8th November 2023

Auckland Council
Private Bag 92300
Victoria Street West
Auckland 1142

Attention: Warwick Pascoe-Principal Project Lead, Auckland Council
Celia Wong-Senior Planner, Resource Consents South, Auckland Council

By email: warwick.pascoe@aucklandcouncil.govt.nz, celia.wong@aucklandcouncil.govt.nz

Dear Warwick,

Re. Further groundwater response to Council further information requests for the resource consents for EB3C and EB4L Application Packages

The Eastern Busway Alliance (EBA) on behalf of Auckland Transport are writing in response to Auckland Council's (the Council) email with the request for further information on groundwater matters, dated 2nd November 2023 for the resource consents for Eastern Busway 3 Commercial (EB3C) and Eastern Busway 4 Link (EB4L). The relevant resource consent reference numbers are as follows:

EB3C

- BUN60423907 (Council Reference)
- CST60423908 (vegetation removal)
- CST60423955 (planting)
- CST60423956 (reclamation)
- CST60423957 (structure)
- DIS60423909 (contaminated site)
- DIS60423958 (stormwater)
- WAT60423930 (groundwater)
- LUC60423931 (land use)
- LUS60423990 (streamworks)

EB4L

- BUN60423878 (Council Reference)
- DIS60423878 (contaminated site)

- LUC60423920 (land use)
- LUS60423921 (streamworks)

We note that the EB3C-EB4L Groundwater Response Table issued to Council on the 10th October 2023 has been peer reviewed by Richard Simonds who accepts our responses provided to RFI points 1, 3-8. Therefore, we consider that these points are adequately addressed, and no further response is required.

The EBA provides the following responses in relation to Council's groundwater further queries which we received via email on the 2nd of November 2023. To provide context we have included the Council's explanation for each question and then the question, both in *italics*. These responses are also supported by Attachments 1-3. This includes:

- **Attachment 1**: EB3C and EB4L Indicative Cut/Fill Plans
- **Attachment 2**: EB3C and EB4L Riparian and Wetland Setback Plans
- **Attachment 3:** EB3C Drill Hole log for DH308

EB3C and EB4L RCs – Groundwater Queries

Explanation

The response to Q2 is not satisfactory. The response states: "Inserted a comment in the report which confirms no effects on dewatering/groundwater diversion on the natural wetlands" – Please specifically point out where in the GWEA report this comment has been added.

The Executive Summary [Terrestrial & Freshwater Ecological Assessment, page 11] states: " Earthworks required to construct EB3C and EB4L are not likely to result in the complete or partial drainage of natural inland wetlands and do not trigger the need for resource consent under Regulation 45 (3) of the NES-FW." Our Q2 stated: "If Natural Inland Wetlands are identified within the site or within 100m of the site, then please apply for a Discretionary Activity Consent for the "Construction of Specified Infrastructure" in accordance with NES:FW 2020 45 (4), supported by an assessment of the effects of dewatering/groundwater diversion on the Natural Wetlands by a suitably qualified Hydrogeologist."

Request

2. *Please confirm why a Discretionary Activity Consent for the "Construction of Specified infrastructure" in accordance with NES:FW 2020 45 (4), supported by an assessment of the effects of dewatering/groundwater diversion on the Natural Wetlands has not been applied for*

Response

NES-FM Regulation 45(4) states the following;

> *"(4) The taking, use, damming, or diversion of water within, or within a 100 m setback from, a natural inland wetland is a discretionary activity if—*
>
> > *(a) the activity is for the purpose of constructing or upgrading specified infrastructure; and*
> >
> > *(b) there is a hydrological connection between the taking, use, damming, or diversion and the wetland; and*
> >
> > *(c) the taking, use, damming, or diversion will change, or is likely to change, the water level range or hydrological function of the wetland."*

As noted in the Groundwater Assessment (Appendix 24), EB3C and EB4L piling works and retaining walls do not require any dewatering or groundwater diversions. Refer to sections 3.3.2 Retaining Walls, section 3.4.3 Piling, and table 1 permitted activity criteria and explanation.

Our s92 response letter dated 2nd November clarified works within 100m of a natural inland wetland and steams. We have attached the plans provided as part of that response (**refer Attachment 2**) which shows works within the 100m wetland setbacks. This will assist with providing context of the proposed works relative to wetlands. We have also reinserted our response to question 20 of the 2nd of November s92 letter (works within 100m of the natural inland wetlands and streams) below:

"Indicative cut and fill plans have been prepared for EB3C and EB4L (refer to Attachment 1). In terms of partial drainage to wetlands or streams, the waterways in Burswood Reserve that have wetlands are in the greater than 100-hectare overland flow path category according to Auckland Council GeoMaps. This is the largest category on GeoMaps and the existing 2-year, 10-year, and 100-year flows (from GeoMaps) for the western stream are 11, 26, and 45 m3/s which increases to 21, 44, and 75 m3/s in the future with climate change (3.8-degree temperature increase). For the eastern stream, the existing 2-year, 10-year, and 100-year flows for the western stream are 15, 32, and 54 m3/s which increases to 26, 53 and 87 m3/s in the future with climate change (3.8-degree temperature increase). Downstream of the confluence of the two streams the existing 2-year, 10-year and 100-year flows are 25, 54 and 94 m3/s which increases to 44, 91 and 152 m3/s in the future with climate change (3.8-degree temperature increase).

The increase in stormwater network discharges will not be measurable based on the existing flows and would be even more insignificant compared to the flow increases the wetlands will experience with future climate change predictions. The project is not noticeably increasing stormwater runoff, rather it is increasing the amount of the flow captured by the stormwater network and reducing the amount of overland flow crossing roads.

Therefore, there isn't a noticeable increase in total flow from the pipe networks and overland flow paths. As such, we consider that the water level range and hydrological functions will remain largely unchanged as a result of the upgrade in stormwater discharge. The underlying character, composition and attributes of the existing wetland habitats will not change from pre-development conditions....."

The Project Groundwater specialist (Liam Connor, EBA Geotechnical Discipline Lead) also provides additional commentary as follows:

*"The attached cut and fill plans (**Attachment 1**) confirm the conditions discussed in section 3.3.3 (Earthworks) of the Groundwater Effects Assessment. 'Except for the Bridge B ground improvements discussed in section 3.3.5, there are two main areas of cut in EB3C. The first is in the Burswood Reserve with a maximum cut of approximately 2.7 m, to align with the road design level. The existing groundwater level at this location is approximately 4 m below ground level (bgl), based on data retrieved from two piezometers in the immediate area of the proposed*

works (EB21_DH326_P and EB21_DH319_P). With one minor correction that the swale drain gets to 3.3mbgl level however it is still above the groundwater levels measured (4 mbgl). On this basis we can confirm there is no dewatering required and no diversion of ground water from natural wetlands is necessary across the busway in this application. This is because all retaining walls are above the groundwater table as measured in various boreholes across the site. Piling also does not need dewatering as the piles will not be dry excavated. It is intended that all piles will be 'wet polymer bored' to increase the pile wall stability during piling and prevent side wall collapse."

We therefore confirm that consent is not required for the project under Regulation 45 (4) of the NES-FM and that section 7 of the AEE accurately summarises the consents sought under Regulation 45(1) and 45(2) of the NES-FM.

Explanation

The GWE report states: "Settlement of the embankment fill is expected to occur during preloading, while the embankment is consolidating. The China Town building is approximately 11 m away at the nearest point to the embankment. The zone of influence around the embankment will be estimated during design phase, and if required a monitoring plan will be implemented"

Request

9. *In addition, we have additional query 9 below: Please provide a plan showing the zone of influence of settlement around the embankment and assess the effects on the China Town Car Park & Building and provide a draft Groundwater Settlement Monitoring and Contingency Plan (GSMCP) to include details and frequency of visual inspections and pre and post construction detailed condition surveys of buildings/structures and public services. If a draft GSMCP, visual inspections and conditions surveys are not considered necessary this should be fully justified. This information is required with the RC Application not at a later date.*

Response

Section 3.3.5 of the Groundwater Effects Assessment (Appendix 24) notes that: "*The soft ground is expected in the coastal marine area where the sediments are softest, and settlement reduces rapidly up the existing slopes. Settlement is not expected in the existing carpark of the Chinatown retail business as this lies on top of basalt which is underlain by stiff Tauranga Group. The embankment fill is greater than 20m away from the existing buildings at the nearest point and no settlement on the existing structure will occur due to the work".*

The Project Groundwater specialist (Liam Connor, EBA Geotechnical Discipline Lead) has provided the following additional commentary:

"At the nearest point to the carpark and building, the proposed embankment is less than 4m thick. The worst-case predictions at this point show that settlement will be nil or negligible beyond 6m from the embankment. The building is 11m away from the embankment, beyond the zone of influence. Further to this, drill hole log for DH308 shows that the carpark between the building and the embankment is underlain by 4m of basalt rock, which is not prone to settlement affects. This confirms that a GSMCP is not necessary."

Please refer to the drill hole log for DH308 (**Attachment 3**)**.**

Set out below is a copy of Figure 11 from the Groundwater Effects Assessment showing the location of DH308:

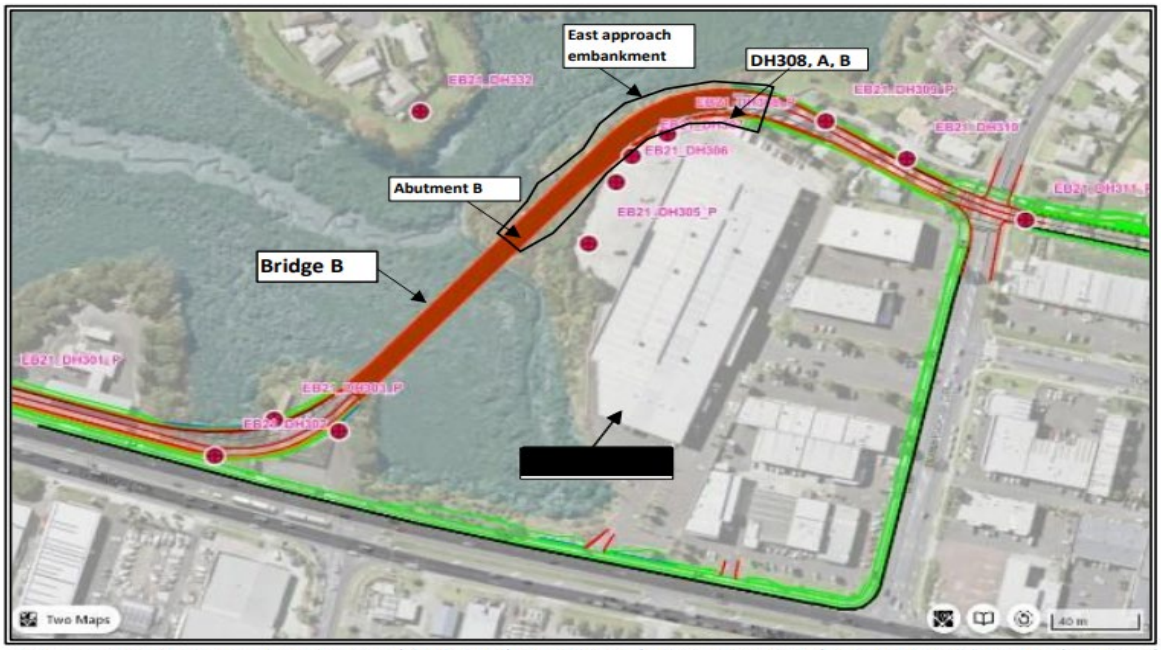

Figure 11: Map showing Bridge B location (shaded red), road design (red and green lines), retaining wall locations (blue lines) and geotechnical borehole investigations (red circle with black cross). Approximate ground improvement area below embankment superstructure is outlined in black. Figure facing north.

Based on the above points and the attached documents, we considers that Council can proceed with the public notification of the EB3C and EB4L resource consents. This is based both on the significant volume of application material previously provided to Council, as well as the additional material provided with this response letter.

We would be happy to meet to answer any questions or queries that either yourself or your specialist team have on the application or supplied material.

Yours sincerely

Matt Zame
Eastern Busway Alliance Director