



1rL10195

REPORT FOR

BIODIVERSITY-SENSITIVE LIGHTING STRATEGY
AT

**BERKSHIRE COUNTY SPORTS CLUB, SONNING LANE, SONNING,
READING RG4 6ST**

PREPARED FOR

**ANDY KNEE
PADELSTARS LTD**

PREPARED BY

**LEWIS ELLISON
PLANNING AND ENVIRONMENTAL CONSULTANTS**

Date

26TH JUNE 2025

QUALITY ASSURANCE

Issue / Revision	Issue	Revision 1	Revision 2
Remarks			
Date	26 th June 2025		
Prepared By	Lewis Ellison		
Job Title	Technical Director		
Signature			
Project Number	1rL10195		

Contents

EXECUTIVE SUMMARY	4
1 INTRODUCTION.....	5
1.1 Background.....	5
1.2 Site Location and Context	5
1.3 Limitations	5
2 LEGISLATION, GUIDANCE AND POLICY.....	6
2.1 Local Planning Policy.....	6
3 METHODOLOGY	9
3.1 Baseline	9
3.2 Impact Significance.....	9
4 BASELINE	10
4.1 Existing Lighting Environment	10
4.1.1. Surrounding Area	10
4.1.2. Environmental Zone	10
4.2 Proposed Artificial Lighting.....	10
4.3 Sensitive Receptors.....	11
4.3.1. Operational Phase Sensitive Receptors.....	11
5 ASSESSMENT	14
5.1 Operational Phase Assessments.....	14
6 BEST PRACTICE MEASURES	16
7 CONCLUSION.....	17
8 ABBREVIATIONS	18
APPENDIX I - FIGURES.....	19
APPENDIX II - PARTS LIST	24
APPENDIX II – ASSESSORS CV	25

EXECUTIVE SUMMARY

PEC were commissioned by PadelStars Ltd to undertake a biodiversity sensitive lighting strategy in support of the proposed sports pitches at Berkshire County Sports Club, Sonning Lane, Sonning, Reading RG4 6ST.

The proposals comprise 3 covered padel courts and 3 outdoor tennis courts alongside associated artificial lighting.

As part of the proposed development a number of artificial lights will be installed across the site to adequately illuminate the sports courts. Subsequently, there is potential for the proposals to cause impacts at nearby sensitive ecological receptors as a result of the proposed artificial lighting. A biodiversity sensitive lighting strategy is therefore required in order to determine assess and mitigate against the potential impacts as a result of the proposed development.

Modelling was undertaken in order to predict impacts associated with changes in lighting levels at sensitive ecological locations across the site.

The modelling results indicated that lighting levels at sensitive ecological areas were insignificant at 8 receptors and following best practice design measures not significant at the remaining receptor locations. The site is therefore considered suitable with the inclusion of best practice design measures to protect nearby ecological receptors from artificial lighting impacts.

Based on the assessment results, artificial lighting is not considered a constraint to planning consent for the proposed development.

1 INTRODUCTION

1.1 BACKGROUND

Planning and Environmental Consultants (PEC) Ltd have been commissioned by PadelStars Ltd, hereafter referred to as “the Client” to undertake a biodiversity sensitive lighting strategy in support of a planning application for the proposed sports pitches at Berkshire County Sports Club, Sonning Lane, Sonning, Reading RG4 6ST, herein after referred to as the “Proposed Development”.

1.2 SITE LOCATION AND CONTEXT

The Proposed Development is located at Berkshire County Sports Club, at approximate National Grid Reference (NGR) 475670, 175020. Reference should be made to Figure 1 within Appendix I for a location plan.

The proposals comprise the instalment of 3 covered padel courts and 3 outdoor tennis courts alongside associated artificial lighting. Following the submission of planning application 242913, the following condition has been issued in relation to artificial lighting.

“Prior to commencement of development, a biodiversity-sensitive lighting strategy shall be submitted to and approved in writing by the local planning authority. The strategy shall address the following:

- *identify those areas/features on site that are particularly sensitive for bats and birds and that are likely to cause disturbance in or around their breeding sites and resting places or along routes used to access key areas of their territory, for example, for foraging; and*
- *show how and where external lighting will be installed (through the provision of appropriate lighting contour plans and technical specifications, including the tilt of the lighting) so that it can be clearly demonstrated that areas to be lit will not disturb or prevent the above species using their territory or having access to their breeding sites and resting places.*

All external lighting shall be installed in accordance with the specifications and locations set out in the strategy, and these shall be maintained thereafter in accordance with the strategy. Under no circumstances should any other external lighting be installed without prior consent from the local planning authority.

Reason: To ensure that biodiversity, protected and priority species are not adversely affected by the proposals. Relevant policy: NPPF paragraph 198 Section 15 (Conserving and Enhancing the Natural Environment), Core Strategy policies CP1, CP3, CP6 & CP11 and Managing Development Delivery Local Plan policy TB23.”

As such a biodiversity sensitive lighting strategy is required to determine baseline conditions, assess site suitability for the proposed end use and ensure impacts on local ecology are mitigated or avoided entirely. The assessment will be undertaken in line with the RBC local planning policy and the National Planning Policy Framework (NPPF). This is detailed in the following report.

1.3 LIMITATIONS

This report has been produced in accordance with PEC Ltd standard terms of engagement. This report is solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from PEC Ltd at which point a charge may be levied against such approval.

2 LEGISLATION, GUIDANCE AND POLICY

The following legislation, guidance and policy will be considered and adhered to during the preparation of the Lighting Impact Assessment:

- The National Planning Policy Framework (NPPF), updated on 12th December 2024
- The National Planning Practice Guidance (NPPG), relevant chapters updated on 1st November 2019
- Clean Neighbourhoods and Environmental Act
- Guidance Notes for the Reduction of Obtrusive Light, Institution of Lighting Professionals, 2011
- Lighting in the Countryside: Towards Good Practice, Department for Communities and Local Government, 2005
- Bats and Artificial Lighting in the UK, Institute of Lighting Professionals, BATS Conservation Trust Lighting Guidance, 2023
- Environmental Protection Act, 1990

2.1 LOCAL PLANNING POLICY

The Wokingham Borough Council (WBC) local plan is made up of the of the following documents:

- Core Strategy (adopted 29th January 2010)
- Managing Development Delivery (adopted 21st February 2014)
- Joint Minerals and Waste Plan (adopted 19th January 2023)
- Neighbourhood Development Plans (this site lies within the Thanes Ward and Sonning Civil Parish and subsequently does not have a neighbourhood development plan).

A review of these documents did not reveal any policies in relation to artificial lighting.

“CP1 – Sustainable development

Planning permission will be granted for development proposals that:

- 1) Maintain or enhance the high quality of the environment;*
- 2) Minimise the emission of pollutants into the wider environment;***
- 3) Limit any adverse effects on water quality (including ground water);*
- 4) Ensure the provision of adequate drainage;*
- 5) Minimise the consumption and use of resources and provide for recycling;*
- 6) Incorporate facilities for recycling of water and waste to help reduce per capita water consumption;*
- 7) Avoid areas of best and most versatile agricultural land;*
- 8) Avoid areas where pollution (including noise) may impact upon the amenity of future occupiers;***
- 9) Avoid increasing (and where possible reduce) risks of or from all forms of flooding (including from groundwater);*
- 10) Provide attractive, functional, accessible, safe, secure and adaptable schemes;*
- 11) Demonstrate how they support opportunities for reducing the need to travel, particularly by private car in line with CP6; and*
- 12) Contribute towards the goal of reaching zero-carbon developments⁴¹ as soon as possible by:*
 - a) Including appropriate on-site renewable energy features; and*
 - b) Minimising energy and water consumption by measures including the use of appropriate layout and orientation, building form, design and construction, and design to take account of microclimate so as to minimise carbon dioxide emissions through giving careful consideration to how all aspects of development form.”*

“CP3 - General Principles for development

Planning permission will be granted for proposals that:

- a) Are of an appropriate scale of activity, mass, layout, built form, height, materials and character to the area together with a high quality of design without detriment to the amenities of adjoining land users including open spaces or occupiers and their quality of life;
- b) Provide a functional, accessible, safe, secure and adaptable scheme;
- c) Have no detrimental impact upon important ecological, heritage, landscape (including river valleys) or geological features or water courses.
- d) Maintain or enhance the ability of the site to support fauna and flora including protected species;
- e) Use the full potential of the site and contribute to the support for suitable complementary facilities and uses;**
- f) Contribute to a sense of place in the buildings and spaces themselves and in the way they integrate with their surroundings (especially existing dwellings) including the use of appropriate landscaping;
- g) Provide for a framework of open space in secure community use achieving at least 4.65 ha/1,000 population provision together with recreational/**sporting facilities** in addition to private amenity space;
- h) Contribute towards the provision of an appropriate sustainable network of community facilities;
- i) Do not lead to a net loss of dwellings and other residential accommodation or land; and
- j) Do not lead to a loss of community or recreational facilities/land or infrastructure unless suitable alternative provision is available.

Development proposals will be required to demonstrate how they have responded to the above criteria through the submission of Design and Access Statements, clear and informative plans, elevations and streetscenes and where required Masterplans, Development Briefs, Concept Statements and Design Codes."

"CP11 - Proposals outside Development Limits (including countryside)

In order to protect the separate identity of settlements and maintain the quality of the environment, proposals outside of development limits will not normally be permitted except where:

- 1) *It contributes to diverse and sustainable rural enterprises within the borough, or in the case of other countryside based enterprises and activities, it contributes and/or promotes recreation in, and enjoyment of, the countryside; and*
- 2) *It does not lead to excessive encroachment or expansion of development away from the original buildings; and*
- 3) *It is contained within suitably located buildings which are appropriate for conversion, or in the case of replacement buildings would bring about environmental improvement; or*
- 4) *In the case of residential extensions, does not result in inappropriate increases in the scale, form or footprint of the original building;*
- 5) *In the case of replacement dwellings the proposal must:*
 - i) *Bring about environmental improvements; or*
 - ii) *Not result in inappropriate increases in the scale, form or footprint of the original building.*
- 6) *Essential community facilities cannot be accommodated within development limits or through the re-use/replacement of an existing building;*
- 7) *Affordable housing on rural exception sites in line with CP9."*

"Policy TB23: Biodiversity and Development

- 1. Sites of national or international importance are shown and sites of local importance are defined on the Policies Map.
- 2. Planning permission for development proposals will only be granted where they comply with policy CP7 – Biodiversity of the Core Strategy and also demonstrate how they:
 - a) Provide opportunities, including through design, layout and landscaping to incorporate new biodiversity features or enhance existing
 - b) Provide appropriate buffer zones between development proposals and designated sites as well as habitats and species of principle importance for nature conservation

c) Ensure that all existing and new developments are ecologically permeable through the protection of existing and the provision of new continuous wildlife corridors, which shall be integrated and linked to the wider green infrastructure network.”

Reference has been made to these policies by assessing impacts on sensitive ecological receptors as a result of the proposals as well as assessing the suitability of the site for the proposed end use. It should be noted that core strategy policy CP6 was highlighted within the condition, however this policy does not relate to the lighting of tennis courts and as such has not been considered further within this assessment.

3 METHODOLOGY

The Artificial Lighting Impact Assessment included the production of a computational model of the development and an evaluation of associated impacts. This included assessment of light trespass at receptor locations.

In order to assess the potential impacts of proposed artificial lighting in the area, a model of assumed lighting design, has been constructed using the Relux Lighting Software (V2025.1.7.0). The calculations performed within the assessment assumed the worst-case effect of the proposed development lighting on existing receptors.

The methodology for each element of the assessment is outlined in the following subsections.

3.1 BASELINE

Existing lighting conditions in the vicinity of the development site were identified in order to provide a reference for assessment. The Lighting in the Countryside¹ document states the following items should be considered during the determination of baseline:

- A review of the area and landscape together with any designations;
- An overview of existing lighting;
- Identification of potential receptors; and
- Environmental Zone Classification.

The ILP has developed an Environmental Zone classification system for the categorisation of assessment locations. This is summarised in Table 1.

Table 1: Environmental Zone Classification

Category	Description	Examples
E0	Dark landscapes	Astronomical Observable dark skies, UNESCO starlight reserves, IDA dark sky places
E1	Intrinsically dark landscapes	Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc.
E2	Low district brightness areas	Sparsely inhabited rural areas, village or relatively dark outer suburban locations
E3	Medium district brightness	Well inhabited rural and urban settlements, small town centres of suburban locations
E4	High district brightness areas	Town / City centres with high levels of night-time activity

The criteria shown in Table 1 were utilised to determine the most appropriate Environmental Zone for the development location.

3.2 IMPACT SIGNIFICANCE

The development was assessed for the disturbance and/or nuisance to nearby ecological receptors due to artificial lighting.

Light trespass will be considered in significant when below 0.5lx to ensure a robust assessment. In the event that light trespass exceeds 0.5lx, further consideration will need to be given with regards to mitigation measures to ensure impacts remain not significant.

¹ Lighting in the Countryside; Towards Good Practice, Department for Communities and Local Government, 2005.

4 BASELINE

Existing lighting conditions in the vicinity of the proposed development site were identified in order to provide a baseline for assessment. These are detailed in the following sections.

4.1 EXISTING LIGHTING ENVIRONMENT

4.1.1. SURROUNDING AREA

The surrounding area is predominantly fields, sports clubs and school grounds, with residential units adjacent to the East of the site. The site is located on the fringe of a suburban area.

4.1.2. ENVIRONMENTAL ZONE

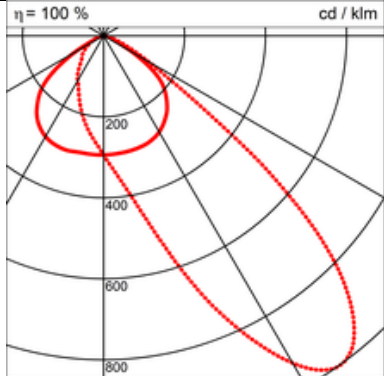
The Surrounding area is classified as category E3 – Medium district brightness areas (Well inhabited rural and urban settlements, small town centres of suburban locations).

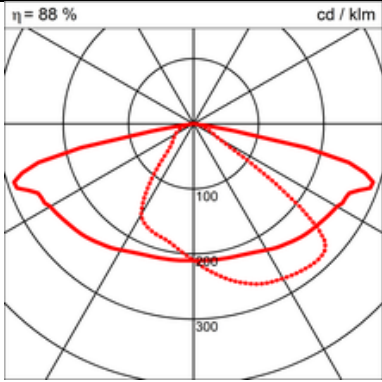
4.2 PROPOSED ARTIFICIAL LIGHTING

Based on the finding of previous sections, Table 2 indicates the proposed forms of artificial light which will be utilised across the proposed development including luminaires which allow for adequate illuminance across the sports areas.

The products specified within Table 2 are examples which are used to determine the required specifications which the final products should mirror. It should be noted that all products will maintain a colour temperature of 2700K (or as close as practically possible) to minimise impacts at any surrounding ecological receptors

Table 2: Proposed Artificial Lighting

Luminaire	Luminaire Data		LDC
1. OPPLÉ - LEDFloodOly-P Re600-800W-740-AS-LUM (709000083800)			
	LiTG Class	A50	
	CIE Flux Codes	58 94 100 100 100	
	Efficiency	Absolute Photometry	
	System Power	800 W	
	Luminaire Output	150 lm/W	
	System Light Flux	120000 lm	
	Protection Class	Class I	
	Protection Degree	IP 66	
2. Philips – ClearFlood (BVP650 T25_740)			
	LiTG Class	A30	
	CIE Flux Codes	39 73 97 100 88	

	Efficiency	88 %	
	System Power	58 W	
	Luminaire Output	151.7 lm/W	
	System Light Flux	8800 lm	
	Protection Class	-	
	Protection Degree	IP 66	

The proposed Luminaire 1 as detailed in Table 2 is to be located around the outside tennis courts at a height of 8 meters (or as close as practically possible).

Whereas the proposed Luminaire 2 as detailed in Table 2 is to be located under the canopy at a height of 6 meters (or as close as practically possible).

The locations of all luminaires are detailed in Appendix II – Parts list, and shown in Figure 3 of Appendix I. These luminaires will provide sufficient light to the sports courts, to conform with Sports England guidelines, without over lighting the area.

The lights will be in use as necessary pre-curfew and switched off when not in use. As standard curfew is set to 23:00hrs although it is anticipated the latest the lights will be in use is 22:30hrs, in line with the club's closing time. The lights will not be in use post-curfew.

4.3 SENSITIVE RECEPTORS

A sensitive receptor is defined as any ecological area which may be affected by changes in lux levels as a result of a development.

4.3.1. OPERATIONAL PHASE SENSITIVE RECEPTORS

The following ecological receptors have been identified in lien with the Ecological Mitigation Plan, Landscape and Ecological Management Plan and Great Crested Newt Precautionary Working Methods Statement, produced by Arbtech. A list of species which have been identified by Arbtech in close proximity to the proposed development site which are considered sensitive to artificial lighting is provided within Table 3 along with a summary of the associated findings.

Table 3: Ecological Survey Findings

Species/Animal	Summary of Survey Findings
Bat	There are a number of bat roosting sights within the local area. Grassland and species-rich hedgerow with trees Habitats provide foraging and commuting opportunities for bats across the site. These are likely to support invertebrates that will in turn provide foraging opportunities for local bat populations. Most notably, the hedgerows on site are mature and extend beyond the site adding to the continuity of vegetated linear features present in the wider landscape. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites.

Species/Animal	Summary of Survey Findings
Bird	No birds nets were identified with the site boundary however there are birds in the surrounding area. Grassland and species-rich hedgerow with trees Habitats provide foraging and commuting opportunities for birds across the site. These are likely to support invertebrates that will in turn provide foraging opportunities for local bird populations.
Hedgehog	Species-rich hedgerow habitats provide foraging and commuting opportunities for hedgehogs with woodland habitats nearby.

It should be noted that this is not an exhaustive list of species which may be present across the site however it does include for species which are highly sensitive to artificial lighting and as such any mitigation or design measures suggested will be sufficient to protect any species.

A desk-top study was undertaken in order to identify potential and key ecological locations across the site and surrounding area including breeding sites, resting areas, travel routes and foraging opportunities. These have been summarised in Table 4 and shown graphically in Figure 2 of Appendix I.

Table 4: Ecological Sensitive Receptor Locations

Sensitive Receptor ID	Description	Sensitivity	Reason	NGR (m)	
				X	Y
R1	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,701	174,983
R2	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,708	174,980
R3	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,703	174,974
R4	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,721	174,979
R5	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,725	174,993
R6	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,724	175,039
R7	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,712	175,042
R8	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,704	175,046
R9	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,695	175,051
R10	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,684	175,053

Sensitive Receptor ID	Description	Sensitivity	Reason	NGR (m)	
				X	Y
R11	Individual tree	High	High probability of use by bats and birds either from roosting, resting	475,653	175,063
R12	H2A5 – Species rich native hedgerow	High	Follows the existing bat corridor and is a known source of food.	475,720	175,006
R13	H2A6 – Other native hedgerow	Low	Likely to be disturbed during construction and does not offer significant food source.	475,687	174,991
R14	H2A6 – Other native hedgerow	Low	Likely to be disturbed during construction and does not offer significant food source.	475,703	175,031
R15	H2B – Non-native/ornamental hedgerow	Low	Not an existing hedge and is unlikely to offer a significant food source.	475,670	175,041

It should be note that the grassed area have not been included within this as although they may form some support for local ecology, it is unlikely that they would be utilised over what has been identified above.

5 ASSESSMENT

There is the potential for artificial lighting impacts on sensitive ecological receptors as a result of the operation of the Proposed Development. These are assessed in the following Sections.

5.1 OPERATIONAL PHASE ASSESSMENTS

Additional artificial lighting associated with the operation of the proposed development has the potential to impact upon sensitive ecological receptors either from direct light or light spill. An assessment was therefore undertaken using dispersion modelling in order to quantify potential lux levels at sensitive locations in the vicinity of the site.

Predicted lux levels across the nearby sensitive ecological receptors are summarised in Table 5. Exceedances of 0.5lx for ecological receptors are highlighted in **bold**.

Table 5: Modelling Results – Lux Levels

Ecological Receptor	Minimum Lux Levels	Maximum Lux Levels	Average Lux Levels
R1	0.2	0.5	0.3
R2	0.1	0.4	0.2
R3	0.1	0.2	0.1
R4	0.2	0.3	0.2
R5	0.1	0.3	0.2
R6	0.3	0.4	0.4
R7	0.3	0.5	0.4
R8	0.3	0.6	0.5
R9	0.4	0.7	0.6
R10	0.3	0.7	0.5
R11	0.2	0.3	0.2
R12	0.0	2.8	0.3
R13	0.1	5.9	1.5
R14	16.3	138.9	71.2
R15	7.6	138.2	94.7

The predicted lighting levels shown in Table 5 indicate that there were no exceedances of 0.5lx at 8 of the 15 nearby ecological receptors. As such lighting impacts at these receptors can be considered insignificant.

At receptors R8 and R9 (trees), the maximum lighting levels slightly exceeded 0.5 lx, following the implementation of best practice design measures as outlined within section 6, impacts on ecology at these locations should be considered insignificant.

At receptor R12 (H2A5 – Species rich native hedgerow) the maximum lux level exceeds 0.5lx, however critically, the average lux level across the receptor remains below 0.5lx. To ensure lighting impacts remain minimal across the receptor, a privacy screen should be attached to the court fence along the eastern side. The privacy screen in combination with the best practice measures detailed in section 6 will ensure the ecology at R12 does not experience significant impacts.

Receptors R13-R15 are all considered low sensitivity as animals are not expected to spend any extended period of time there. As such although they experience lighting levels above 0.5lx, the use of best practice measures detailed in section 6 will be sufficient to avoid significant impacts to any animals which access these locations.

It should also be noted that as shown in figure 4, light spill from the site is limited to only a few meters beyond the site boundary and as such, ecology in the wider area is unlikely to be impacted

Based on the above results of the lighting impact assessment and worse case assumptions used, the site is not considered to significantly impact the local ecology within or in close proximity to the site subject to the inclusion of the best practice measures as detailed within section 6. Artificial lighting impacts from the development are therefore not considered to require any further mitigation and should not be considered a constraint to planning.

6 BEST PRACTICE MEASURES

Due to the nature of the Proposed Development, best practise measures have been followed in this model based on guidance from the ILP

Measures to include:

- Lighting operational only between 07:00-22:00
- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used
- A warm white spectrum should be adopted to reduce blue light components
- Luminaire should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)
- Only luminaires with an upward light ratio of 0% and with good optical control should be used
- Luminaires should always be mounted on the horizontal, i.e. no upward lift
- Outdoor court lights to be turned off when not in use.

7 CONCLUSION

PEC were commissioned by PadelStars Ltd to undertake an biodiversity sensitive lighting strategy in support of a proposed sports pitches at Berkshire County Sports Club, Sonning Lane, Sonning, Reading RG4 6ST.

Modelling was undertaken in order to predict impacts associated with changes in artificial lighting levels at sensitive ecological receptor locations surrounding the site boundary.

The modelling results indicated that there were no exceedances of 0.5lx at 8 of the surrounding ecological receptors. Following the implementation of the best practice measures detailed within this report, impacts on the remaining ecological receptors are considered not significant. Therefore, artificial lighting impacts from the development are not considered to require any further mitigation.

Based on the assessment results, artificial lighting is not considered a constraint to planning consent for the proposed development.

8 ABBREVIATIONS

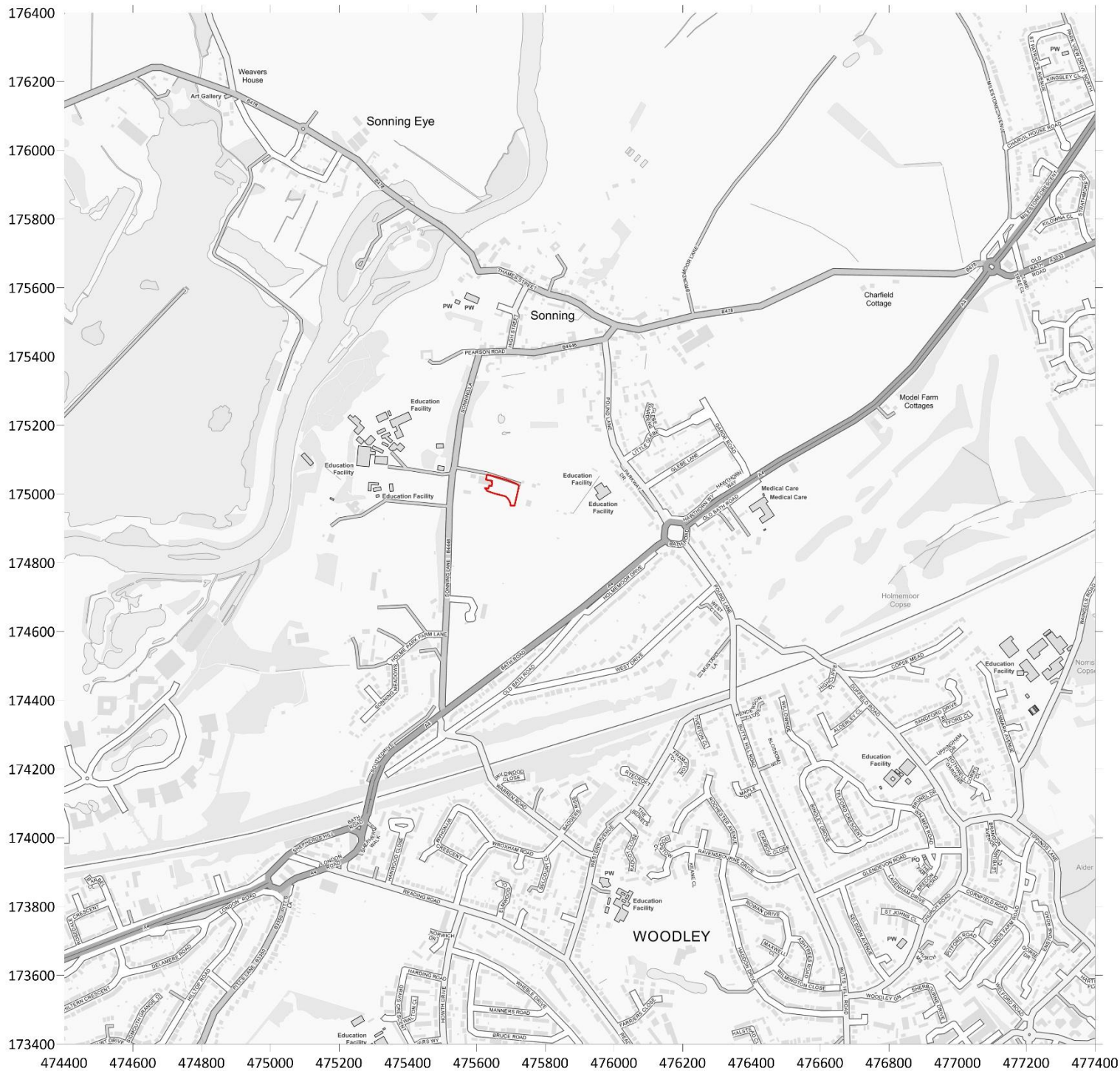
ILP	Institution of Lighting Professionals
NGR	National Grid Reference
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
PEC	Planning and Environmental Consultants
WBC	Wokingham Borough Council

PadelStars Ltd
Berkshire County Sports Club, Sonning Lane, Sonning, Reading RG4 6ST
1rL10195
26/06/2025



APPENDIX I - FIGURES

APPENDIX I - FIGURES



Legend
 Site Boundary

Title
Figure 1
Site Location and Context

Project
Berkshire County Sports Club

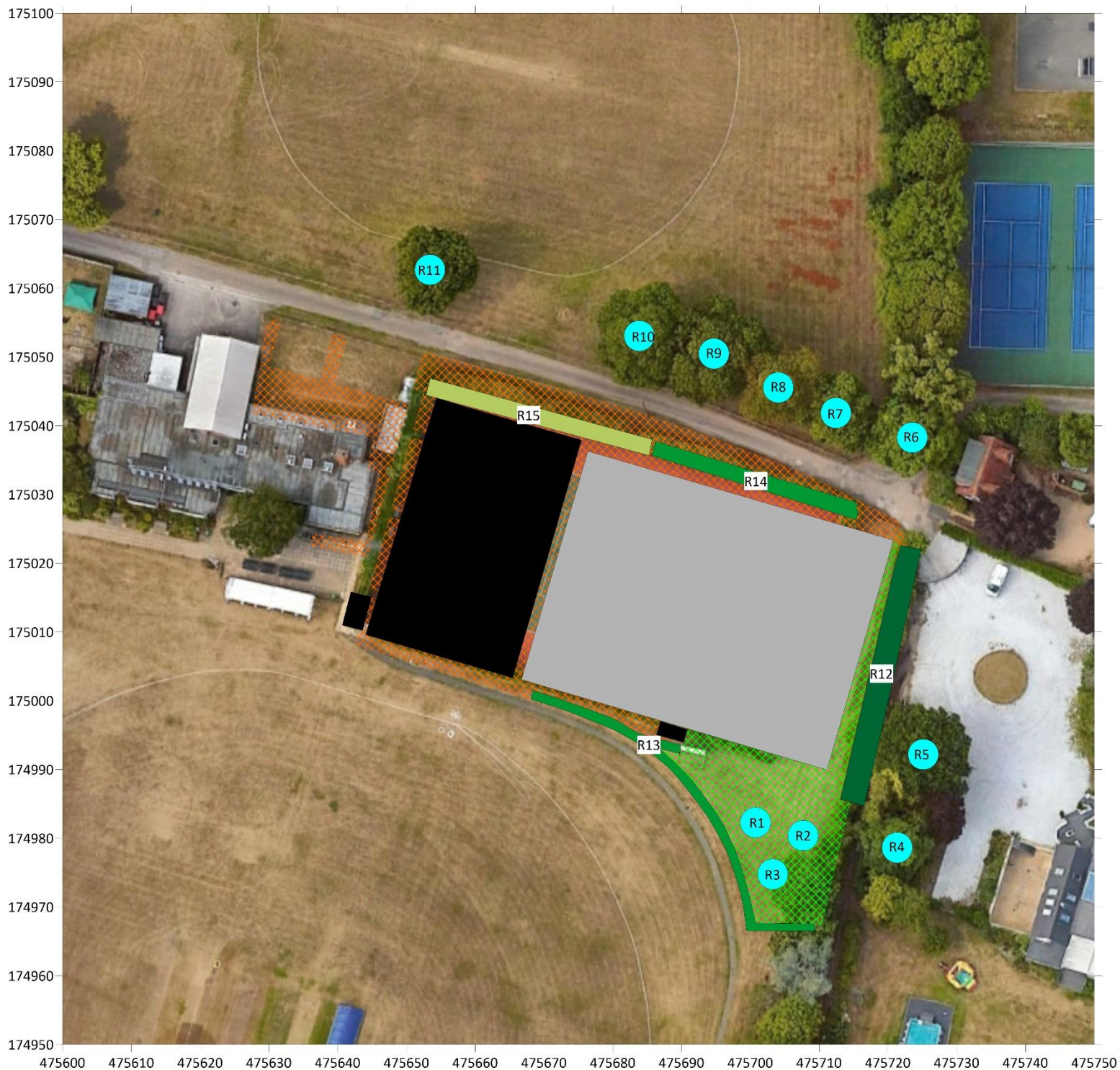
Project Number
L10195

Contains Ordnance Survey Data
© Crown Copyright and Database Act 2010

Planning and Environmental
Consultants Ltd

Second Floor, 198 Elliott Street,
Tyldesley, Manchester, M29 8DS
www.pec ltd.org
info@pec ltd.org
01942 556259





Legend

-  Site Boundary
-  G3C - Other Neutral Grassland - Poor
-  G3C - Other Neutral Grassland - Good
-  H2B - Non-Native/Ornamental Hedgerow
-  H2A6 - Other Native Hedgerow
-  H2A5 - Species Rich Native Hedgerow
-  Individual Tree
-  Covered Courts
-  Open Air Courts

Title

Figure 2
Sensitive Receptor Locations

Project

Berkshire County Sports Club

Project Number

L10195

Contains Ordnance Survey Data
© Crown Copyright and Database Act 2010

Planning and Environmental
Consultants Ltd

Second Floor, 198 Elliott Street,
Tyldesley, Manchester, M29 8DS
www.pec ltd.org
info@pec ltd.org
01942 556259





Legend

-  Site Boundary
-  Residential Sensitive Location
-  Luminaire 1
-  Luminaire 2

Title

Figure 3

Luminaire Locations

Project

Berkshire County Sports Club

Project Number

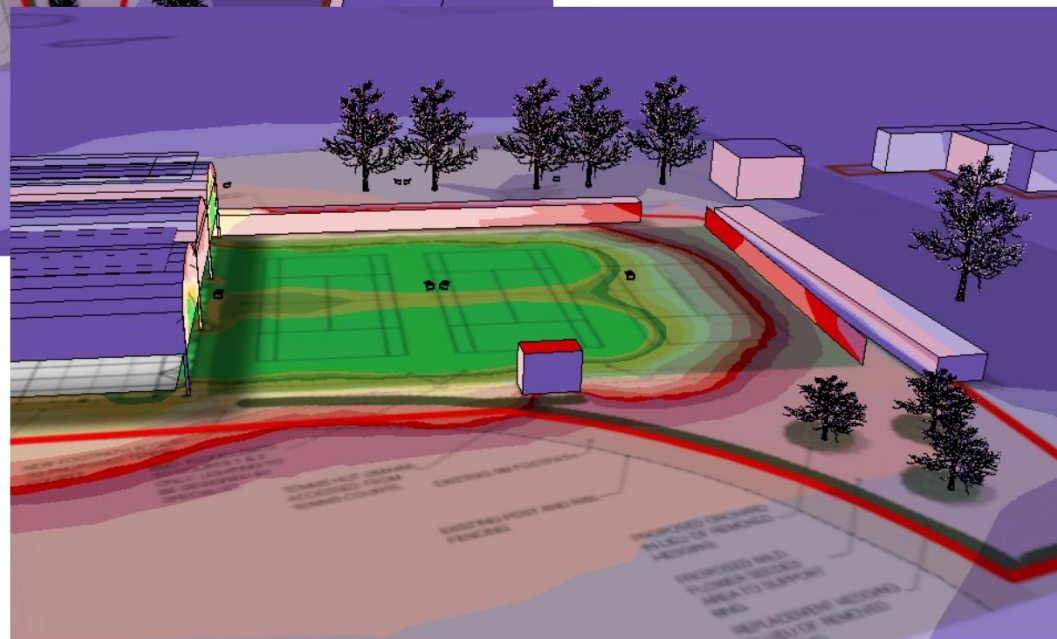
L10195

Contains Ordnance Survey Data
© Crown Copyright and Database Act 2010

Planning and Environmental
Consultants Ltd

Second Floor, 198 Elliott Street,
Tydesley, Manchester, M29 8DS
www.pec ltd.org
info@pec ltd.org
01942 556259





Title
Figure 4
Predicted Lux Level (0m)

Project
Berkshire County Sports Club

Project Number
L10195

Contains Ordnance Survey Data
© Crown Copyright and Database Act 2010

Planning and Environmental
Consultants Ltd

Second Floor, 198 Elliott Street,
Tyldesley, Manchester, M29 8DS
www.pec ltd.org
info@pec ltd.org
01942 556259



APPENDIX II - PARTS LIST

Type	ID	Company	Product Name	X	Y	Z	Directional Angle (°)	Tilt (°)
L1	1	OPPLE	LED Flood Oly-P Re600-800W-740-AS-LUM	475,676	175,033	6	185	20
L1	2	OPPLE	LED Flood Oly-P Re600-800W-740-AS-LUM	475,704	175,024	6	150	20
L1	3	OPPLE	LED Flood Oly-P Re600-800W-740-AS-LUM	475,696	174,998	6	357	20
L1	4	OPPLE	LED Flood Oly-P Re600-800W-740-AS-LUM	475,668	175,005	6	325	20
L1	5	OPPLE	LED Flood Oly-P Re600-800W-740-AS-LUM	475,690	175,029	6	132	20
L1	6	OPPLE	LED Flood Oly-P Re600-800W-740-AS-LUM	475,682	175,002	6	15	20
L1	7	OPPLE	LED Flood Oly-P Re600-800W-740-AS-LUM	475,683	175,001	6	310	20
L1	8	OPPLE	LED Flood Oly-P Re600-800W-740-AS-LUM	475,691	175,028	6	196	20
L2	9	Philips	ClearFlood	475,645	175,010	5.4	265	35
L2	10	Philips	ClearFlood	475,665	175,004	5.4	60	35
L2	11	Philips	ClearFlood	475,655	175,043	5.4	235	35
L2	12	Philips	ClearFlood	475,675	175,038	5.4	95	35
L2	13	Philips	ClearFlood	475,651	175,032	5.4	230	35
L2	14	Philips	ClearFlood	475,648	175,021	5.4	220	35
L2	15	Philips	ClearFlood	475,671	175,026	5.4	100	35
L2	16	Philips	ClearFlood	475,668	175,015	5.4	110	35
L2	17	Philips	ClearFlood	475,669	175,016	5.4	50	35
L2	18	Philips	ClearFlood	475,671	175,027	5.4	40	35
L2	19	Philips	ClearFlood	475,648	175,021	5.4	280	35
L2	20	Philips	ClearFlood	475,652	175,033	5.4	280	35

Lewis Ellison Technical Director MOcean, MIEEnvSc, MIAQM
KEY EXPERIENCE Lewis is a Technical Director with specialist experience in the air quality sectors. His key capabilities include: • Production of Air Quality Assessments to the Department for Environment, Food and Rural Affairs (DEFRA), Environment Agency and Environmental Protection UK (EPUK) methodologies for clients from the residential, retail and commercial sectors. • Detailed dispersion modelling of road vehicle emissions using ADMS-Roads. Studies have included impact assessment of pollutant concentrations at various floor levels and assessment of suitability of development sites for proposed end-use. • Assessment of dust impacts from construction sites to the Institute of Air Quality Management (IAQM) methodology. • Assessment of Odour Impact from commercial and industrial processes in line with Environment Agency (EA) and IAQM methodologies and guidance • Quantification of Ecological Impacts associated with Nitrogen and Acid Deposition from industrial processes • Production of air quality mitigation strategies for developments throughout the UK.
SELECT PROJECTS SUMMARY Permit Application Support • Elliot Hire Salford • Elliot Hire Wakefield • Elliot Hire Scunthorpe ES Chapters • Lyle Park West, Newham – residential development in close proximity to an active industrial estate. • Deansgate, Manchester – residential multistorey development in the centre of Manchester. • Land West of Stevenage – 1350 residential unit development with the potential to negatively impact local air quality Air Quality • Goulton Street Hull – Outline planning permission for 7 industrial units within Hull • Empire Cinema, Birmingham – Diffusion tube survey and air quality assessment for an assisted living accommodation • Tirrell's Lane, Tenbury Wells – residential assessment in the village of Tenbury Wells. Odour Assessments • Gowanbank, Forfar – Odour survey to support a residential development in close proximity to Gowanbank recycling centre • Squires Close, Pocklington – Odour risk assessment in support of a residential in close proximity to a sewage treatment works • Hawthorn Fields, Rufforth - Odour risk assessment in support of a residential in close proximity to a waste water treatment works Dust Assessment • Liverpool Docks – Construction dust monitoring survey • Lyle Park West – Dust impact assessment from adjacent concrete batching plant • High Street, Burton – Construction dust risk assessment London Experience • Gurnell Leisure Centre – mixed use development including residential, sports and commercial land use • Springfield Village Wandsworth – residential development and extension to the existing hospital building • Evelyn House, Greenwich – residential apartment block Monitoring & Surveying Experience • Liverpool Waters – Frisbee Dust gauge monitoring • Gowanbank, Forfar – Field odour survey “sniff test” • Empire Cinema Birmingham – Diffusion tube survey
QUALIFICATIONS • Masters of Geological Oceanography • Odour Acuity Certified Master of Science