

APPLICATION NO: 15/01171/FUL	OFFICER: Mr Martin Chandler
DATE REGISTERED: 14th July 2015	DATE OF EXPIRY : 13th October 2015
WARD: Lansdown	PARISH:
APPLICANT:	Cheltenham Ladies' College
LOCATION:	Ladies College Swimming Pool, Malvern Road, Cheltenham
PROPOSAL:	Erection of new sports hall building to provide multi use sport hall, replacement squash courts and ancillary facilities. Erection of floodlighting of external hockey pitch. Demolition of existing squash court building and partial demolition of single storey structure attached to Glenlee House. Alterations to piers to side of access onto Malvern Road.

ADDITIONAL REPRESENTATIONS

9 Christchurch Road
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Comments: 15th November 2015

My wife and I have objected at several stages of this planning application and now wish to reinforce those objections by commenting on the additional material which has appeared since the October officer's report and the deferral of consideration by the planning committee.

I welcome the commissioning by the council of an independent lighting report and trust this will include consideration of my measurements of the effect of rain and mist on lighting spillage from the Dean Close floodlights. I fear however that there will be insufficient time before the next planning committee meeting for applicants and objectors to digest and comment on the expected report.

Meanwhile I note that the applicants have significantly altered their approach to determining the correct illumination level for the pitch and modified their line on scattering by rain and mist. I assert the applicants have chosen an illumination level which is inconsistent with their stated desire to provide for match hockey; they continue to offer illumination which fails to meet a key uniformity and thus safety criterion; and have backed away from their assertion that scattering by rain and mist makes no significant difference to spill light, which was an assertion accepted by the officers when the October report was written.

Pitch illumination levels (lux) and uniformity

In this context it is useful to recall that the FIH (International Hockey Federation) issued one set of floodlighting guidance in 2007 (FIH2007) and revised guidance in 2011 (FIH2011). As is made clear on p56 of Sport England's guide to floodlighting updated to November 2012 (SE2012), England Hockey did not change their recommendations in 2011 and have continued to recommend the provisions of FIH2007.

In his first lighting assessment dated 30 June 2015 the applicant's lighting consultant (ALC) only mentioned FIH2011, BS EN 12193 and CIBSE-LG4 as floodlighting guidance. In response to my initial objections mentioning Sport England, England hockey and the Dean Close application the

17th November 2015

ALC stated (in "response to reps") that FIH2007, and thus England Hockey's recommendations, "is now obsolete". In his e-mail of 13 October 2015 the ALC, again emphasizing that FIH2011 was the key guidance stated "The FIH are the world governing body (as FIFA are in football) and it is they who set the standards and guidelines not the national governing body". But 23 days and a deferral later, in his second assessment dated 5 November 2015, the ALC states that it is indeed England Hockey's recommendations, not FIH which are the key ones and identifies Class III 300lux as appropriate. However I assert that this too is mistaken, since it is totally inconsistent with the stated objective during all consultation and in the introductions to both assessments that the aim is to provide lighting for "training and match standard hockey".

To understand why I make this assertion it is necessary to recognise that the tables on p3 of the ALC's 05 Nov report are confusing, because class II and class III mean different things to different organisations. Moreover some key data have been omitted. Specifically, in BS EN 12193 classes are as shown in the ALC's table 3, and indeed class III includes school sports. However for England Hockey/FIH2007 and FIH2011 class I is "High grade national club and international competition", class II is "Ball training as well as junior and low grade clubs competitions" and class III "Non-competitive including physical training". Thus in the ALC's table England Hockey Class III should also have "non-competitive" alongside it. The Sport England SE2012 also includes, alongside the data quoted in the ALC's table, the FIH classes listed as 1,2 and 3 thus making clear they are different from I,II and III of BS EN 12193.

Thus the applicants have chosen an illumination level which is not suitable for competitive i.e. match hockey but at the same time state that they wish to provide for match hockey. Dean Close opted for class II i.e. 500lux (maintained).

In addition I repeat a point that I have made in several times but has never elucidated a response. The pitch lighting proposed does not meet a key uniformity criterion included in both FIH2007 and FIH2011 for all levels of play, namely that minimum/maximum illumination should be greater than 0.5. Examination of the map in the ALC's first report shows illumination levels varying across the pitch from 304 to 717 lux giving minimum/maximum of only 0.42 i.e less than 0.5. Uniformity is important since it affects safety.

The applicant's agent argues lux levels and by extension uniformity and safety are not planning matters but only up to the school to decide. I disagree, not least because the agent also states the floodlighting should follow national governing body guidance. By choosing England Hockey/FIH2007 and 300lux the school is implicitly making a statement about the activities which will occur. Noise, disturbance, traffic are all more for matches than for non-competitive training, and these are all planning concerns. Moreover if the council gives permission for lighting which it knows fails to meet match and uniformity standards could it be held partly liable in the event of subsequent injury to players? As a council tax payer as well as an objector I very much hope the answer is no. I remain amazed that the school seems content to have lighting which does not meet a key safety criterion and wonder whether the Principal is aware of this.

I believe it is important for the school to spell out just what activities are planned for the pitch and to demonstrate that lighting levels really are appropriate. At the moment I suggest that, as our neighbour's lighting consultant has demonstrated, the college has overlit the pitch when one considers the lowest standards of the bodies mentioned in the ALC's first report but underlit it when compared with England Hockey/FIH2007 match standards, to which the applicants say they aspire. As I have said from the start I do not seek higher lighting and spill light levels but very strongly suspect that a proper level of illumination is incompatible with the shoehorning in of this floodlit pitch.

What level of spill light is acceptable?

This is an important question since spill light has the potential seriously and adversely to affect the amenities enjoyed by neighbours. I suggest that the correct underlying approach to this is to

consider what amenities neighbours currently enjoy, what changes will be brought about if the applicant's scheme were to be implemented and to make a judgement as to whether the changes are significantly adverse. In other words what are the current light levels, what might they become, and is the change tolerable?

In practice planners look to guidance provided by the Institution of Lighting Professionals (ILP) which describes zones E0 to E4, which are characterized in two ways, by "surrounding" e.g "rural" or "urban", and by "lighting environment" e.g low district brightness or high district brightness. Corresponding examples are given e.g. village /relatively dark outer suburban or town centre. The darker the existing environment, the lower the suggested maximum tolerable level of obtrusive light. I suggest that when assigning an area, such as the space behind our houses, to one of the E0 to E4 zones most weight should be placed on the existing lighting environment, since this will correspond most closely to the amenities residents currently enjoy. The fact that there is, say, a supermarket within walking distance or industrial units not far away should only be relevant if they contribute to the illumination of the space under consideration.

I have no doubt that the rear of our houses correspond to an area of low district brightness i.e. zone E2, where the maximum for obtrusive light falling on windows is 5lux. Measurements from our top window show vertical illumination to be 0.0 lux at night without the existing floodlights on, 0.2 lux with them on and the night is clear, which rises to 0.4 lux on a misty night. Even at the front of our houses with street lights we get 0.2 lux at our windows, 0.3lux on the far pavement adjacent to the CLC lacrosse pitch and 1 lux on the near pavement between street lights rising to 7lux immediately under a street light. These numbers are consistent with the ALC's measurements behind our houses of 0.26 to 0.55 lux. Moreover when the existing floodlit pitch was built there was a condition that illumination of windows in neighbouring properties should not exceed 5 lux, and in this application the applicants in their draft conditions dated 30 September and the environmental Health Officer have both suggested a 5 lux maximum on vertical faces of adjacent buildings, all consistent with zone E2. In addition the Planning Inspector determining the 1996 appeal concerning the same pitch as now stated "...even with an average of 4.5lux in close proximity to the dwellings, the rear gardens and rear elevations of the nearest properties in Christchurch Road would be subject to a noticeable increase in the level of illumination when compared with the present levels during the hours of darkness". Taken together with the impact of the floodlights around the pitch (then 8x 12m, now 6 x 15m) he concluded that " the living conditions...(of)..the occupiers..in Christchurch Road would be significantly and adversely affected".

In his June lighting assessment the ALC, under "Background illuminance" followed more or less the process I advocate above. He noted that while the "CLC Sports Centre is in an area of relatively high residential urbanisation the outlook of adjoining properties on Christchurch Road is generally one of low brightness." He noted that the existing floodlit pitch "does not significantly affect the outlook of the nearby properties", recorded illuminance at the site boundary as from 0.26 to 0.55lux, as mentioned above, and concluded "it would be prudent to classify the site as Zone E2"....."in order to maintain the amenity of the existing residents".

Now however in his post deferral November assessment, when nothing much has changed around here since June, the ALC mentions the possibility of the existing floodlit pitch and previously unmentioned industrial units resulting in classification as E3, while continuing to suggest E2 as prudent. The agent now suggests zoning is closer to E3 based on surroundings (rural etc) rather than the reality revealed by measurements of existing illumination.

Perhaps the applicants are looking for wriggle room, but I trust they will be allowed none. Under E2 the possible change in illumination is dramatic enough with 0.26 - 0.55 lux, close to the illumination by full moonlight, being increased 9-19 times and approaching the 7 lux level directly under our streetlights. We still could have the 4.5lux increase which the planning inspector noted as noticeable and a key element in the significant adverse effect on neighbours.

What levels of spill light can we expect?

The ALC's assessments in June and November include computer based predictions that on a clear night the maximum direct illumination of windows in Christchurch Road from the floodlights (i.e. without considering light reflected from the pitch or scattered by mist and rain) will be 3.1 lux. This makes 3.65 lux when combined with the maximum background illumination from the existing floodlights. At the same time, levels in gardens range up to 50lux. These levels are much higher than those affecting residents in the rejected Well Place application and the approved Dean Close application. In my opinion these levels in themselves represent a significant adverse effect on the nearest neighbours.

However it may be recalled that in my initial objections I reported measurements made about 70m from the Dean Close floodlights showing that in the same place 1.3lux on a clear night became 1.8lux in light to moderate rain and 5.4lux in misty but hockey playable conditions. In response the ALC stated, in "response to reps" that "In my experience light can be scattered by mist and rain but there is not a significant increase in spill light". In other words the computer based predictions for a clear night would not be changed significantly by scattering by rain and mist. Subsequently a resident in Hatherley Road, living very close to the spot where I made my measurements, wrote in to state "There is no doubt that the presence of mist or fog increases light spillage on to our properties very considerably". Notwithstanding this, when preparing the October report, officers accepted the ALC's assertions, despite the fact that, unless one thinks both I and a Hatherley Road resident make things up, the ALC's assertions were manifestly wrong.

Again, almost as soon as the October report was on the website, the ALC modified his approach. Now in his 13 October e-mail he states "I would agree ...that environmental conditions affect the distribution of light and can cause a scattering of light. However, I disagree that there is a standard formula for measuring or quantifying effect of mist and rain due to its variable density". In fact, no-one has suggested that there is a standard formula. However we have suggested that by making measurements in Hatherley Road and applying relatively simple physics to translate those measurements to the likely effects at Christ Church Road one can predict with confidence that the 3.6lux in clear weather will exceed 5lux by a very wide margin when conditions are as they were in Hatherley Road, perhaps reaching 20lux, and by lesser margins in thinner mist or rain.

Essentially neither the ALC, nor my neighbours lighting consultant, has software that allows them to predict spillage in the presence of rain or mist. They can only predict direct illumination on a clear night. Nevertheless the whole thrust of the ILP approach to obtrusive light is that all sources should be included. Just because computers cannot predict the exact scale does not mean that the very real effects of scattering by rain and mist should be ignored. Light is no less obtrusive if it arrives via reflection or scattering.

The ALC maintains that predictions based on direct light on clear nights are widely used by planning authorities. This is because in many instances scattering by rain and mist will not change the result. At Hatherley Road I was ca. 70m from the lights and saw a ca. 4lux increase to 5.4 lux due to mist. However Hatherley Road is in zone E3 where up to 10lux obtrusive light is considered acceptable, so planners might not be worried. The existing CLC pitch is just over 210m from my top window, from which we can see less than half the pitch, and we see an 0.2lux increase in mist, which again is clearly not significant. The problem with Christ Church Road, mist and the proposed scheme is that illumination from a given light source goes up four times if one halves the distance from the source. The nearest floodlights are only 27m from kitchen windows and the maximum acceptable level is only 5lux, and we already get 3.6lux on a clear day. In these circumstances I believe it would be technical madness to ignore the effect of mist and rain.

Officers have so far recommended "to permit" and have suggested that when what I regard as the inevitable infringements occur one can proceed to enforcement. I very strongly suggest that that is the wrong way to go. The right way to go is to refuse this application because of the adverse effects associated with the floodlights. CLC would then be able to apply for a sports hall with possibly three floodlit tennis/netball courts nearby and well away from our houses.

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Comments: 16th November 2015

After reflection we wish to respond to the most recent documents submitted by the applicants. The CLC response, concerning the accuracy and relevance of the data, has taken a more personal tone and made incorrect inferences.

As medical professionals whose positions rely on integrity and probity we can reassure the committee and officers that the observations made were an accurate and contemporaneous record of pitch activity covering 4.30pm to 6.30pm weekdays and all day on Saturday for the duration studied.

The relevance of our data is clear, capacity issues have always been used as justification for floodlighting a second pitch. We would remind officers and committee members that these facilities are also not used in the mornings.