

COMMERCIAL LANDLORD'S CONSENT

Address:	Letchworth Tennis Club
Lease:	Dated 23 April 2004 between Letchworth Garden City Heritage Foundation (Landlord) and Letchworth Tennis Club Limited (Tenant)
Lessee:	Letchworth Tennis Club Ltd
Submitted By:	Mel Loten, General Manager, Letchworth Tennis Club
Works:	Solar Panel installation to Main Building Roof
Plan Numbers:	Letter dated 09/12/2024 from HLS Structural Engineers Tangent Project Proposal Project Name 5089 R6 dated 22/11/2024 (Part of submission, pages on price and T&C's are excluded) Panel Layout Plan
Licence Date:	28 January 2025

The Heritage Foundation is the freeholder of the above, and Landlords consent is hereby given for the Works and Plans described above, under the terms of the above lease, subject to:

1. This notice is valid for one year from issue, Works granted under this consent shall be completed within one year.
2. Further approvals may be required from other leaseholders and the Local Authority, it remains the lessees responsibility to obtain such consents.
3. This approval may not be construed to grant the consent of any other lessee of the property.
4. In giving this approval, no warranty is given that the project can be carried out within the boundaries of the property, but no part of the Works should encroach or cross the boundary lines.
5. It is the lessees responsibility to ensure that the Works are carried out by a reputable contractor in accordance with the approved plans.
6. Depending on the size and type of the Work CDM regulations may apply. If so, the Foundation will require a copy of the Health and Safety file on completion of the project.

7. Any amendments to the Works or Plans described above will need to be submitted and approved in writing before works commence.
8. The Foundation reserves the right to require the removal and reinstatement of the Works on expiry of the lease or earlier termination of the term.



Mark Coles
Executive Director – Property



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Letchworth Sports and Tennis Club
Muddy Lane
Letchworth
Hertfordshire
SG6 3TB

Attn: Ms M. Loten

manager@lstc.org.uk

Our Ref: 24457/JL/PL

Date: 09 December 2024

Dear Mel,

Re: Letchworth Sports and Tennis Club, Muddy Lane, Letchworth SG6 3TB

We visited the above property, at your request, on 29th October 2024 to undertake a structural survey as it is proposed to install PV panels to the roof.

Our inspection was visual only and no opening up works were undertaken.

Survey

The club is constructed with full span Glulam portal frames, with purlins and rafters supporting a slate tile roof.

The underside of the structure was viewed and there was no evidence of distress or distortion noted. All timber members appeared of suitable size.

Discussion

The proposed panels are JAM54-40-435-GB-TSMCH and will be Fastensol Rail mounting system. This is a direct fixing system and no ballast is required.

The panels weigh 21.5kg each.

Calculations have been undertaken using the proposed loads in comparison with the design loads.

The roof dead load will remain the same and the offset is made against the imposed load.

We have used the expected original design Imposed Load for the roof (0.6kN/m^2) and calculated the snow load for the building. A design snow load of 0.32kN/m^2 has been calculated.

In areas of PV panels there will be no personnel load, and the calculations show the design load, less snow load (0.28kN/m^2) is greater than the PV panel load (0.111kN/m^2).

Conclusion

For this roof top installation all PV panels and mounting system as described are within the design load and the installation is considered acceptable.

We trust the report is clear. However, if you have any queries, please contact the office.

Yours sincerely,

HLS Structural Engineers Ltd



Julie Littlemore

MEng (Hons) BA (Hons) CEng MStructE FGS



Contract: Letchworth Sports and Tennis Club, Muddy Lane

PV panel InstallationDesign check using
direct fixing.• Panel Details JAM54B-40-435-GB-TS-MCH© 21.5kg (1.722m x 1.134m) $\Rightarrow$ 0.11 kN/m²rail - Fastened Rail 0.58kg/m $\Rightarrow$ 0.01 kN/m²0.111 kN/m²• Snow load

62m



100m above sea level

48m 15° pitch (fixed roof)

Refer to following Tedds analysis.

max uniform snow load = 0.32 kN/m²• original design loadingsBuilding construction 2005 (glulam frame,
purlins & h'ts).
(BS6399 Pt.3 1988)

roof with no access (only cleaning & maintenance)

IL = 0.60 kN/m² (Slope 30° or less)

Where PV panels are installed no IL (no access)

∴ Design load - snow load

$$= 0.6 - 0.32 = 0.28 \text{ kN/m}^2$$

0.28 > 0.111 (panel + rail load) ∴ panels OK
(direct fixing)

 HLS Structural Engineers Ltd 25 Brownfields Welwyn Garden City Herts AL7 1AN	Project Letchworth Sports and Tennis Club, Muddy Lane, LGC				Job no. 24457	
	Calcs for Snow Load				Start page no./Revision 2	
	Calcs by JCL	Calcs date DEC 2024	Checked by	Checked date	Approved by	Approved date

SNOW LOADING TO BS6399:PART 3:1988

TEDDS calculation version 1.0.03

Site location

Location of site

Oxford

Site altitude

A = 100 m

Calculate site snow load

From BS6399:Part 3: 1988 - Figure 1. Basic snow load on the ground

Basic snow load

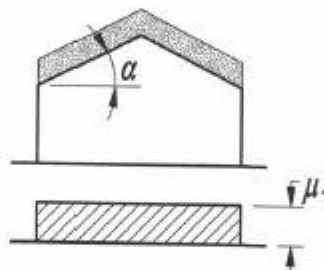
$$s_b = 0.40 \text{ kN/m}^2$$

$$s_{alt} = 0.1 \times s_b + (0.09 \text{ kN/m}^2) = 0.13 \text{ kN/m}^2$$

Site snow load

$$s_0 = \max(s_b, s_b + s_{alt} \times (A - (100 \text{ m})) / 100 \text{ m}) = 0.40 \text{ kN/m}^2$$

BS6399:Part3:1988 Cl.6.2



Uniform loading

Roof geometry

Roof type

Pitched

Distance on plan from gutter to ridge

b = 24.000 m

Angle of pitch of roof

$\alpha = 15.0 \text{ deg}$

Calculate uniform snow load

From BS6399:Part 3: 1988 - Figure 3. Snow load shape coefficients for pitched roofs

Snow load shape coefficient

$$\mu_1 = 0.80$$

Uniform roof snow load

$$s_{d1} = \mu_1 \times s_0 = 0.32 \text{ kN/m}^2$$

BS6399:Part3:1988 Cl.5

Roof pitch α is not greater than 15 degrees so there is no asymmetric loadcase

Snow sliding down roof

Maximum uniform snow load on roof

$$s_{d_max} = 0.32 \text{ kN/m}^2$$

Force from sliding snow load

$$F_s = s_{d_max} \times b \times \sin(\alpha) = 1.99 \text{ kN/m}$$

BS6399:Part3:1988 Cl.8

Proposal for: Mel Loten

Project name: 5089 R6

Site address: Letchworth Sports & Tennis Club, Muddy Lane, Letchworth, Herts SG6 3TB

Date created: 22 Nov 2024 (valid 28 days)

Our Promises to you



Peace of Mind

Product and installation warranties and 2 years technical support



Excellence

Bespoke design customised for your home



Results

We save you money and cut your carbon footprint



Expertise

Unparalleled industry knowledge to respond to all technical questions



Quality

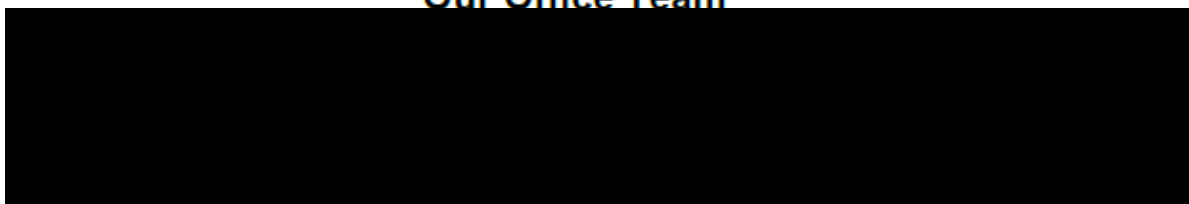
MCS and NAPIT/ NICEIC certified, RECC and HSE compliance



Ethical Sourcing

We use ethical companies and avoid suppliers that use forced labour

Our Office Team



Dr Jason Tisdall
CEO

Dr Trevor Larkum
CTO

Neil Atkinson
Business Development
Manager

Richard Gray
Operations Co-Ordinator

Wendy Chalkley
Office Manager

Tanjent-Energy.com

Tanjent is a trading name of Fuel Included Limited, Company No.: 09162615, VAT No.: GB 193 6910 78



your solar benefits

Help the environment

- Create zero-carbon electricity
- Avoid transmission losses
- Reduce your carbon footprint

Save money

- Use the electricity you generate for free
- Sell your surplus to the grid

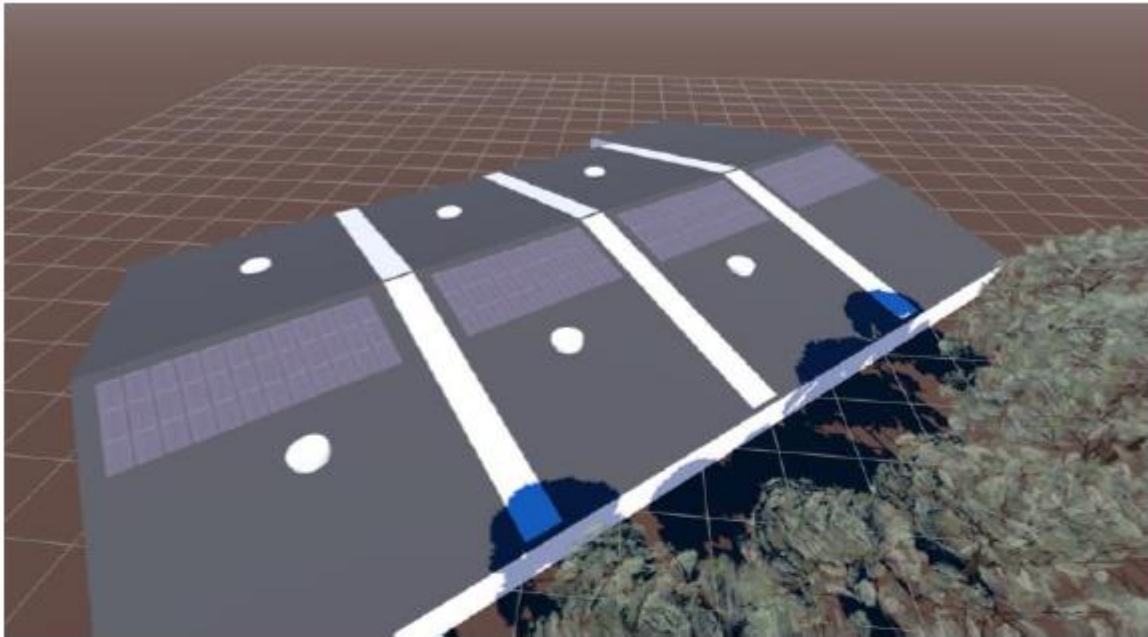
Your annual carbon and cash savings

Your annual carbon saving prediction*:	12,594 kg
Your annual electricity generation prediction**:	52,259 kWh
Estimated savings on your bill***:	£9,312.47
Estimated export income***:	£744.68
Total annual cash savings:	£10,057.15

*We take our reference data (estimated average UK grid intensity) as the 2022 average of 229 g/kWh from <http://electricityinfo.org/real-time-british-electricity-supply>, and update our calculations as the data is released.

**This system performance calculation has been undertaken using estimated values for array orientation, inclination or shading. Actual performance may be significantly lower or higher if the characteristics of the installed system vary from the estimated values.

***Using a unit electricity price of 22 p/kWh, an export price of 7.5 p/kWh, and a self-use value of 81%



Context

Tanjent have been approached by Mel Loten to provide pricing for a Solar installation for a Retrofit site at Letchworth Sports & Tennis Club, Muddy Lane, Letchworth, Herts, SG6 3TB

This document outlines a proposal at current prices, and valid for 28 days.

This is based on the survey conducted on 12 Jun 2024.

Your Solar Proposal

Services

Design and Installation
Testing and Commissioning
Advance DNO Application

Site suitability survey
Delivery of all components to site
Registration for CLOUD data logging services

Core System

148x 435W Solar Panels
64.38 kWp of Panel Capacity

1x Solar/Hybrid Inverters
50 kW of New inverter capacity

Location Summary

Your Solar System

Solar Location ID: South East Roof

Array type: Pitch Roof

Solar panels: 148 x (SE) JA 435W Deep Blue Traceable Mono (1722x1134X30 mm)

Inverter: 1 x Optimising Inverter - SolarEdge 3ph 50kW Three Phase Synergy

Peak solar capacity: 64.38 kWp

Estimated Annual Generation: 52259 kWh

Solar System Install details

Roof Structure status: The roof structure was not fully visible at survey. The client must arrange an independent structural survey to provide assurance that the roof is strong enough for the installation, otherwise it cannot proceed.

Panel pitch: 13 degrees

Panel orientation (from South): 40 degrees

Mounting System: Roofhook - Roofhooks go under tiles and attach to Rafters to give a solid mounting point without loading tiles or affecting waterproof properties of the roof.

Local surface finish: Slate - composite - Roof is Britmet Slate 2000

Solar Inverter Install location: Plant Room

DC Cable Path: DC cable to come down outside building and pass through disabled toilet.

Solar AC Cable Path: Direct to existing consumer unit via new consumer unit (with surge protection).

Solar Data/CT cable path: SolarEdge energy meter and CT clamps to be fitted on tails and connected by Ethernet to inverter.

Optimisers: 148

Shading Factor: 0.91 (calculated using 3D model)

Data monitoring: Solaredge - Cloud data

Additional Roof Work

Scaffold Description: Two storey Working platform to gutter level - Single run

Scaffold team notes:

Bird control*: Wire mesh perimeter to be installed around panels

*Our bird control netting solutions come with a 5 year warranty

