues' and features a close-up image of tennis balls. The second block is titled 'Venue Registration' and features an image of a tennis court. The third block is titled 'Club Forum Webinars' and features a large blue 'REGISTER' button with a mouse cursor pointing to it. Each content block has a brief description and a right-pointing arrow icon.

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# FLOODLIGHTING CONSULTANTS

The LTA engage Lee West for the majority of floodlighting designs and planning applications. Lee has experience of both design and planning application especially for projects which have neighboring properties or have potential planning issues. His contact details are below:-

LEE WEST - SPORTS FACILITY PLANNING AND DESIGN LTD

TEL: 07770 366259, email: [office@sfpad.co.uk](mailto:office@sfpad.co.uk)

The other consultant that the LTA use is Phil Keeley at Labosport.

PHIL KEELEY – LABOSPORT

TEL: 07833 757576, email:- [phil.keeley@labosport.com](mailto:phil.keeley@labosport.com)

# CONTRACTORS & CONSULTANTS

There are a number of other consultants that work across the sports industry that could be used for tennis and these include:

Sports Surfaces, Sports labs, MUGA UK

For simple designs where planning is not seen as a problem then venues could engage a contractor to provide a design and submit a planning application. However the venue should be aware that if a contractor specifies a specific fitting within the planning application then they will have to use the fitting for installation unless they apply for a non material amendment.

Tennis court floodlighting contractors such as Highlights Floodlighting, Hallidays, Luminance Pro, Surface Lux, Exclusive Leisure, LTL Contracts can be used.

When engaging the contractor/consultant it is important to understand the scope of service that is going to be provided and that the proposed design meets all performance standards and planning application.