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Department of Planning and
Environment

11 August 2023
Ref: 3023.26

PROPOSED DIGITAL SIGNAGE – WESTERN DISTRIBUTOR, PYRMONT (DA 23/4398)

CONSULTANT ADVICE LETTER

Meg,

Our expertise lies in the field of designing architectural lighting installations and assessing the resulting impact of light on people and environments. Over the last 7 years Electrolight Australia has developed a sub specialisation involving the assessment of the impact of digital signage on residents and motorists. This has led us to undertake over 500 separate lighting impact assessments for digital signage around the country, as well as consult with road authorities, councils, Australian standard committees and tribunals on how best to frame and apply their guidelines for digital signage. To the best of our knowledge, Electrolight Australia has undertaken more lighting impact assessments for digital signage than any other organisation in Australia. This gives us a unique appreciation of the complexities associated with the lighting impact of digital signage and their use in the urban environment.

We have been asked by the Department of Planning and Environment to respond to the public submissions (SUB-4601 and SUB-4632) which raise concerns about potential unacceptable amenity impacts associated with the light from the signage.

We have previously provided a lighting impact assessment report for the proposed digital located adjacent to the Western Distributor in Pyrmont (DA 23/4398). The report demonstrated that the signage complied with all relevant guidelines and standards when operating at the luminances in Table 2 below:

TABLE 2 - LUMINANCE LEVELS FOR DIGITAL ADVERTISEMENTS		
Lighting Condition	Max Permissible Luminance (cd/m2) #	Compliant
Full Sun on face of Signage	6000	✓
Day Time Luminance (typical sunny day)	6000	✓
Overcast Weather	600	✓
Twilight	600	✓
Night Time	200	✓

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The relevant Standard for assessing the impacts upon residential amenity is AS4282:2019 *Control of the Obtrusive effects of outdoor lighting* (AS4282). AS4282 provides limits for different obtrusive factors associated with dark hours (night time) operation of outdoor lighting systems, when spill light is likely to be disruptive to the amenity of surrounding residents. Two sets of limiting values for spill light are given based on whether the lighting is operating before a curfew (known as “pre-curfew” operation) or operating after a curfew (known as post-curfew or curfewed operation. Pre-curfew spill lighting limits are higher than post-curfew values, on the understanding that spill light is more obtrusive late at night when residents are trying to sleep. Under AS4282, the post-curfew period is taken to be between 11pm and 6am daily. As the signage is proposed to operate all night, the signage was assessed against the more stringent post-curfew limit. If the light spill from the signage emitted on to nearby residential

habitable windows is less than the post-curfew limit in the Standard, then the amenity of the residential dwellings are deemed to not be detrimentally impacted. The surrounding dwellings have been assessed as being in an A3 Environmental area under AS4282, which can be defined as a “suburban” area with a medium level of district brightness. The post curfew illuminance limit on nearby habitable windows from the signage is therefore limited to 2 lux.

The orientation of the proposed signage is such that it is directed towards the Western Distributor and away from residential properties. The closest residential properties (representing the worst case potential lighting impact) are located along Bulwara Rd. Our calculations show that the maximum illuminance to these residential properties is 0.2 lux, which is 10% of the maximum allowable of 2 lux. As the potential light spill from the signage is well within the maximum limit (and close to zero), it can be seen that the signage will not cause unacceptable amenity impacts to nearby residential dwellings. This very low level of spill light means that any changes in content of the signage (what the objector’s describe as “flashing” or “rotating”), would not, in the author’s expert view, cause unacceptable amenity impacts to residents.

Further to the above, our assessment used conservative assumptions for the operation of the sign to ensure the worst-case lighting impact was established for the surrounding environment. This included assuming that the sign displays a 100% white image during operation. In reality, the displayed content includes images and text of various colours and shades, which typically results in significantly less light being emitted from the sign than a full white screen. In addition, our calculations disregarded any potential light screening effects from existing trees or foliage, which will likely further mitigate any impacts.

In conclusion, if the maximum dimming levels and the maximum permissible luminance levels are applied to the signage as outlined in Table 2, the signage will not cause unacceptable amenity impacts to any surrounding residential dwellings.



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