City Council Introduction: May 16, 2016
Public Hearing: May 23, 2016, 5:30 p.m.

Bill No. 16R-102

FACTSHEET

TITLE: TEXT AMENDMENT NO. 15008
(Amend Chapter 3.100 Design Standards for Outdoor Lighting of the City of Lincoln Design Standards)

BOARD/COMMITTEE: Planning Commission

APPLICANT: Planning Department

RECOMMENDATION: Approval; (6-1: Beecham, Lust, Corr, Harris, Sunderman, and Hove voting 'yes'; Scheer dissenting; Cornelius and Weber absent).

STAFF RECOMMENDATION: Approval

OTHER DEPARTMENTS AFFECTED: N/A

SPONSOR: Planning Department

OPPONENTS: 2.

REASON FOR LEGISLATION: Amending Chapter 3.100 of the City of Lincoln Design Standards for outdoor lighting to permit LED lighting and adopt B.U.G. light trespass guidelines comparable to present standards, by amending Section 3 to revise the definition of "cutoff and full-cutoff", to provide maximum average maintained illuminance for outdoor areas under lighted marquees, and to provide acceptable glare measurements for setback properties.

DISCUSSION/FINDINGS OF FACT:

1. The staff recommendation of approval is based upon the "Analysis" as set forth on pp.2-3, concluding that the proposed changes and additions to the Design Standards for Outdoor Lighting will update the rating classification system to industry standards and help eliminate the need for waivers. The staff presentation is found on p.4-5.

2. Testimony in opposition of this text amendment is found on p.5.

3. On June 24, 2015, the Planning Commission agreed with the staff recommendation and voted 6-1 to recommend approval of this text amendment.

4. The delay in moving this application to City Council is due to Planning agreeing to postpone scheduling the text amendment before the City Council until the lighting for a project at 23rd and O Street was installed; this project was used as a test case.

   Building and Safety Department, the City's consultant and Planning visited the site at 23rd and O Street to review the impact of the lights. It is our conclusion that the BUG of 4-1-4 resulted in offensive glare when viewed at a distance. The lighting also exceeded the 2 foot-candle limit at the property line. We also concluded that a BUG rating of 4-1-4 would be in conflict to the goals and findings of the original task force from 2007 which emphasized reducing glare. In the past residential properties near parking lots had objected to light trespass and the glare of parking lot lighting. The current design standards are intended to address those concerns. This purpose of the design standard change is to allow LED lighting that is similar in character to current standards. Planning is now ready to proceed to City Council with the text as approved by Planning Commission. See attached memo found on p.8 for further information.

FACTSHEET PREPARED BY: Geri Rorabaugh, Administrative Officer

DATE: May 9, 2016

REVIEWED BY: David R. Cary, Planning Director

DATE: May 9, 2016

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LINCOLN/LANCASTER COUNTY PLANNING STAFF REPORT

for JUNE 24, 2015 PLANNING COMMISSION MEETING

PROJECT #: Text No.15008

PROPOSAL: Amend Chapter 3.100 Design Standards for Outdoor Lighting of the City of Lincoln Design Standards.

CONCLUSION: The proposed changes and additions to the Design Standards for Outdoor Lighting will update the rating classification system to industry standards and help eliminate the need for waivers.

RECOMMENDATION:	Approval

GENERAL INFORMATION:

HISTORY:

September 15, 2008 Misc#08009 to amend Chapter 3.100 for Outdoor Lighting to the City of Lincoln Design Standards was approved by the City Council.

May 27, 2015 Briefing with the Planning Commission on the proposal.

COMPREHENSIVE PLAN SPECIFICATIONS:

Apply design standards as a tool for economic development. They provide assurances for surrounding property owners as well as prospective developers. (p.5.3)

ANALYSIS:

1. The Design Standards for Outdoor Lighting were adopted after a two year study between 2006 and 2008 by a task force comprised of the lighting consultant, neighborhood representatives, business and professional representatives, the astronomical community and City staff.

2. Since 2008 the design standards have served Lincoln well, although a few issues were identified for further review. In 2014 a working group was formed to address issues related to a new luminaire classification system known as B.U.G., light trespass guidelines for lots with zero setback, and lighting design guidelines for marquees/canopies overhanging public property. The Outdoor Lighting Design Standards Update can be found on the Planning Department's web site.

3. Illuminating Engineering Society of North America (IESNA) Backlight, Uplight, Glare (B.U.G) classification system was introduced shortly after the Outdoor Lighting Standards were completed in 2008. The B.U.G. classification has become the industry standard for LED lighting and has no direct correlation to the cutoff classification system currently in the

Design Standards. The lighting consultant compared light distribution acceptable under the cutoff classification system with rating under the B.U.G. system to reach equal light output. The conclusion was that a B.U.G. rating of 3,1,3 was the same as cutoff and B.U.G. rating of 3,0,3 was the same as full cutoff. The terms cutoff and full cutoff are used in today's standards to describe how a light fixture is shielded and to limit the amount of light that is directed upward.

4. The second issue reviewed by the working group dealt with light trespass for lots with a zero setback. The current design standards state that "No more than 2.0 foot-candles is measured on a vertical plane located at the property line of the adjacent property" it is difficult to meet this requirement when the building is on the property line. Since 2008 there have been several waiver requests to light trespass on properties with zero setback. These waiver requests were mainly in the downtown area.

   Lots with zero setback are typically found in the downtown where street right-of-way is adjacent the building or in commercial centers with parking lots adjacent the buildings. The conclusion of the working group was to measure light trespass 10 feet from the property line on lots with a zero setback. Measuring 10 feet off the lot line should have minimal impact on other lots because the measurement most likely will either be taken in street right-of-way or within a parking lot.

5. Lighting on marquees/canopies overhanging sidewalks or other rights-of-way was the third item reviewed by the working group. The current design standards address lighted canopies for gas stations, ATM's and similar commercial uses, but not for marquees/canopies attached to buildings that overhang public rights-of-way. These marquees are generally found on buildings such as hotels in the downtown area. The consultant looked at what an acceptable light level would be by studying existing examples. The conclusion was that the light level under lighted marquees/canopies shall not exceed an average maintained illuminance of 4 footcandles.

6. The proposed revisions were sent to five local lighting professionals for their review. There were no objections to the proposed changes.

Prepared by: Tom Cajka, Planner

DATE: June 10, 2015

APPLICANT: David Cary, Acting Planning Director
Lincoln-Lancaster County Planning Department

CONTACT: Tom Cajka, Planner
Lincoln-Lancaster County Planning Department
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Lincoln, NE 68508
402-441-5662

TEXT AMENDMENT NO. 15008

TEXT AMENDMENT NO. 15008, AMENDING THE CITY OF LINCOLN DESIGN STANDARDS, CHAPTER 3.100 DESIGN STANDARDS FOR OUTDOOR LIGHTING, BY AMENDING SECTION 3 TO REVISE THE DEFINITION OF "CUTOFF AND FULL-CUTOFF", TO PROVIDE MAXIMUM AVERAGE MAINTAINED ILLUMINANCE FOR OUTDOOR AREAS UNDER LIGHTED MARQUEES, AND TO PROVIDE ACCEPTABLE GLARE MEASUREMENTS FOR SETBACK PROPERTIES.
PUBLIC HEARING BEFORE THE PLANNING COMMISSION: June 24, 2015

Members present: Lust, Scheer, Harris, Sunderman, Corr, Hove, and Beecham; Weber and Cornelius absent.

Staff Recommendation: Approval.

Commissioner Scheer disclosed that there was an exchange of emails with Planning Department staff regarding this item as it related to a building permitting issue.

This application was removed from the Consent Agenda and had separate public hearing.

Staff presentation: Tom Cajka of the Planning Department explained the purpose of the text amendment, which would amend Chapter 3.100 of the Design Standards for Outdoor Lighting. Staff worked with a consultant, Ken Fairchild from Olsson Associates, who is a lighting engineer and is present today to address technical questions relating to the proposed amendment. Cajka explained that after an extensive study, these standards were initially approved in 2008. Over the last six and half years, these standards have worked very well but there is now a need to update them.

Cajka explained that the proposed amendment would address a couple of issues that have been identified. Shortly after the standards were adopted, a new classification system was developed by the Illuminating Engineering Society of North America, which is referred to as BUG - Back light, Up light and Glare. This amendment would add this new classification to the Design Standards. It would not change the amount of light that is emitted. They want to reference this classification system in the design standards, as it used by most of the lighting engineers today. In comparison, this would equal what is currently referred to as "cutoff and "full cutoff". Cajka explained that the second amendment relates to the measurement of light trespass and need for developers to go through a waiver process. They have found that for buildings that have zero setback, this is virtually impossible to meet, which has resulted in several waivers over the past six years for buildings located in downtown, West Haymarket hotels, and some commercial centers around the city. For the commercial centers, the lot line and pad site are one in the same and are typically surrounded by an outlot for open space or parking. If there is a zero outlot, they would measure 10 feet off the lot line to where it meets either the street or an outlot that is not for a building. The third item relates to adding a reference for lighting under marquees or canopies that extend from a building over a public right-of-way.

Commissioner Lust reported that a briefing on the light study was held for the Planning Commission

members.

Proponents: None.

Opponents:

1. Jennifer Klein, 8025 Hanna Pointe Place, appeared as a licensed professional electrical engineer with The Clark Enersen Partners**.** Klein noted that they are concerned with the timing of this text amendment, as they were not made aware of the changes until last week and they haven't had the opportunity to really vet the proposed changes to determine how they made effect their clients, future designs, budgets and needs, as well as public safety. They appreciate that the Planning Department is attempting to keep an ordinance that provides some flexibility. They are also support the desire to minimize the impact of lighting on the skies by regulating the uplight component of the fixtures by the U rating, which is part of BUG classification. They do have concerns that a one-size-fits-all on the backlighting and the glare aspects in the proposed amendment may not be appropriate. Section 9 of the ordinance still requires lighting designers to produce calculations showing that the glare and the backlight on the property line has been minimized – this may not be appropriate for the entire property. Klein also noted that there has been some confusion on where the property line actually is as it relates to the light trespass component. There have been situations where properties have been separated by a road and the adjacent property is across the street, but they've been told to use the property line of the property that they are designing. There is some ambiguity in terms where the 10-foot line is located. Klein asked that the Planning Commission consider delaying a decision on this text amendment until others in the design community has an opportunity to review and vet the proposed changes and possibly have a meeting with the Planning Department staff and the lighting engineer to learn more about these proposed changes and some of the calculations used.

2. Eric Johnson, works for Lighting Specialists from Omaha, 600 Locust Street, Panama, NE, came forward. Johnson noted that Lighting Specialists is a manufacturers' representative organization. They became aware of this text amendment last week and they have questions regarding how these changes would affect design. They would appreciate the opportunity to have an Q & A meeting. They are not sure how this may affect the sports lighting standards and asked if it will require them to use lower power fixtures in parking lots, which would increase the cost. Johnson noted that the old standard in cutoff allowed a percentage of light in a zone so they used more powerful fixtures at higher heights. In the BUG rating, the glare is an absolute number. On a low lumen output fixture, it is not hard to meet but if you go up to a higher power fixture, they will have problems. He would like some discussion on this matter.

Questions of Staff:
Lust asked if there is any reason the commission couldn't defer action on this matter for another two weeks to allow for more public outreach. Cajka indicated that he would prefer not to delay this matter and explained that there are two different issues. Cajka stated that this was not intended to be a re-study of the lighting code, which would include a review of the rating system, etc., but only intended to tweak a few things by including this new classification system. The BUG rating was determined to be equal to what is required now for cutoff and full cutoff fixtures. In terms of the property line, Cajka explained that whether it is next to a street or another property, it is considered adjacent. The new language is intended to make it easier on developers that are building on a zero lot line. There is no intention to change the current lighting standards.

Beecham stated that the notes reference a 2014 working group that was formed to address these items and asked if anyone from the development community was part of the working group. Cajka indicated that it was a small working group consisting of Terry Kathe with the Building and Safety Department; Marvin Krout, Ken Fairchild, and himself. The proposal was sent out to lighting engineers – Century Electric, Advanced Engineering Systems, Design Associates of Lincoln, and Davis Design about a month ago and they received no feedback.

Scheer asked if it was possible if the BUG rating system will have unintended consequences on some of the other things that may not seem to be affected but could be.

Ken Fairchild of Olsson Associates, 6218 South 31st Street, came forth. He explained that Marvin's charge was very clear – it can't be worse, it can't be more lenient, it has to be as close to equal as they can get it. As part of the study, they took five different fixtures, which were all used in the Haymarket area. One of them was a metal alloyed fixture and the rest were LEDs. They used the photometric toolbox software, which provided information in terms of the old classification system and the new classification system. They ran the five fixtures through this software and the information is included in the report. The documents show all the classifications and looked at the BUG rating. They intentionally tried to pick the ones under the old classification system without concerns. Fairchild stated that he cannot not predict whether it will have implications, but the BUG system has been in place now for seven years. The complication for Lincoln's Design Standards is that they used the old classification system for parking lot lighting and roadway lighting. One of the fixtures that they ran through the software was the LES preferred LED fixture that was used for roadway lighting in the Haymarket. They did their best to get to this point. In terms of the concerns relating to sports lighting, this is a completely different category of lighting – cutoff and full cutoff does not apply to sports lighting. They used fixtures that had been approved for use in Lincoln and this is how they came up with the recommendations. They received one comment back that did have an impact on the uplight.

Hove asked staff how often standards such as these get reviewed and asked when the next review would be done. Cajka stated that this came about for two reasons – the BUG rating and they wanted to try to lessen the need for waivers. If the design standard is working fine and there are no complaints, they probably wouldn't look at it unless they felt there was an issue that needed to be reviewed. Up until a few days ago, he hadn't heard of any concerns over the last six and half years regarding the design standards.

Hove asked if the building community would still be permitted to ask for waivers. Cajka indicated that this has not changed.

Lust clarified that the proposed text amendment includes three changes – (1) defining the BUG standard, (2) standards for lighted marquees, and (3) what you do in a zero setback property. There is nothing else in the lighting standards that are changing. Cajka indicated that this is correct.

ACTION BY THE PLANNING COMMISSION: June 24, 2015

Hove moved to recommend approval, seconded by Sunderman.

Scheer stated that he would like to see this matter delayed. Whenever they deal with design

standards, there is a pretty comprehensive process where a fairly large sample group has a chance to review and evaluate the design standards and provide comments. It seems that the sample used in this process was pretty small compared to all the lighting designers, manufacturers and people involved with lighting design in Lincoln. It seems like it has sort of been a surprise to some of these folks. The ex parte communications that he was involved with came to the front because it was about a waiver and it the whole waiver process and the standards were not known. When a project was going through Building & Safety, this came up and it was a surprise. This indicates to him that it would not be a terrible thing for people who are professionals in this area to have some time to review this. He doesn't believe that the intent of the design standards are wrong at all.

Hove stated that he plans to support the motion. He believes that there are only a few minor changes in this proposal and he thinks they need to move on. He challenged Clark Enersen that if changes are needed, that they need to work with the Planning staff and come up with those changes.

Beecham agreed with Hove's comments. They frequently see text amendments to try to make things a little easier on the development community. If there are some surprises, then she would not be opposed to looking a more comprehensive review of the lighting design standards, which should include the larger community – lighting consultants, neighborhood representatives, astronomical community – all those who reviewed it in 2008. She supports this text amendment going forward now.

Lust agreed with Hove and Beecham's comments. This was not meant to be a change to the design standards but rather a clean-up and change to the engineering standards that are in use. The Planning Commission is not the last authority on this recommendation for this text amendment, as it does go before the City Council for final approval; therefore, there will be a little more time for review. If there are concerns, they can be presented at that time.

Motion carried 6-1; Beecham, Lust, Corr, Harris, Sunderman, and Hove voting 'yes'; Scheer dissenting; Cornelius and Weber absent. <u>This is a recommendation to the City Council</u>.

MEMORANDUM

TO: City Council

FROM: Tom Cajka, Planner, Lincoln-Lancaster County Planning Department

SUBJECT: Outdoor Lighting TX#15008

DATE: April 26, 2016

CC: file

TX#15008 to amend Chapter 3.100 of the City of Lincoln Design Standards for outdoor lighting had public hearing at Planning Commission on June 24, 2015. The Planning Commission recommended approval 6-1. The main change to the lighting design standards is to add a new classification called BUG. BUG stands for Backlight, Uplight and Glare. Most lighting engineers use the BUG rating as opposed to cutoff and full cutoff. The BUG rating is used for LED lighting.

At Planning Commission The Clark Enersen Partners opposed the BUG limits being proposed. They had a project at 23rd and O Street underway where the lighting would not meet the proposed standards. Although Planning Commission recommended approval, Planning agreed to delay scheduling at City Council until meeting with The Clark Enersen Partners. After meeting with The Clark Enersen Partners, it was decided that the lighting for the project could be installed as proposed by The Clark Enersen Partners. This would be a test case. The text amendment would be on hold until after the lighting was installed and staff and the City's lighting consultant could review the lighting.

Building and Safety Department, the City's consultant and Planning visited the site at 23rd and O Street to review the impact of the lights. It is our conclusion that the BUG of 4-1-4 resulted in offensive glare when viewed at a distance. The lighting also exceeded the 2 foot-candle limit at the property line. We also concluded that a BUG rating of 4-1-4 would be in conflict to the goals and findings of the original task force from 2007 which included emphasized reducing glare. In the past residential properties near parking lots had objected to light trespass and the glare of parking lot lighting. The current design standards are intended to address those concerns. This purpose of the design standard change is to allow LED lighting that is similar in character to current standards. Planning is now ready to proceed to City Council with the text as approved by Planning Commission.

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