

Assessment of Parking Garage Lighting for the Champlain Hotel, Pearl Street, Burlington, VT.

Prepared for the Burlington Planning and Zoning Office

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At the request of Mary O’Neil, principal planner, I was asked to review the lighting plans for the parking garage proposed as part the vehicle parking to serve the planned Hotel Champlain 64-68 Pearl Street, Burlington.

1. Summary

It is my conclusion that lighting planned for the Champlain Hotel ground level parking garage meets the IESNA lighting standards as outlined in *Lighting of Parking Facilities IES RP=20-14*.

2. Research

In preparation I reviewed or conducted the following:

- Architectural plans and perspectives prepared by Scott and Partners Architecture, Essex Junction, VT
- Site, landscape, lighting plans and details prepared by T. J. Boyle Associates, LLC, Burlington
- IES publication *Lighting of Parking Facilities IES RP=20-14*.
- Daytime site visit on February 4, 2019
- Evening site visit February 10, 2019

3. Assessment:

a) Light Levels

Ground Level Garage: Light levels within the above ground garage range from a high of 2 footcandles to a low .2 footcandles with most of the garage illuminated in the half-footcandle range. This meets the general recommendations of IES, as I understand them.

Underground Garage Level: Only the entry of this lower level will be visible to the public. The vertical illumination of the opening is not noted. However, the vehicle entry is ten feet below street grade and at the end of a 90 foot long, steeply sloped drive and shielded on either side by two buildings limiting the visibility of the entry from the street. Lighting on the driveway to the garage averages about .3 to .5 footcandles; within an acceptable range.

b) Fixtures

The ceiling mounted parking garage fixtures to be installed for garage lighting are a series of flat, 5 inch round LED, low lumen level fixtures spaced at approximately 18-24 feet on center.

The lens covering the LED diodes should diminish their glare.

The 2700k LED color temperature puts the lights in the warm color range for LEDs. The illumination falls below the 87-degree angle (no direct light above 90 degrees) and meets IES anti-glare standards.

The light fixture is dimmable with potential to save energy during daylight hours.

c) Lighting and Site and Building Layout

For the most part the configuration of the site and buildings on this compact site shields the visibility of most of the site lighting including the parking garage. The one exception is the north side of the property abutting four residential properties.

The existing Victoria Place building screens the parking garage lighting from the south (Pearl Street) except for a narrow view down the entry drive, framed by the four and five story buildings either side. The restaurant/lobby section of the planned hotel will screen the garage and other site lighting from the west.

As noted above in 3a), the light from the entry to the underground garage will not be readily visible except from the 24-foot wide driveway opening on George Street, shielded on either side by a two and three story buildings.

The open, north side of the garage lies approximately 25 feet from the property line of the four neighbors to the north. The garage opening is about 80 feet long by 11 ft high. Interior garage lighting will not be apparent in daylight hours but the evening illumination from the garage and reflectance from vehicles and floor will generate a glow, visible from the neighboring properties. There is also one wall mounted light to be located 14 feet above grade near the center of the north façade.

Screening between the garage and the neighboring properties is limited. The easternmost residential property has several substantial spruce trees that will provide some screening. The other three properties have a few mature, deciduous trees and at least one shed structure, which will also provide somewhat of a buffer.

The plans call for a six-foot high, slatted wood, screening fence that will provide minimal shielding of illumination. The Andropogon decorative grass to be installed along the wood fence will grow a maximum of six feet and is not meant as a vegetative screen.

It could be debated whether the planned improvements will create more of a lighting impact than neighbors are currently experiencing from the four, existing pole mounted parking lot lights. However, a more effective screen either on the northern garage openings not used for entry or at the property line itself should be considered.