

BEFORE THE WAIPĀ DISTRICT COUNCIL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Proposed Plan Change 20 – Airport Northern
Precinct Extension to the Operative Waipā
District Plan

SUMMARY STATEMENT OF EVIDENCE OF JOHN KINROSS MCKENSEY

(LIGHTING)

14 March 2023

- 1.1 My name is John Kinross Mckensey. I am an Executive Engineer at LDP Ltd (Leading Design Professionals). My qualifications and experience are set out in my Primary Statement of Evidence dated 28 February 2023.
- 1.2 Since preparing my Primary Statement of Evidence, decisions on Hamilton City Council's (HCC) Plan Change 5 (PC5) have been issued. Mr Inger will update the Panel on the PC5 decision in further detail. I wish to note that the provisions contained in PC20 which were addressed in my Primary Statement of Evidence are consistent with the PC5 decision. However, it is worth noting that relevant rule in PC5 on lighting only relates to outdoor lighting, whereas PC20 requires the 0.3 lux limit to be met for indoor lighting and outdoor lighting.
- 1.3 As I explained in my Primary Statement of Evidence, there is minimal existing lighting within the PC20 Site – generally associated with rural or lifestyle residential with occasional roadway lighting local to certain intersections – typically referred to as 'flag lighting'. The closest concentration of brighter lighting is the Hamilton Airport apron adjacent the main terminal of the Hamilton Airport and within the associated carpark. There is also some exterior lighting and road lighting within the currently developed Airport Business Zone and navigation marker lights within the airside portion of the airfield.
- 1.4 There are very few controls on lighting for the existing Airport Business Zone (including the 41ha existing Northern Precinct) and the Industrial Zone which is north of the Airport) – only limited by Rule 20.4.2.2 of the District Plan.
- 1.5 The Southern Links is likely to have road lighting, particularly for the proposed interchange near the site. SH3, SH21 and Southern Links (when built) carry high traffic volumes, so headlights are a frequent source of light.
- 1.6 The lighting environment is expected to change over time with the introduction of more light sources. The Airport terminal, apron and carpark would best be described as brightly lit.
- 1.7 In my opinion, the existing artificial light effects within the site resulting from spill light, glare and sky glow, generated by lighting located within the site and surrounding areas, could best be described as very low. However, this could alter to become low-medium as adjacent areas are developed, particularly with the advent of Southern Links.
- 1.8 I noted in my Primary Statement of Evidence that since the lodgement of PC20 a number of new provisions relating to the Long-Tailed Bat (LTB), including Bat Habitat

Areas (**BHA**) and new lighting rules, have been proposed. My evidence focussed particularly on rule 10.4.2.14A which is a proposed new lighting standard specific to the Northern Precinct.¹

- 1.9 Rule 10.4.2.14A is proposed to apply in addition to the existing Lighting Rule 20.4.2.2. The latter is primarily intended to provide protection for people, while the former is intended to provide added protection for the use of BHAs by the LTB.
- 1.10 Part (a) sets a maximum spill light limit at the BHA boundary of 0.3 lux added artificial illuminance. This is consistent with the decision on PC5.
- 1.11 Part (b) establishes further controls within 100m of a BHA. These include glare control (i.e. zero light tilt), blue light content (by limiting colour temperature to 2700K) and turning off lighting when not in use (i.e. using motion-sensor and timer control on security lighting). This is consistent with the decision on PC5.
- 1.12 Part (c) permits only emergency works lighting within a BHA as a practical necessity, but limits the nature of such lighting consistent with the other parts of the Rule. This is consistent with the decision on PC5.
- 1.13 Part (d) clarifies that the Rule does not apply to vehicle headlights nor Airport navigation lights. The latter are part of the existing environment within the airport and are essential for safety. The former is currently present, albeit likely at a lesser degree than would be expected once Southern Links and other developments in the locality occur. As I noted

¹ *Rules – Lighting*

10.4.2.14A In addition to Rule 20.4.2.2 – Lighting and Glare, the following lighting standards shall apply in the Northern Precinct:

- (a) Added illuminance from fixed artificial lighting (indoor and outdoor) shall not exceed 0.3 lux (horizontal and vertical) at any height at the external boundary of the Bat Habitat Area.*
 - (b) Where it is within 100m of a Bat Habitat Area, fixed artificial outdoor lighting must:
 - i. Emit zero direct upward light.*
 - ii. Be installed with the light emitting surface facing directly down and be mounted as low as practical.*
 - iii. Be white LED with a maximum colour temperature of 2700K.*
 - iv. In the case of exterior security lighting, be controlled by a motion sensor with a short duration timer (5 minutes).**
 - (c) Fixed artificial lighting shall not be located within a Bat Habitat Area except where it is for the express purpose of providing lighting for emergency works related to infrastructure operated by an entity that is defined as a lifeline utility under the Civil Defence Emergency Act 2002. The lighting must be white LED with a maximum colour temperature of 2700K, installed with the light emitting surface facing directly down, emit zero direct upward light and be mounted as low as practical.*
 - (d) The standards in Rule 10.4.2.14A do not apply to vehicle headlights or to lighting associated with aviation requirements for Hamilton Airport.*
- Activities that fail to comply with Rules 10.4.2.14A will require a resource consent for a restricted discretionary activity with the discretion being restricted over:*

- *Ecology (Northern Precinct). These matters will be considered in accordance with the assessment criteria in Section 21.*

in my Primary Statement of Evidence, it is impractical to apply lighting constraints to moving vehicle headlights as there are many variables affecting the direction of the light beam which are not able to be controlled. I note that the PC5 decision has confirmed the exclusion of lighting attached to vehicles from the lighting controls in PC5.

- 1.14 However, measures can developed to help minimise such effects for roads close to the BHA and these are to be addressed by the Ecological Management Plan (**EMP**) which is required to include details of how planting and light spill will be managed where transport corridors are proposed to cross BHAs (Rule 10.4.2.14B).
- 1.15 I have also considered the evidence of Christopher Hickey, on behalf of himself and his wife Sharon Hickey, as a submitter which was available after rebuttal statements were filed. While Mr Hickey does not profess expertise in relation to lighting, he has raised some concerns in relation to potential lighting effects on fauna (i.e. birds, bats and insects) at paragraphs 54 to 57. In that regard, Mr Hickey concludes at paragraph 73 vii, that “Low impact lighting systems should be required for the development to minimise adverse aesthetic and ecological impacts.”
- 1.16 In my opinion, the existing district wide lighting rule 20.4.2.2 adequately addresses the aesthetic effects – in particular, ensuring appropriate light spill and glare constraints for lighting.
- 1.17 The only fauna that has been identified, by ecologists acting for the applicants, Council and submitters, as necessary to consider specific lighting constraints, beyond that already afforded by existing lighting rules, is the LTB. Rule 10.4.2.14A has been proposed to provide added protection for the LTB. Also, in my opinion, the proposed rule 10.4.2.14A will adequately address Mr Hickey’s desire to minimise ecological impacts.
- 1.18 In my opinion, Rule 10.4.2.14A in conjunction with the other provisions attached to the evidence of Mr Grala and referred to in the evidence of Mr Inger, will ensure that lighting effects within the Bat Habitat Areas (BHA) are negligible or less than minor.
- 1.19 In my opinion, the application of the existing Rule 20.4.2.2 and proposed Rule 10.4.2.14A will ensure that lighting effects on people and the LTB will be negligible or less than minor and that lighting within 100m of the BHA will be managed to avoid and minimise light spill within the BHA.

John Kinross Mckensey
LDP Ltd
14 March 2023