From: gpgreen13@comcast.net
To: Kristen Guichard
Cc: Roland Bartl
Subject: Re: 87 Hayward Road Lighting Plans
Date: Monday, July 06, 2015 10:01:38 AM

Hi Kristen and Roland:

I am still reviewing the Haartz plans. There are a number of things that are not included in the plan (as compared with what I see on the CVS plans). Are there more plans with the material lists? (Note that the CVS plans had the material lists and outputs right on the lighting plan - this is a by-law requirement in Sections 10.6.4.1a and 1b).

1. Haartz included general spec sheets for the lamps but they did not call out the exact model numbers they were using, either for the overhead or the wall pack luminaires. For the wall mounts, it "looks like" they specified the CREE SEC-EDG-2M-WM-12-E-350 based on the note that they were using 130 watt fixtures. There is no indication on the lighting map where these would be installed (if they are replacing existing units, this is not marked).
2. For the overheard luminaires, there are a number of different heights (15', 25', 40' and 60') with different outputs available, but the wattage for these is either 112 or 168 (which doesn't match the only reference I could find to 130 watt fixtures). The exact luminaire should be specified. Also, it is not clear if they are using existing poles (for the new addition on Hayward Road) or installing new ones (of different heights).
3. On the plan for the new addition facing Hayward Road, there is at least one calculated measurement (0.82fc) that exceeds the by-law spec of no more than 0.8fc light trespass on a neighboring street. In addition, there are a number of calculated measurements that exceed 1fc right at the road edge. The two fixtures closest to the road probably should be additionally shielded in order to meet the by-law spec.
4. Another condition of the by-law (not met by these plans) is that existing lighting (at least the closest adjacent lighting to the new additions or upgrades) should be shown in the lighting plan. This would make comparison between the new and old lighting much easier. Hand-held measurements of at least a number of adjacent areas (in my opinion) would be acceptable if the original calculations were not available.

According to IDA (International Dark-Sky Association), the recommended illumination levels for employee parking lots is as follows (full doc here: http://darksky.org/assets/documents/is077.pdf) :

Parking Lots (Low Level Activity), Industrial Employee Parking 0.8fc (ave), 0.2fc (min), Uniformity Ratio: 4/1

On the new addition, the greatest uniformity difference appears to be about 6/1. However, in the rear parking lot, the ration seems to go as high as 20/1. This

suggests that possibly one or two lights could be lowered or raised depending on actual position in the lot. (Note that uniformity is not a by-law item.)

Overall, the plan seems to look OK from an illumination point of view. As a way of comparison (assuming the calculations on the plan are correct), I found some measured values at CVS to be 10 to 20 times higher than these (the CVS plan "seems" to use metal halide or sodium vapor lamps for the calculations but I have not been able to determine this yet).

What time is the meeting tonight? I can be there. I suggest a print out of the lighting plan to be available for discussion.

Finally, an "ethics" note. I live less than 1/2 mile from Haartz. I would have a vested interest in the lowest light levels possible. From what I see in the plans (and compared to what's already there), I don't see any major issues.

Best Regards,
Gary
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From: "Kristen Guichard" <kguichard@acton-ma.gov>
To: "gpgreen13@comcast.net" <gpgreen13@comcast.net>
Cc: "Roland Bartl" <rbartl@acton-ma.gov>
Sent: Tuesday, June 30, 2015 5:42:08 PM
Subject: 87 Hayward Road Lighting Plans

Hi Gary,

Thank you so much for agreeing to help us review the lighting plans. Below is a link to the plans:

http://doc.acton-ma.gov/dsweb/View/Collection-6890

Thank you so much.
Kristen

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