

OUTDOOR LIGHTING ORDINANCE TASK FORCE MEETING

MARCH 10, 2016 – 4:00-6:20 PM

Task Force Members in Attendance:

Carol Lynn Alpert
Chris Basler
Andrea Boyer
Peter Calkins
Steve Lenkauskas
Ranjit Singanayagam
Charles Teague

Members of Public in Attendance:

Torgun Austin
John Greenup
Glenn Heinmiller
Kenneth Taylor
Marilyn Wellons

City Staff and Consultants in Attendance:

Lisa Hemmerle
Paul Lutkevich
Jeffrey Berg

Fifteenth meeting of Lighting Ordinance Task Force was held in the Fourth Floor Meeting Room of the City Hall Annex, 344 Broadway, Cambridge, Massachusetts.

MEETING NOTES:

Lisa Hemmerle welcomed everyone to the 15th meeting and pointed out the handouts to the Task Force Members (TFMs), including the meeting agenda, a copy of the revised outdoor lighting ordinance draft dated March 9, 2016, copy of the Performance Standard Presentation and analysis of mechanical screen lighting on Zinc Building, the LEED v4 Light Pollution Reduction Credit (LPRC) BD+C and Addendum for IES TM-15-11, submittals for MLK School LPRC, submittals for 300 Massachusetts Avenue and LEED 2009 LPRC – v3, and questions submitted by Charles Teague with responses from City staff and Consultants.

Lisa thanked everyone for their continued participation in the process. She introduced the Outdoor Lighting Task Force Consultant, Paul Lutkevich, PE Vice President, Technical Director WSP, Parsons Brinckerhoff, and his presentation on the proposed Performance Standard utilizing the LEED LPRC.

Paul started the presentation with an explanation of the recommended light trespass limitations and Environmental Zone classifications created by the Illuminating Engineering Society (IES). These Environmental Zones are the predecessor to the Lighting Zones that have been adopted by the Model Lighting Ordinance (MLO) and the LEED LPRC. The proposed Cambridge ordinance is utilizing calculations from the MLO to create the Prescriptive Standard and calculations from the LEED LPRC to create the Performance Standard. The IES table for Light Trespass Limitations list lighting standards for each Environment Zone under pre-curfew and post-curfew conditions. The MLO has utilized calculations for pre-curfew conditions and

LEED has utilized the calculations for post-curfew conditions. These new zones are called Lighting Zones (LZ) in both the MLO and LEED.

Paul described the tables and limits that make-up the industry standard Backlight, Uplight, and Glare Ratings, commonly known as the BUG Ratings and provided a comparison with the straight calculation of light trespass at the property or lighting boundary. The BUG Rating is based on individual fixtures while the calculation standard looks at the lighting level at a particular location. The distribution of fixtures, output, and makeup of the optics makes it difficult to create a direct comparison between the two standards but both are restrictive in lighting design applications.

Charlie Teague expressed concerns that the lumen levels for BUG rated fixtures are too high. Paul explained that while the lumen levels allowed in one component of the 3 calculations required under the BUG rating system might appear high, the other 2 calculations will still limit the use of those fixtures in most installations in Cambridge. With respect to the LEED LPRC, it limits lighting levels beyond what is allowed in the applicable building codes and was designed to be a voluntary system because it is so restrictive.

Bob Woodbury asked if there was an “asterisk” or allowance for safety when it comes to either the BUG ratings or the calculation method in LEED. Paul indicated there is not since it is a voluntary standard and Chris Basler pointed out that the proposed Cambridge ordinance would create safeguards to consider site conditions that require additional light for safety, if it is not already required in the applicable building codes.

Charlie asked if there is a mounting height limit on light poles in LEED. Paul responded that a specific height is not identified but the limit is a calculation based on the distance from the fixture to the lighting boundary and would be restricted in either the Backlight Table or the Glare Table. Also, uplighting is not allowed under the BUG rating method and pole-mounted fixtures would be pointed into the property, not outside the property.

Carol Lynn Alpert raised the general question if the community is OK with no limits on façade or landscape lighting as indicated in the LEED LPRC. Paul responded that it is difficult to address architectural lighting through LEED and the impact for those projects is better assessed through the Community Development Department’s review process for Large, Small, and Special Permit projects. Carol Lynn pointed out she is not concerned about the aesthetics in this ordinance; only light trespass. Paul replied that light trespass from reflected light is very low in most façade lighting installations. The definition for landscape and façade or architectural lighting can further narrow this category.

It was pointed out by Glenn Heinmiller that the boundary between LZ2 and LZ3 is where most conflicts will be created. Charlie agreed that this is the case and that the small islands of LZ3 areas within larger LZ2 areas need to be removed from the Cambridge designations. He also suggested that the consultants should do an analysis of Cambridge Honda on Alewife Brook Parkway since it has pole fixtures and is bordered with a residential zone. It wasn’t clear if this

would be a good test case since that location is already in LZ 2 and would be limited to follow that standard, which would be the same as the neighboring residential zoning district.

Paul then continued the presentation with an analysis if the lights shining on the mechanical equipment screens on top of the Zinc Building. Since this is façade lighting, it would not be required to meet the BUG or Calculation standards under the LEED LPRC but there would be a curfew from Midnight until 6:00 AM. If the Zinc Building chose to meet the LEED LPRC then the lighting levels would not comply with the BUG or calculation standards. Also, it was pointed out that these lights did not receive approval from the Planning Board since the Special Permit Application indicated there would be no rooftop lighting.

Charlie pointed out that only part of the lighting of the screens would not have passed the calculation standards and was concerned that even the lighting levels under LEED standards would be too high. He commented that the Prescriptive Standard is designed primarily for residential areas and the LEED LPRC is for commercial areas and questioned whether it should be used in LZ 2.

Three of four LEED projects in Cambridge (10 Akron St., 125 Sixth St, and 300 Mass. Ave.) utilized earlier versions of the LPRC and the MLK School was submitted under the current version identified in the proposed Cambridge ordinance. Complaints were made from a neighbor of the MLK School that interior lights were causing problems for her. The charge of the Task Force is only to look at exterior lighting but Chris mentioned he talked with the project manager for that building and the interior lights are scheduled to be placed on occupancy sensors and timers as required by the International Energy Code and that decorative screens will be installed on the stairwell towers, which will reduce the view of the lights in stairwell from the exterior of the building by 90%. Glenn also discussed that the exterior lights for the MLK School comply with the LEED LPRC and additional light at the property boundary is from the street lights.

A concern was raised that LEED does not address color changes or intermittent lights. It was pointed out that an edit to the proposed ordinance draft distributed prior to the meeting would restrict flashing or intermittent light.

Bob asked about the timeline for the Task Force. He expressed that we have a good draft ordinance to put forward to the City Manager but was concerned that the fine-tuning is counterproductive and extending the process. He suggested that we outline specific items to get accomplished with the proposed ordinance for the next couple of meeting and stay until the tasks for each date are completed. Charlie countered that the Zinc Building was a wake-up call about the limits of the LEED LPRC and how it can protect neighboring residents.

Paul reminded the committee members that creating the standards is a very complex and technical process by the IES, which was developed over many years; backed by data, and continued to be reviewed over many more years to refine the calculations. He suggested that the technical legwork has been completed and the City should put the LEED LPRC in place as the

Performance Standard and let it get utilized. If there are holes in the ordinance that create unintended consequences then those can be addressed at a later time.

Carol Lynn stated her belief is that the LEED LPRC is good for LZ3 areas but would like to make sure the residential areas of LZ2 are protected. Her main concern is about the resources that the City will dedicate to educating the public and encouraging property owners to lower light levels; requiring the proper documentation and proper training for City staff to review applications; and make sure that the Administrative Waiver process requires sufficient documentation and thresholds to discourage abuse.

Charlie also wanted to make sure that lighting outlined in construction documents or lighting submittals are the fixtures that get installed and operate properly. He is concerned that the items and calculations listed on the permit application are not always the fixtures or standards that get utilized during construction. He wants a review of installations and a Commissioning Affidavit signed after the fixtures are running as indicated in permit applications.

Lisa closed the discussion period by the Task Force and opened the comment period by the public.

PUBLIC COMMENT

Comments and concerns raised by members of the public attending include:

- 1) Ken Taylor, resident and lighting professional.
 - Concerned that there is not a better process for reviewing lighting in LZ2; particularly when trying to create appropriate architectural lighting. Currently there is no provisions for educating Planning Board or Historical Commission members on proper lighting review process.
 - Concerned that, unless the property or project falls under the jurisdiction of the Planning Board or the Historical Commission, lighting will only have to follow the rudimentary standards proposed under the Prescriptive application or Performance application. This will only encourage bad lighting projects.
 - Concerned that the Light Cambridge initiative he is helping to research with City staff will not be allowed under this ordinance.

- 2) Glenn Heinmiller, resident and lighting professional.
 - The proposed ordinance draft is very powerful but isn't perfect and it won't be perfect so the Task Force should move forward.
 - Is hopeful that just adopting standards will make electricians, designers and architects more thoughtful about the types of fixtures they choose and where they are installed. Once the word gets out that a lighting ordinance is in place then there will be better lighting projects.

3) Marilyn Wellons, resident.

- Concerned that the LEED LPRC doesn't address the reason people were upset by the Zinc Building and thinks the limitations don't go far enough.
- The City doesn't want to deal with the little eventuality of environmental conflicts between residential and commercial properties by allowing housing in every zoning district.
- With mixed-use zoning, the City is causing people, including low- and moderate-income families with children, to live with light pollution.
- Feels that enforcement is the weak link.
- There are still major problems with the ordinance that needs to be addressed.

4) John Greenup, resident and Cambridge business owner.

- Appreciates the time of the Task Force.
- Pointed out that low light levels look bright when covering large areas so the Zinc Building might be a visual anomaly.
- Thinks that the proposed ordinance is good and should be moved to the next step.
- Let the Special Permit process handle the large and worst case scenarios. The Planning Board can set additional standards or requirements for individual projects.

5) Torgin Austin, resident.

- Agrees that developers for large building projects will take a look at how the lighting ordinance standards are established and enforced and that will determine the lighting practices adopted by the property owners.

Before the end of the meeting, Bob requested that the start of the next meeting be dedicated to going over details about the:

- ordinance track
- education track

Lisa thanked everyone for their time and the meeting was adjourned.

The next scheduled meeting is Thursday, April 7th in the 4th Floor Conference Room at the City Hall Annex, 344 Broadway from 4:00-6:00 PM.

Revised comment by MW on 4/1/2016.