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 NICK KEENAN ON BEHALF OF SOUTHERN LINK PROPERTY LIMITED

INTERNAL STORMWATER ENGINEERING

19 August 2026

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1. INTRODUCTION

1.1 My full name is Nick Keenan. My qualifications and experience, and my role in the Southern Link Inland Port Project (**SLIP**) are set out in the "Stormwater Assessment" report dated 15 April 2026, Section 1.2, which is included in Part B.13 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) Otago Regional Council: Earthworks Erosion and Sediment Control from Mr Jason Smith;

(b) Otago Regional Council: Response to clarifications of best practicable option (**BPO**) for Stormwater Management comments from Raymond Chang;

(c) Fish and Game, Pulses of sediment during construction phase and comparison with Bullock Creek development experience; and

(d) Treaty Impact Assessment Section 5.5.3, Spill containment considerations.

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. OTAGO REGIONAL COUNCIL (ORC)

Mr Jason Smith, ORC Appendix 3, Earthworks (Erosion and Sediment Control)

2.1 Mr Smith, in Section 4, advises that the water quality parameters in proposed ORC condition B.26 and B.27 do not include a measure for deposited fine sediment, which is recommended to be monitored in the freshwater assessment attached to application (**FWEcIA**). This clarification will be addressed by Ms Bryony Miller in her evidence.

2.2 In Section 4, Mr Smith considers there is a contradiction in proposed ORC condition B.10. I think 20% capacity would be practically measured as a depth of captured sludge against the total excavated pond depth, and not related to sub-points a, b and c. I recommend sub-points a, b and c are removed from the B.10.2 Condition as they are not a guide to the operator to remove sludge volume. The B.10.2 condition would therefore read: *Prior to the temporary sediment retention ponds reaching 20% capacity (i.e. when they are 20% full of sediment), a sludge removal process is to occur to ensure the ponds maintain sediment capture functionality.*

2.3 In Section 5, Mr Smith recommends a Chemical Treatment Management Plan.

2.4 Soils information was sought from Cameron Fritz, Stantec Senior Geotechnical Engineer with regards to clay content and assist this response. The response was, "*test pit and laboratory data provided by SLPL indicated clays are present in the shallow subsurface. While this shallow layer likely includes mixtures of silts and clays, data is insufficient at this stage to rule out "significant" clay contents.*"

2.5 Condition 20 requires an Erosion and Sediment Control Plan (**ESCP**) from a Suitably Qualified Person (**SQP**). In my opinion this is sufficient for ensuring best practice. The ESCP would assume that clays are present in quantities that require a chemically treated sediment retention pond approach, until

evidence is derived from on-site bench testing to indicate that chemical treatment is not warranted.

Mr Raymond Chang, ORC Appendix 4, Freshwater Ecology Review

2.6 My evidence here qualifies the land development engineering approach proposed with a view to minimising effects on ecology in the receiving environment. In my opinion the proposed approach to erosion and sediment control comprises the BPO with respect to managing adverse stormwater effects.

Conclusions – page 8, paragraph 1, low level of effect

2.7 Mr Chang considers that the current application does not provide sufficient evidence to support the conclusion that operational stormwater discharges will result in a Low level of effect on the High-value freshwater environment of Silver Stream. I consider that the "low level of effect" is justified by the stormwater management plan (**SMP**) based on two categories of mitigation provided in the design:

(a) attenuation and dampening of peak runoff; and

(b) stormwater infrastructure to capture and treat first flush discharges prior to leaving the site.

2.8 First, attenuation and dampening of peak runoff from the site will minimise bed and bank effects downstream due to a change in the flow regimen from the project site over the operational life of the development. The site and proposed layout have generous land areas assigned to onsite stormwater management. The size of the proposed attenuation volume is large enough to dampen the 100 year peak runoff down to a 10 year discharge from the pond outlet. Similar attenuations for smaller, more frequent rainfall events will be feasible and outlet configurations can be optimised during detailed design.

2.9 The attenuation volume is intended to be commissioned from Stage 1 of the development giving a buffer to the growth stages of the site. In terms of adaptive management, attenuation performance can be observed and monitored and adjusted as the site transforms from construction to operational land usage.

2.10 An additional advantage is that the site has gentle gradients meaning storm flow velocities are in the lower range that can be managed by good practice erosion and sediment controls over the construction stages of the site. The gentle gradients mean that site bunding is not technically challenging to comply with GS05, as even relatively small bund heights will provide reasonable volumes to control and delay flows moving over the site – giving high confidence that effective erosion and sediment controls can be implemented during construction activities and adapted as the Stages progress over the construction period.

2.11 Robust, but not technically challenging, perimeter bunding and swales will afford site isolation from wider catchment flood flows. Again, the mitigation measures benefitting from the gentle gradients and giving confidence that erosion and sediment controls over the site will be effective under a wide range of rainfall events.

2.12 The second category of effects mitigation provided by the development, is the application of industry best practice stormwater treatment infrastructure to capture and treat first flush discharges prior to leaving the site. Filters and traps within manholes are connected to buried pipelines – all with established operational protocols and equipment for maintenance of performance. The stormwater treatment design will then match the product performance to the site layout to provide full treatment coverage.

2.13 In terms of fine sediments, proprietary stormwater treatment filter devices can capture suspended sediments as small as 20-50 microns in the first flush flow. No product or device claims 100% capture performance, but in my experience of the several New Zealand guidelines, the industry accepts over

75% capture of Total Suspended Solids as a suitable minimum performance, with most devices or systems stating a capture percentage of the main contaminants and the stormwater designer matching the device, system or treatment train in the best arrangement for capture.

2.14 Devices and maintenance equipment, replacement parts and repairs are all readily available from New Zealand suppliers. The stormwater treatment industry is maturing and improving in response to the market for effects mitigations. In my opinion, the proposed stormwater management design represents the BPO approach to minimising adverse effects.

2.15 Therefore, on the basis of allocated space for mitigation measures and associated adaptive measures, gentle land gradients and maturing stormwater treatment infrastructure options, in my view the contamination source from the development can be appropriately controlled during construction and operational phases. This gives me high confidence that application of good practice stormwater management (incorporated into this project) will achieve a low level of effect in the receiving environment.

Conclusions – page 8, paragraph 2, adaptive management

2.16 Mr Chang would like to see a relationship between monitoring and adaptive measures more clearly. The stormwater contaminant monitoring will be covered in the evidence of Mr Bloomberg and Mr Kyle and Ms Hankey, but I confirm that in this case, the approach has been to provide a high robustness to the mitigation measures in order to operate well below threshold trigger points. In my opinion, adaptive management is feasible to do so given the available space, gentle land gradient and product development.

Recommendations – page 8, bullet point 8, revise SMP

2.17 Mr Chang recommends a revised SMP that links monitoring, triggers and responses, and that this is submitted to ORC for certification prior to construction commencing. Further to the above discussion on low level of effects, it is my opinion that the stormwater management design reduces the risk of adverse effects in the receiving environment well below receiving environment guideline values, or threshold triggers as referenced in the SMP. Adaptive management, as an additional management response to monitoring would then be available if required.

2.18 Normal practice for stormwater management and ESCP certification is to compare against a design standard and demonstrate coverage of the site, feasibility of devices to perform on the catchments, maintenance procedures, responsibilities, contingencies and establish decommissioning. This form of certification can be provided by the client SQP as part of the Construction Contract for quality control, and this is expected to result in a low level of effect on the Silver Stream receiving environment. Detailed SMP information can then be provided to ORC for information.

3. OTAGO FISH AND GAME - MR JAMIE WARD

Pulses of sediment during construction phase, paragraph 47-51

3.1 Mr Ward advises that Fish and Game has had recent experience with the discharge of sediment into sensitive trout spawning streams from developments that feature significant earthworks. This was referenced as the Bullock Creek and Alpha Series Development (Wanaka). This development created a pattern of sediment 'pulses' depositing a heavy layer of sediment on the bed of the spawning stream during rain events, adversely affecting the ability of trout to spawn. I can confirm that this sort of adverse effect would be avoided by the implementation of a robust ESCP as discussed earlier in my evidence, which will result in adverse effects on the Silver Stream receiving environment being avoided.

3.2 I can confirm that the ESCP will be designed and implemented to a high level of performance to the Auckland Council GD05 guideline as best practice and include provision for adaptative management in response to observations and monitoring, if this proves to be necessary. The approach of the ESCP is to install robustness and take advantage of available space during construction and gentle gradients to avoid the situation where pulses of sediment escape the site and enter the receiving environment. Looking at the site, I believe erosion and sediment controls will be effective.

3.3 Mr Ward recommends a consent condition be added to the ORC suite of consents to require a regular inspection of the discharge during large rain events. Monitoring of ESCP performance by inspection during wet weather is a part of normal adaptative measures in GD05 guidance. This also includes regular pre-rainfall inspections and suitability of controls.

Case study information Bullock Creek Wanaka – cautionary experience

3.4 An example of poor erosion and sediment control was provided by Mr Ward to illustrate a poor outcome for stream and fish habitat. My assessment of the available desktop information (GoogleEarth topography and aerial photos, street view, soil maps and "friends of Bullock Creek" website) gives the impression that the Bullock Creek catchment is steeper and the developed area is on sloping land. I do not have access to information that allows me to comment on the ESCP that was designed and implemented at that site, and I am not sure whether matters such as exposed area coverage and design or performance quality control of the erosion and sedimentation management measures was properly undertaken. I also do not know whether some of the problematic sediment after rainfall at the site may have been coming from upstream due to natural slippages or man-made effects from upstream developments.

3.5 Given the matters I have highlighted earlier in this evidence I am confident that erosion and sediment can be controlled acceptably and appropriately to a low level of effect at the project site.

4. TE RŪNANGA O ŌTĀKOU - TREATY IMPACT ASSESSMENT (TIA)

4.1 The TIA in Wastewater Item 34 raised concerns on the contamination risk to waterways in a fire event where fire suppression water is mixed with industrial materials.[1] This concern is briefly acknowledged in the evidence of Roger Oakley (Section 2) from a wastewater viewpoint, but the stormwater system is integral to this situation and additional comment is given here. In the event of a fire, firefighting water will ultimately drain to the stormwater network, or over overland through the site to the stormwater attenuation ponds. Isolating the stormwater attenuation pond and adapting the piped network to contain firefighting runoff within the stormwater network on site would be considered during detailed design phase under a Hazard and Operability Studies (HAZOPS) process or similar risk assessment process. This structured process would describe hazards and decide on mitigations which could involve human procedures, design elements, technologies and systems.

4.2 In this case, 5% of the stormwater attenuation pond (25,000m3) would be required to isolate 1,200m3 of fight fighting water volume. A system of safeguards involving alarms, actuated valves, bifurcation manhole, training and protocols would be incorporated into the design along with the activation of the firefighting pumped pressure system. The key requirement is that the stormwater pond outlet orifice is closed to prevent release into the Silver Stream, thereby allowing time to manage the removal of the contaminant spill volume.

4.3 The same type of emergency situation occurs with a product spill due to a puncture, breakage or other damage to containers of products on site. Again, opportunities for isolation and spill containment are available in the

1 TIA, page 59.

stormwater pond and in the stormwater piped network given the smaller volumes.

4.4 I am confident that robust spill containment contingency mitigations will be resolved in the detailed design phase given the large stormwater pond volume that is available for use as a spill containment volume.

5. CONCLUSION

5.1 I confirm that this evidence does not change any of my views as expressed through my original report.

Dated: 19 August 2026

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Nick Keenan