



PETWORTH HOUSE TENNIS COURT

Brief for the T&RA on the recent installation of court lights at Petworth.

A.BACKGROUND.

In 2010/11, it was decided to replace the current outdated lighting system that was installed over 20 years ago. That system consisted of 18 lights in two rows of nine using GE 400W Lucalox sodium lights [producing c. 32000 lumens each when new] in reflector shades at main truss beam level at 8.36 metres off the floor. These gave off a yellowish light until they were replaced recently by a new white light bulb, which is nearer natural light. The wiring system throughout the main building was deemed unsafe because it is old, did not meet current standards and the surge, at switch-on of the court lights, caused trips and outtages. Thus, of necessity, the need to rewire the whole building and renew the system became a matter of urgency.

The old system was not energy efficient - consuming nearly 8kW/hour [providing all the lights were working!] and costing £15 per day- raising an electricity bill, for just the lighting, at c. £6000 p.a and increasing as the cost per kW rises. This system required the continual replacement of transformers and bulbs. The dimensions of the floor area are approx 9.50 m. x 28.75 m.

B. REQUIREMENTS of a new system.

As PHTC has a high level of court usage between the hours of 0745 and 2145 we felt we needed a system that:-

1. was more energy efficient than the former.
2. provided a light intensity at night for the court at an average of 550- 600 lux at .75m off the floor from lights at a height of 8.36 metres. This will be similar to the old system, but at a level before the degradation of the bulbs in the old system took place.
3. if possible, minimized any glare off the floor.
4. was unlikely to be damaged by balls.
5. made use of the natural light that the building currently affords, if possible.
6. had a sensor switch system to turn the lights off when the court is not in use. Likewise they should have an instant switch-on rather than the previous 10 min warm up time.
7. provided bulbs with longevity and which did not degrade at the rapid pace of those that were in use [estimated at 20-30% in the first 6 months].
8. could be expanded/reduced in the future.

C.ENLIGHTENMENT.

During the whole exploratory process we sought advice. The two nuggets which have guided us were:-

