IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of a Board of Inquiry appointed under s149J of the Resource Management Act 1991 to consider Notice of Requirements and applications for Resource Consent made by the New Zealand Transport Agency in relation to the East West Link roading proposal in Auckland.

SUMMARY OF EVIDENCE OF TRENT DAVID SUNICH ON BEHALF OF AUCKLAND COUNCIL
STORMWATER MANAGEMENT

1. Overview of Key Conclusions of Evidence

(a) The project is unique in Auckland and the stormwater design cannot fit within standard design guidance; instead it requires a bespoke design solution as proposed by the NZTA.

(b) The proposal is consistent with the outcomes sought in the Auckland region-wide stormwater Network Discharge Consent application, namely the proposal to treat stormwater runoff from the wider upstream catchment to a standard of 75% total suspended solids (TSS) removal. This standard is typically applied throughout the Auckland region in relation to development proposals.

(c) The stormwater system concept design is generally supported. Further refinement and optimisation is required during the detailed design stage to achieve a resilient design that minimises operational and environmental risk.

(d) I have sought amendments to the draft conditions of consent and have reached agreement with the applicant regarding the design outcome of the foreshore wetland and biofiltration stormwater treatment devices. That is, the foreshore wetland and biofiltration stormwater treatment systems should achieve a set of design outcomes (as outlined in draft condition C.1F) while achieving design integration with the reclamation, coastal paths and boardwalk (draft condition C.1C).

2. Summary of Issues Resolved and Unresolved

I attended the expert conferencing session in relation to stormwater management for the Proposal. A summary of the key conferencing topics and areas of agreement/disagreement are listed as follows:

(a) The Proposal meets good practice for stormwater quality treatment of new and upgraded roads. The additional urban area receiving stormwater runoff treatment results in an overall significant stormwater quality benefit (relative to the current minimal level of stormwater runoff treatment in the catchment).

(b) The Proposal applies an innovative stormwater treatment approach that in theory achieves a very high level of treatment given the footprint of the wetland and biofiltration stormwater treatment systems. Monitoring will be valuable to demonstrate that the water quality treatment outcomes predicted can be achieved in practice, including the applicability of MUSIC (the modelling software used to design the foreshore wetland and biofiltration stormwater treatment devices) in a New Zealand context.

A consent condition has since been drafted by the NZTA requiring water quality monitoring of the foreshore wetland and biofiltration stormwater treatment devices for a period of 5 years following construction completion.

(c) There is a need to prevent saltwater entering the devices as much as practicable. It was acknowledged that salt water intrusion may occur over the life of the devices. The outer bund height and corresponding predicted frequency of saltwater intrusion will be determined during the detailed design stage of the Proposal in accordance with outcomes detailed in the draft conditions of consent.

(d) It was recognised and agreed that at the time of handover of the system (to the Auckland Council) that the system will be designed to accommodate the level of predicted sea level rise for a yet to be agreed period. The experts present would recommend a period of no less than 20 years of predicted sea level rise until adaptation is required. This would apply from the date of asset handover.

3. Matters Raised by the Board

(a) With the current height of the outer bunds set at RL 3.0m, uncertainty remains around operational risk and resilience of the foreshore wetland and biofiltration stormwater treatment systems to salt water intrusion. This risk relates to the outer bund height at the point of asset handover to the Council and to the impacts of sea level rise, which will increase the likelihood of saltwater intrusion over time.

(b) As is detailed in the draft conditions of consent (Condition C.1F) there is an opportunity to mitigate this risk through optimisation during detailed design where the outer bund heights could be raised while achieving the design integration outcomes associated with the reclamation, coastal paths and boardwalk.