

Lighting Design Innovations•

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Lighting Design Response

Topic: CARmax Wappinger Exterior Lighting
LDI Project Number: NY-202206
Issued By: P. Mercier
Date of Topic Report: 24 April 2023

The following information is provided in response to letters addressed to the Town of Wappinger Planning Board remitted by:

- MDRA (Matthew D. Rudikoff Associates, Inc.) dated April 01, 2023, and
- 80 Washington Square Properties, LLC dated April 03, 2023.

Response to Lighting Design Comments by MDRA

The following comments are contained in “3a. Lighting Technical Factors” of the letter.

1. Regarding the pole heights.
Mounting heights for the luminaires are reported in accordance with professional practice which is technically defined as vertically, from the surface receiving the light to the center of the apparent light source. In direct, downward luminaires, this is to the underside of the luminaire (which is the “apparent light source”). The luminaire mounting heights are accurately represented as 19-feet.
2. Regarding color temperature.
The project submission is compliant with Town of Wappinger code.
3. Regarding pole heights referred to as “industrial scaled” and “highly industrialized storage yards perhaps more appropriate in large industrial parks or super shopping center developments”.
Commercial and Industrial pole heights are, typically, greater than 10m (approximately 33 feet). Conversely, sidewalk, pedestrian scaled pole heights range from 4.5m to 6m (approximately 15 feet to 19’-6”). The proposed poles and mounting heights are pedestrian scale.
4. Regarding SEQR statement.
Proposed luminaires are compliant with Town of Wappinger code.
5. Regarding pole height waiver requiring “better site design or safety”.
The impacts on sustainability, energy consumption, and light pollution were presented at length at Town of Wappinger Planning Board meetings held between July 2022 and March 2023. These meetings were open to the public. The value of the proposed 19-foot mounting heights has many benefits desirable to the Town of Wappinger and its residents and business owners and the comment that “The higher height only reduces the number of lights needed to cover the lot” is not accurate. Sustainable commercial planning considers all aspects of environmental impact and, compared to the lower pole height, the higher pole height reduces the waste stream (from initial manufacturing to recovery, disposal, recycling), reduces the energy consumption (reducing emissions, demand for fossil fuels, and levels of carbon dioxide in the atmosphere and improves resilience and reliability of the electrical grid and results in cleaner air, water, and land which improves community health and wellness) and reduces the perception of brightness on the site through improved uniformity (in other words, reduces lighting “hot spots” on the site). All of these sustainability and community impacts were discussed and considered.

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The following comments are contained in “3b. Lighting – Community Impact Factors” of the letter.

1. Regarding discussion of “security” and IES G-1.
The illuminance on the site represented in the final project submission is compliant with Town of Wappinger code and no “security lighting” accommodations have been made, therefore, IES G-1 does not apply to the final project submission.

The following comments are contained in “4. Conclusions and Follow Up Factors and Recommendations” of the letter.

1. Regarding IES G-1.
Recommendations contained in IES G-1 do not apply to the final project submission as it is compliant with Town of Wappinger code.
2. Regarding the 15-foot pole lighting plan.
The request for the plan showing arrangement for a 15-foot pole was withdrawn by the Town of Wappinger Planning Board.

Response to Lighting Design Comments by 80 Washington Square Properties, LLC

The following comments are contained in the letter.

1. Regarding “The Lighting Plan submitted thus far is not Code Compliant as follows:”.
The final project submission is compliant with the Town of Wappinger code and the waiver for the pole height has been submitted and responses to Planning Board questions, regarding the waiver, have been addressed.
2. Regarding “very high footcandle readings”.
The final project submission is compliant with the Town of Wappinger code for illuminance and discussion of security is of no relevance as illuminance levels are not elevated.
3. Regarding “We submit that the lighting plan is flawed...” and “We submit that the light upon blacktop will deaden the footcandles and this standard was used to show footcandles on the Applicant’s lighting plan”.
The calculation was performed in accordance with industry standard illuminance calculations. In an exterior environment, illuminance on the surface (roadway, parking lot, sidewalk) is a calculation of the direct light incident on the surface. In other words, reflective or absorptive qualities of the materials are not utilized to increase or decrease the illuminance values calculated.
4. Regarding the pole height waiver.
The pole height discussion was not motivated by financial considerations. Please refer to description in Item 5 under MDRA responses to “3a. Lighting Technical Factors”, above, to understand how the final submission is better aligned with the community sustainability goals and reduction of glare from the site.
5. Regarding “Again, light pollution may result in the granting of a waiver of pole height”.
For this application, the higher pole height (than the pole height indicated in the Town of Wappinger code) improves uniformity and decreases light pollution both of which are aligned with the community goals for reducing light pollution and reducing glare.
6. Regarding “...excessive light trespass/pollution upon our property”.
Light pollution is light leaving the site in an upward direction. All luminaires proposed for the site are U0 (in other words, no light in an upward direction). The only light leaving the site in an upward direction is reflected light and the amount of reflected light is reduced by increasing the pole height. Light trespass is calculated and is compliant with Town of Wappinger code.

END LIGHTING DESIGN RESPONSE