



OUT18/1615

Ms Naomi Moss
Transport Assessments
NSW Department of Planning and Environment

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Dear Ms Moss

**WestConnex M4-M5 Link
Submissions and Preferred Infrastructure Report and draft conditions**

I refer to the email of 14 February 2018 to the Department of Industry in respect to the above matter. Comment has been sought from relevant branches of Lands & Water and Department of Primary Industries. Any further referrals to Department of Industry can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

The department has reviewed the Submissions, Preferred Infrastructure Report and draft conditions of approval and provides the following recommendations for consideration in assessment of the proposal. Detailed comments in relation to each recommendation are provided at **Attachment A**.

Recommendations

- 1 Prior to tunnel construction the proponent must ascertain the tunnel sections where the degree of connectivity between the overlying roof sandstone/shale and alluvial/palaeochannel deposits is high, i.e. greater than 1 L/second/km. This will require a hydrogeological investigation to determine the connectivity between the alluvium and porous rock aquifer. This should include field based aquifer testing including pump testing.
- 2 The proponent should include installation of sentinel monitoring bores pairs within the monitoring program to monitor the saline groundwater wedge between the estuarine areas and the tunnel.
- 3
- 4 A commitment is requested from the proponent to continue liaising with DoI Water to ensure that any licensing requirements are met.
- 5 Works on waterfront land should be undertaken in accordance with the Guidelines for Controlled Activities on Waterfront Land (2012).

Yours sincerely

A handwritten signature in black ink that reads 'Alex King'.

Alex King
Director, Cabinet & Legislation Services
23 February 2018

WestConnex M4-M5 Link
Submissions and Preferred Infrastructure Report and draft conditions
Detailed comments

Recommendation 1

DoI Water has concerns regarding the un-tanked tunnel sections where there will be remaining thin (<10 m) sandstone roof cover through which draining of the alluvium may occur via fractures. The concern is that alluvium/palaeochannels will be drained in perpetuity.

The Department has particular concerns about the un-tanked sections of tunnel where the sandstone/shales are less than 10 m thick shown in the following:

- Figure 8. Selected geological long section M4 East to Anzac Bridge Sections 3b (from Appendix E (Volume 2B)), below the Rozelle Railyards,
- Figure 8. Selected geological long section Iron Cove Link to Anzac Bridge section 2 from Appendix E (Volume 2B) below the Rozelle railyards the overlying sandstone thins in and out and appears to thin down to as little as a few meters above the roof of the tunnel

Recommendation 2

The proponent has demonstrated where salt water intrusion from tidal areas will occur in the Response to Submissions. Similarly the proponent has demonstrated that there will be no impact on Groundwater Dependent Ecosystems and other sensitive users. However this map indicates that the saltwater ingress is predicted to occur at distances greater than 40 m from the alignment with respect to the Aquifer Interference Policy.

The proponent has not sufficiently demonstrated that the saltwater ingress will have no long term impacts on future users of the groundwater resource should the tunnels result in long term dewatering of the surrounding aquifers with a resultant further ingress of the saline wedge.

The potential salinity issues apply to small areas of the project alignment at tunnel approaches to estuary - near salt water sources. Increased monitoring in this area will be required during construction and post construction so real time changes in groundwater quality can be monitored accurately and managed accordingly during both construction and post construction.

Recommendation 3

The groundwater modelling comments and recommendations outlined in Lands & Water's correspondence dated 18 December 2017 (OUT17/49572) have largely not been addressed.

It is requested that the

proponent address the points raised in the 18 December letter prior to undertaking further modelling.

Recommendation 4

Inflow rates are predicted to peak at 2.45 ML/day for the M4-M5 Link in the year 2021 (an annual volume of 930 ML/year). The cumulative inflow to all Westconnex tunnels at the end of all phases of tunnel construction is 5 GL in the year 2021 and 8.2 GL at tunnel opening in the year 2023.

Lands & Water notes that Roads and Maritime Services (RMS) is currently exempt from requiring a water access licence for groundwater take during construction. DoI Water has been involved in negotiations with RMS regarding accounting for the ongoing take of groundwater associated with

the project, however, arrangements for licensing requirements are still to be finalised. DoI Water previously requested ongoing consultation with RMS to discuss licensing requirements for the ongoing take of groundwater; however this was not addressed in the Response to Submissions. It is requested that RMS provide a commitment to continue liaising with DoI Water to ensure that any licensing requirements are met.

Recommendation 5

The Preferred Infrastructure Report submitted with the Reponse to Submissions outlines changes to the location of the proposed bioretention basin adjacent to Iron Cove. The proposal includes works on waterfront land, including the bioretention basin, underground drainage connection and outlet structure. These works should be conducted in accordance with the Guidelines for Controlled Activity Approvals on Waterfront Land, including provision of appropriate revegetated buffer zones and offset areas where required.

In particular, riparian land within 40 m of Iron Cove temporarily disturbed by the project should be rehabilitated following construction with locally occurring native plant species and riparian land permanently impacted by the project should be offset by rehabilitating an equivalent riparian area with locally occurring native species either in the vicinity of the work site or elsewhere along the relevant watercourse. The proposed outlet into Iron Cove should be designed and constructed in accordance with the Guidelines for Outlet Structures on Waterfront Land (2012).

END ATTACHMENT A