Before the Expert Panel appointed under the Fast-track Approvals Act 2024

FTAA-2604-1207

Under	**the Fast-track Approvals Act 2024 (FTAA)**
In the matter	**of the Southern Link Inland Port**
By	**Southern Link Property Limited**

STATEMENT OF EVIDENCE BY KATE MACDONALD ON BEHALF OF SOUTHERN LINK PROPERTY LIMITED

LIGHTING

19 August 2026

SIMPSON GRIERSON

Sarah Scott / Kierra Parker
sarah.scott@simpsongrierson.com
kierra.parker@simpsongrierson.com
PO Box 874 Christchurch

1. INTRODUCTION

1.1 My full name is Kate Elizabeth Macdonald. My qualifications and experience, and my role in the Southern Link Inland Port Project (**SLIP**) are set out in my Assessment of Environmental Effects - Lighting report dated 15th April 2026 (**Lighting Assessment**) included in Part B.08 of the substantive application for the SLIP.

1.2 I have been asked by Southern Link Property Limited (**SLPL**) to provide a response to specific matters within my areas of expertise contained in written comments on the SLPL application from persons invited by the Panel to comment under s 53 of the FTAA. The topics I cover are:

(a) the lighting comments provided by Dunedin City Council (**DCC**) concerning extended street lighting on Dukes Road North, the light spill standards in Rule 16.5.5 of the 2GP, and potential effects on the dwelling at 273 Dukes Road North;
(b) the lighting matters raised by Craig and Joanne Inch; and
(c) the lighting and amenity matters raised by the Mosgiel-Taieri Community Board.

Code of Conduct

1.3 I confirm that I have read the Code of Conduct for Expert Witnesses contained in section 9 of the Environment Court Practice Note 2023 and 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 material facts known to me that might alter or detract from my evidence.

2. DUNEDIN CITY COUNCIL COMMENTS

2.1 DCC transport has recommended that streetlighting be extended along Dukes Road North from Stedman Road to the site entrance to provide for

the safety of the new access and intersection. DCC's comments also raise concerns regarding the potential spill light and amenity effects associated with that streetlighting, including whether the requirements of Rule 16.5.5.3 of the Dunedin City Second Generation District Plan (**2GP**) can be achieved at nearby residential boundaries.

2.2 I consider it important to distinguish this issue from the proposed 3 lux limit for operational lighting from the SLIP site. The proposed 3 lux limit applies to light spill generated by the SLIP operational lighting measured at the SLIP site boundary. By contrast, Rule 16.5.5.3 specifies a spill light limit at the boundary of a site used for residential activity. Accordingly, in considering the proposed Dukes Road North street lighting, (as requested by DCC and if this was to be required) the relevant receiving boundary is the boundary of the residential site rather than the SLIP site boundary.

2.3 Any proposed street lighting would need to be designed and installed in accordance with DCC's requirements, with the spill-light restriction in Rule 16.5.5.3 taken into account as a design constraint. Modern LED road-lighting luminaires incorporate optical systems that allow the distribution of light to be closely controlled and directed principally onto the road reserve. Where required, backlight shields can also be incorporated to further restrict light emitted behind the luminaire towards adjoining residential properties.

2.4 The expected illuminance on the road surface, or the illuminance directly beneath a street-lighting luminaire, should not be equated with spill light at a residential site boundary. The latter is dependent on the luminaire photometry, mounting height and orientation, setback to the receiving boundary, and any shielding incorporated into the design. These parameters can be modelled during detailed design and adjusted as necessary to manage compliance with Rule 16.5.5.3.

2.5 In my opinion, these measures provide an appropriate means of controlling spill light from any proposed street lighting towards residential boundaries,

including 273 Dukes Road North. Compliance with the applicable spill-light limit can be demonstrated through the detailed photometric design once the final luminaire type, mounting arrangement and locations are determined. I therefore consider that any proposed street lighting can be designed to appropriately manage spill light at residential site boundaries having regard to the requirements of Rule 16.5.5.3, while still providing the illumination required by DCC for the safe operation of Dukes Road North.

2.6 I have reviewed DCC's proposed condition requiring the Dukes Road North street lighting to achieve a spill-light level not exceeding 3 lux at the boundary of any rural-zoned site used for residential activity. I consider that requirement to be achievable through detailed design. I recommend that the condition also require luminaires with a correlated colour temperature not exceeding 3000 K and require unnecessary light spill and upward light to be minimised through appropriate luminaire selection, orientation and shielding, while achieving applicable road-safety lighting requirements.

3. COMMENTS FROM CRAIG AND JOANNE INCH

3.1 Craig and Joanne Inch raise three lighting matters relevant to my area of expertise:

(a) uncertainty as to whether the site surface will be concrete or asphalt and the effect this may have on reflected light;

(b) concern that night-time operations may require more lighting than the street lighting they understood was proposed; and

(c) concern that the SLIP lighting will add to existing light pollution from the Fonterra site.

Site surface

3.2 The selection of the final site surface, including whether areas are to be concrete or asphalt, is not a matter within my area of expertise. From a lighting perspective, surface reflectance can influence the amount of light

reflected from the ground. The detailed photometric design should therefore use reflectance assumptions that are appropriate for the final pavement and surface materials. As set out in my Lighting Assessment, while the lighting design is at concept stage, detailed modelling will be used to confirm task illuminance, boundary spill light and relevant obtrusive light parameters and this requirement for modelling is secured by the proposed DCC condition of consent 61. The final surface selection can be incorporated into that modelling. If the final surface materials have not been confirmed at the time of detailed lighting design, appropriate conservative reflectance assumptions can be adopted for the modelling.

Night lighting

3.3 I understand the reference in the Inch comments to "street lighting" to relate to street lighting within the SLIP site, rather than the proposed extension of street lighting along Dukes Road North. Irrespective of that terminology, any lighting required for night-time operation of the SLIP will form part of the detailed lighting design and will be subject to the lighting controls identified in my Lighting Assessment and the proposed conditions of consent.

3.4 Any lighting required for night-time operations should form part of the detailed lighting design and be subject to the same measures, including downward-directed flat-lens luminaires, zero upward light, shielding, controlled aiming, minimum necessary lighting levels and warmer colour temperatures where practicable. These measures are intended to limit both direct spill light and the visibility of bright light sources from surrounding properties.

Light pollution

3.5 I acknowledge that existing lighting in the wider receiving environment, including lighting identified by the Inches at the Fonterra site, contributes to the night-time visual environment. The relevant lighting effect of the SLIP

is its incremental contribution to that environment. In my opinion, the controls identified above, which are secured through the proposed conditions of consent, provide an appropriate basis for minimising that contribution. This comment does not cause me to alter my overall opinion on the effects of the proposed on-site lighting, subject to detailed photometric design and verification.

4. MOSGIEL-TAIERI COMMUNITY BOARD COMMENTS

4.1 The Mosgiel-Taieri Community Board raises concern about light spill and overnight effects on nearby homes and on White Robe Lodge livestock and breeding operations. It identifies downward-facing lighting as a potential mitigation measure.

4.2 The Board's suggestion that downward-facing lighting be used as a mitigation measure is consistent with the lighting measures identified as being necessary in my Lighting Assessment and which are secured by the proposed conditions of consent. The detailed design should demonstrate boundary spill-light outcomes and relevant obtrusive-light parameters for nearby sensitive receivers, with luminaires selected and aimed to avoid unnecessary direct illumination beyond the areas that need to be lit. In particular, the use of flat-lens, downward-directed luminaires with zero upward light, appropriate shielding and the minimum lighting level necessary for safe operations will reduce both spill and glare.

4.3 I am not an animal-welfare or animal-behaviour expert and do not express an opinion on any specific physiological or breeding response of livestock to artificial light. The mitigation measures proposed for the SLIP on-site lighting and the Dukes Road North street lighting are consistent with the best-practice lighting design principles set out in the Australian Government's *National Light Pollution Guidelines for Wildlife*.

4.4 Those principles include limiting lighting to where and when it is required, using the lowest appropriate lighting intensity, directing and shielding

luminaires to avoid unnecessary light spill, and managing the colour and spectral characteristics of light. The proposed measures for both the on-site lighting and the Dukes Road North street lighting are consistent with those principles, which are identified in the *National Light Pollution Guidelines for Wildlife* as best-practice measures for managing the effects of artificial light on wildlife generally. If specialist animal-welfare evidence identifies a particular lighting threshold or sensitive location associated with White Robe Lodge, that can also be considered as an input to the detailed photometric design.

5. CONCLUSION

5.1 The comments from DCC do not cause me to change my overall opinion on the lighting effects of the proposal. In relation to the proposed extension of street lighting along Dukes Road North, the illuminance required on the road should not be equated with spill light received at a residential site boundary. In my opinion, modern LED road-lighting optics, together with a colour temperature not exceeding 3,000K, appropriate luminaire selection, orientation and shielding where required, provide appropriate means to control spill light towards neighbouring residential properties. The detailed photometric design can demonstrate the predicted spill light at those boundaries and enable the design to be adjusted as necessary to appropriately manage spill light having regard to the requirements of Rule 16.5.5.3.

5.2 The comments from Craig and Joanne Inch and the Mosgiel-Taieri Community Board do not cause me to change the opinions expressed in my Lighting Assessment in relation to the proposed on-site lighting. They reinforce the importance of the detailed photometric design and the mitigation measures already identified in that assessment.

Dated: 19th August 2026

_____

Kate Macdonald