

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Proposed Private Plan Change 2 to
the Hamilton City Operative District
Plan: Te Awa Lakes Private Plan
Change

**STATEMENT OF EVIDENCE OF JOHN KINROSS MCKENSEY FOR THE APPLICANT
(LIGHTING)
29 OCTOBER 2019**

1. EXECUTIVE SUMMARY

- 1.1 The lighting within the Proposed Plan Change 2 (**PPC2**) site (**the Site**), will be well controlled in keeping with the Statutory Requirements that currently apply and that will apply if the PPC2 is granted.
- 1.2 The Site lighting will be similar to that of any residential suburban environment and as such, the appearance of the Site at night will be commensurate with the lighting effects generated by other nearby sites.
- 1.3 The primary lighting effects produced by the Site will readily be able to satisfy the Statutory Requirements to the degree that I would consider to be low-nil.
- 1.4 Any potential reverse sensitivity effects from lighting produced by nearby sites with respect to the Site will be moderately low-nil for the Expressway and low-nil otherwise. In my opinion, this will not result in onerous requirements for existing emitters.

2. QUALIFICATIONS AND EXPERIENCE

2.1 My full name is John Kinross Mckensey. I am an Executive Engineer working for LDP Ltd (Independent Electrical and Illumination Engineers).

2.2 My qualifications and experience are:

- (a) Bachelor of Engineering (Electrical) degree from the Queensland Institute of Technology;
- (b) Completed the Consulting Engineering Practice and Management programme at the University of Melbourne;
- (c) 40 years of experience in lighting design;
- (d) 20 years of experience in environmental effects of lighting;
- (f) Lighting advisor to Auckland Council for the Auckland Unitary Plan;
- (g) Lighting advisor to Christchurch City Council for the Christchurch Replacement District Plan;
- (h) Author or co-author of five local government codes of practice with respect to exterior lighting, each containing environmental considerations;
- (i) Author of the Auckland Council Sportsfield Lighting Guidelines; and
- (j) Lighting advisor to Auckland Transport and the New Zealand Transport Agency.

2.3 I am a member of a number of relevant associations including;

- a) Member of the Illuminating Engineering Society of Australia and New Zealand (MIES);
- b) Chartered Member of Engineering New Zealand (CMEngNZ);
- c) Member of the Institution of Engineers Australia (MIE Aust);
- d) Chartered Professional Engineer Australia (CP Eng Aust);
- e) National Engineers Register, Australia (NER);

- f) APEC Engineer;
- g) International Professional Engineer, Australia (IntPE)
- h) Member of the International Dark Sky Association; and
- i) Green Star New Zealand Accredited Professional (GSAP).

2.4 I have provided lighting effects advice in relation to numerous applications including evidence for Waikeria Prison Expansion, the AC36 Americas Cup base, Wynyard Crossing Bridge Replacement, Michaels Avenue Reserve lower fields, Stanmore Bay League Fields, Waitakere Stadium, Matiatia Marina, Kennedy Point Marina and Auckland Skypath. My environmental experience in relation to the effects of outdoor lighting includes assessments of effects, advice and evidence for hearings, notices of requirement, mediations and hearings in the Environment Court – acting for either the applicant or the Territorial Authority.

2.5 I have been engaged by Perry Group Ltd (**PGL**) to provide advice in relation to lighting effects with the Proposed Plan Change 2 to the Hamilton City District Plan: Te Awa Lakes (**PPC2**) for its site at Hutchison and Te Rapa Rd (**Site**). I am familiar with the proposed application, having been engaged on 1 September 2017 to provide advice in relation to PPC2. I prepared a lighting assessment of effects report entitled Te Awa Lakes Lighting Assessment dated 3 October 2017 (**Lighting Assessment**). I visited the site prior to preparing the Lighting Assessment. I also provided lighting advice for a Special Housing Area application initiated for the Site after lodgement of PPC2.

2.6 I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and to the extent that I am giving expert evidence, have complied with it in preparing this evidence. I confirm that the issues addressed in this evidence are within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

3. SCOPE OF EVIDENCE

3.1 I have been asked to provide evidence in relation to Lighting effects.

3.2 My evidence will cover the following matters

- a) Relevant facts and context;

- b) Summary of technical report;
- c) Comments on the Section 42A Report;
- d) Comments on submissions; and
- e) Conclusions.

4. RELEVANT FACTS AND CONTEXT

4.1 In this statement of evidence I do not repeat the description of the plan change and refer to the summary of the application in the evidence of John Olliver for the Applicant.

4.2 In addition to consideration of effects generated by the Site, my evidence also considers reverse sensitivity effects from other uses towards the Site.

4.3 There are already residential uses nearby, including properties to the east across the Waikato River, within Horotiu to the north west across the Waikato Expressway, and rural properties to the south across Hutchinson Road, and to the south west across the Waikato Expressway.

5. SUMMARY OF TECHNICAL REPORT

5.1 The Site is currently undeveloped and therefore dark at night.

5.2 Lighting within the Site will be similar to that found in any typical suburban location. It will include road lighting and lighting associated with commercial and residential uses.

5.3 There are existing residential locations near the Site. These properties contain typical residential lighting. The closest of these are located on the opposite side of the Waikato River. The nature of the topography surrounding the Site is such that these locations cannot see or be seen from the majority of the Site, other than any new residences that may be built at the eastern most edge of the site. In my opinion, lighting effects in either direction will be low-nil. This is also the case for other residential areas that are more remote from the Site.

5.4 The most significant existing source of light at night is the roadway lighting on the Waikato Expressway. In my opinion, the effects of this lighting on future residents on the

Site, will be low-moderately low for the closest residential properties, diminishing to low-nil effects elsewhere.

- 5.5 Other existing sources of light at night include the Fonterra dairy factory (**Fonterra**), AFFCO meat works (**AFFCO**), the Ports of Auckland freight hub (**POAFH**) under development and the Waikato Milking Systems (**WMS**) factory. Of these, the Fonterra dairy factory is the closest development to the Site and produces the greatest lighting effects. However, in my opinion, the effects will be low. Low level lighting will be screened by the commercial buildings proposed to border Hutchinson Road within the site. Other lighting may be visible to varying degrees from within the site, but the local lighting within the site will be considerably more obvious to residents than the lighting associated with the Fonterra dairy factory. The effects from locations further afield will, in my opinion, be low-nil.
- 5.6 AFFCO is adjacent to the Open Country Dairy Factory (**OCDF**). Given the relative distance and intervening topography, the OCDF will be less visible from the Site than from the existing Fonterra factory and as such any lighting effects will, in my opinion, be low-nil.
- 5.7 My opinion is based upon the relative distance and height of existing and anticipated future developments, combined with intervening topography and the lighting constraints currently in place within the relevant District Plans.
- 5.8 The Lighting Assessment also set out the existing and expected Statutory Requirements with respect to lighting effects – both in terms of the effects from the Site to other properties and vice versa (i.e. reverse sensitivity – for nearby developments). My opinion is that the requirements already within the Operative District Plan are appropriate while not onerous. With respect to the potential for reverse sensitivity effects from lighting on other sites, typical good lighting design practice can readily satisfy the requirements without imposing a burden on nearby landowners as a result of the new activities on the Site.
- 5.9 When the Site is developed, the lighting intensity and effects generated within the Site will be comparable to those generated by developments beyond The Site.

Subsequent Research and Analysis

- 5.10 Further research was undertaken in late 2018.
- 5.11 Lighting design documents provided for the POAFH for resource consent were examined. These confirm that for the lighting proposed at that site, lighting effects generated towards the Site will be low.
- 5.12 Some sites remain to be developed in Northgate Industrial Park. There is also Industrial zoned land north of Bern Road, bounded by the Expressway and Te Rapa Road. As evidenced by the lighting documents sighted for the POAFH, achieving good lighting control with low off-site effects is practical and not onerous. Hence, should any Industrial developments occur on these sites once PPC2 is granted, they will need to comply with District Plan rules in relation to lighting effects toward residential properties.
- 5.13 In my opinion, and given the example of the POAFH proposed lighting design, compliance with any such rules will not be onerous. As such, any effects from such future developments will be low-nil in my opinion.

Summary of Lighting Effects

- 5.14 Summarising the foregoing, if PPC2 is granted, it is my opinion that lighting effects generated by the Site will be low-nil.
- 5.15 It is my opinion that lighting effects from existing and anticipated future developments towards the Site (including reverse sensitivity effects) will be low-nil.
- 5.16 It is my opinion that lighting effects from the existing Expressway lighting towards the Site will be low-moderately low, with effects towards the majority of the Site being low-nil.

6. COMMENTS ON THE SECTION 42A REPORT

- 6.1 The Section 42A report (**S42A**), acknowledges the expert reports supplied by the applicant. The S42A raises no concerns in relation to lighting, other than one point raised in Appendix F – in particular, within the expert planning evidence of Luke O'Dwyer. I address this below, referencing Mr O'Dwyer's evidence clause numbering.

6.2 At paragraph 148, under the heading “The potential for reverse sensitivity effects”, Mr O’Dwyer states “...potential for reverse sensitivity to existing and future heavy industrial activities on the surrounding sites particularly from the cumulative effect from traffic, lighting, visual amenity, noise and odour. This could potentially result in difficulties for the recognised regionally significant industry to operate at maximum capacity and efficiency.”

6.3 Then, at paragraph 151, “While these effects may be manifest, the level of certainty or consequence is not known and is insufficient for me to consider the PPC can be rejected on reverse sensitivity economic grounds.”

6.4 With respect to lighting effects I consider any reverse sensitivity effects to be nil-low, for the reasons explained above. I therefore agree with Mr O’Dwyer’s conclusion that lighting impacts would not be a ground to reject the Plan Change.

7. COMMENTS ON SUBMISSIONS

Submission #37 (Steven C Hodgkinson & Alison J Hodgkinson)

7.1 The submitter has expressed a concern that the lighting effects generated by the medium density housing proposed (remote from the river edge) could be very significant.

7.2 While there will be visibility of the low density housing along the river bank, the topography of the river bank, intervening low density housing and vegetation will render direct views of the medium density housing and associated lighting to be low. As such, in my opinion, direct effects of light spill and glare will be low.

7.3 There will be some reduction in visibility of the night sky due to skyglow effects (i.e. the subtle aura that may be seen above an illuminated town or other location at night). The effect will be similar if the Site were instead developed for other uses such as the currently zoned Industrial activities. On balance, in my opinion, any additional effects would be low.

Submissions with Reverse Sensitivity concerns

7.4 A number of submissions have raised the prospect of potential reverse sensitivity. These include Fonterra, AFFCO, Ports of Auckland, Open Country Dairy, Waikato District

Council, Waikato Regional Council and Contact Energy. I have read these submissions and nothing in these submissions changes my view. Hence, for the reasons stated earlier in my evidence, in my opinion, reverse sensitivity effects with respect to lighting will be low-nil.

7.5 NZTA have also raised reverse sensitivity concerns. The existing Expressway road lighting comprises flat glass luminaires with zero tilt and no direct upward waste light.

7.6 In my opinion, any effects that could be considered more than low would be restricted to the outermost houses immediately adjacent the Expressway and in those cases it is my opinion that the effects would be no more than moderately low.

7.7 The Expressway road lighting may be changed to LED at some point. When that occurs, any light spill effects would most likely reduce due to the tighter beam control typically inherent in LED luminaires.

8. CONCLUSION

8.1 In my opinion, lighting effects will be;

- a) Low-nil for primary effects generated by developments within The Site;
- b) Low-Moderately low for effects generated by the Expressway road lighting (including reverse sensitivity effects);
- c) Low-nil for effects generated by other locations beyond The Site (including reverse sensitivity effects);

8.2 In my opinion, Statutory Requirements for lighting control will be adequate to ensure these outcomes on adjacent land without being onerous.

John Kinross Mckensey

29 October 2019