WAKA KOTAHI
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26 January 2024

Michele Schitko-Saboonchi / Vanessa Leddra
Auckland Council
By email to:
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Dear Michele and Vanessa

Bombay Commercial Vehicle Safety Centre – Response to Section 92 RMA Request for Further Information

Thank you for your request for further information dated 30 November 2023. Our response to the request is attached (WSP Memorandum dated 25 January 2024 and appendices).

All of the information requested in the Council's letter has been provided and no further requests for information have been received. In this case, please can you complete the notification determination and statutory processing to recommend confirmation of the designation and grant of the consents sought.

Proposed designation conditions and draft resource consent conditions were included with lodgement. If Council is proposing any changes to those, please can we review the draft conditions before a decision report is completed.

Yours sincerely

Belinda Petersen
Principal Planner – Poutiaki Taiao / Environmental Planning
Belinda.Petersen@nzta.govt.nz

Attachment: WSP Memorandum dated 26 January 2024 and appendices.

Memorandum

To	Michele Schitko-Saboonchi; Vanessa Leddra
Copy	Belinda Petersen; Graham Taylor; Nitin Sahare; Fariz Rahman; Alisdair Simpson
From	Tina Kalmar
Office	Auckland
Date	26 January 2024
File/Ref	5C4353-WRP-04-MM-PL-1001
Subject	BUN60424934 – Notice of Requirement and regional resource consents for the Bombay CVSC – Responses to the s92 request from Auckland Council

BUN60424934 – Notice of Requirement and resource consents for the Bombay Commercial Vehicle Safety Centre – S92 Responses to Auckland Council

A Notice of Requirement and Resource Consents for the Bombay Commercial Vehicle Safety Centre (CVSC) were lodged with Auckland Council in October 2023. A further information request (RMA S92) was received from Council in November 2023. This Memorandum provides responses to this request for submission to Council.

To be clear, the number of RFIs responses here (70 in total) differ to the 68 listed in the original request from Council. This was due to a numbering error, which has been corrected within this response (from RFI 21).

1. List of Appendices

Table 1 lists the Appendices provided with this response. As a number of drawings have been updated post-lodgement, or new drawings added to provide further information, a Drawing Schedule identifying those that are new or have been amended is provided in Appendix 21.

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Table 1 - Appendices

Appendix No.	Description	New or Updated Report/ Appendix
1	Appendix 1 Visual Simulations	New
2	Appendix 2 Compliance Building Design Plans *[Appendix B.2 in Application]*	Updated
3	Appendix 3 Landscape Plans	Updated. Please refer to **Appendix 21.**
4	Appendix 4 Signage Plans	Updated
5	Appendix 5 Fencing Plans	Updated
6	Appendix 6 Landscape Maintenance and Management Plan	New
7	Appendix 7 Bombay Site Distance Assessment	New
8	Appendix 8 Vehicle Access and Tracking Plans	Updated
9	Appendix 9 Edin Transport Consultants - Technical Review of TIA for Auckland Transport	New
10	Appendix 10 Acoustic Assessment *[Part C- Appendix K in Application]*	Updated
11	Appendix 11 Contaminated Land Review *[Part C - Appendix F in Application]*	Updated
12	Appendix 12 Assessment of Environment Effects *[Part C of Application]*	Updated
13	Appendix 13 Flood Assessment report	Updated
14	Appendix 14 Piezometer Summary	New
15	Appendix 15 Stormwater Drainage Plans	Updated
	Appendix 15 Retaining Wall Detail C-3011	Updated
16	Appendix 16 Geology Section	New
17	Appendix 17 Stormwater Calculations and Supplementary Information (A, B and C)	New
18	Appendix 18 Retaining Wall Details C-3010 *[Part C: Appendix B.1 in Application]*	Updated
19	Appendix 19 Ngakaroa Stream Riparian Margin	New
20	Appendix 20 Access Road Section Views *[Part C – Appendix B.1 in Application]*	Reference copy, as Lodged
21	Appendix 21 Updated Drawings Schedule	New

2. Landscape (NoR)

2.1 Visuals:

RFI 1. Please provide visual montages (with context – landform, buildings, vegetation) from these locations as no visualisations have been provided [only site photos] to visually demonstrate the scale of the proposal (landform modifications, walls, buildings, hard landscape extent, fencing, lighting, signage and planting) as experienced from the intersection of GSR and Mill Road (roundabout), GSR (near 1998), Mill Road (near Lot 3 DP 124783) and Christa Place (representative of the worst case).

Note: The views can be supported by commentary noting any limitations. The views should be supported by a written methodology outlining how the images were prepared/created.

Response:

A visual montage has been prepared from Christa Place only (that is considered to be representative of the worst case), as this was assessed as the critical view point in the Landscape and Visual Assessment. The Visual Simulation document, dated 24 January 2024, is provided in Appendix 1.

Additional cross sections have also been provided on Drawings L-5000 and L-5001 (Appendix 3) to show the vertical and horizontal scale of the proposal in the context of the existing landscape and to indicate how the proposal may be seen from Great South Road (GSR), Mill Road and Christa Place. These are provided in lieu of not including additional montages for views 1, 2 and 3 specified in the RFI, for the following reasons:

- View 1 - intersection of GSR and Mill Road (roundabout): views from this location are transient in nature with an adjacent commercial context of the Z Station. The CVSC platform will be set lower in the landscape when viewed from this direction, with screening planting also provided on the southern boundary (refer Drawing Sheet L-5001 Section A-A) within Appendix 3).
- View 2 - GSR (near 1998): CVSC site frontage planting; and intervening vegetation within the property of 1998 GSR will partially screen views. Views will be seen in the context of existing roading infrastructure (GSR) and built development.
- View 3 - Mill Road (near Lot 3 DP 124783): partial screening is provided by existing vegetation within Lot 3 DP 124783, and there is intervening vegetation and existing farm buildings and large commercial buildings and vehicles between Lot 3 DP 124783 and the CVSC. Planting also provided on the eastern boundary will integrate the site in the landscape and screen views (refer Drawing Sheet L-5001 Section B-B) within Appendix 3).

The visual simulation has been prepared in accordance with NZILA Best Practice Guide - Visual Simulations[1]. Photos taken from this viewpoint provide the basis of the visual photomontage. A full description of the methodology is included in Appendix 1. The viewpoint location selected is situated within the Christa Place road reserve, adjacent to No. 4 Christa Place. A cross-sectional view was already provided with the Application taken from the road reserve adjacent to the No.9 Christa Place private property. Views from the road reserve adjacent to No. 9 Christa Place are limited by intervening structures. The viewpoint location selected for the montage provides a clearer indication of the CVSC site and the surrounding context.

The visualisation provided in Appendix 1 shows the Project's components digitally placed into photo background in proportion to landforms and objects in the same location. The image shows the existing view towards the Project area from a publicly accessible location. This viewpoint is replicated with a simulated view to illustrate the Project with proposed mitigation

[1] NZILA Best Practice Guide - Visual Simulations BPG 10.2

planting for comparison. The visualisation has been created and rendered in an attempt to produce a "realistic" impression and should be treated as artist's impressions only. Vegetation has been shown at an age of approximately 7-10 years.

2.2 In relation to the Landscape and Visual Effects Assessment:

RFI 2. Please confirm whether these properties [3, 4, 5, 6 & 7 Christa Place, 279 Mill Road, Gecko Fibre Glass Repairs (253 Mill Road) and the Z Station] are affected to a minor or less than minor degree as per the guidance within Te Tangi a te Manu in relation to minor effects (in terms of RMA notification consideration), rather than moderate or low-moderate adverse effects.

Response:

Visual effects for these properties equate to Less Than Minor to Minor adverse effects as detailed below and in accordance with the following table[2].

- The adverse visual effects for properties 3, 4, 5, 6 and 7 Christa Place according to Te Tangi a te Manu landscape ratings are considered to be Low to Very Low at the outset reducing to Very Low following mitigation planting establishment. This equates to the RMA notification consideration of Less Than Minor to Minor adverse effects at the outset reducing to Less than Minor adverse effects following mitigation planting establishment.
- The adverse visual effects for 279 Mill Road, Gecko Fibre Glass Repairs (253 Mill Road) and the Z station according to Te Tangi a te Manu landscape ratings are considered to be Low at the outset reducing to Very Low following mitigation planting establishment. This equates to the RMA notification consideration of Less Than Minor to Minor adverse effects at the outset reducing to Less than Minor adverse effects following mitigation planting establishment.

2.3 In relation to the Landscape and Visual Effects Assessment:

RFI 3. In relation to the Landscape and Visual Effects Assessment: Please provide information /comment on whether any alternative solutions were considered to better integrate the northern edge of the site with the existing topography or provision for screening planting within the site. The LVA relies on the existing pine trees to the north which are outside the site and not protected. Should these trees be removed, there is limited screening to the site for residents or those travelling south along Great South Road on site to screen and integrate the high terramesh walls, buildings, fencing and lighting.

Response:

Responding to the first part of RF1 3, the landscape treatment is based on the space available within the site. Space for contouring and rounding of earthworks or benching along the northern edge of the site is constrained and was not possible within the available space between the access road and boundary. Three types of planting have been applied to this orientation –vegetation on the Terramesh wall, a block of native riparian planting on the northern side of the site entry and low shrub planting for the full length of the northern boundary between the Terramesh wall and hard seal edge.

[2] Source: Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022

- The Terramesh wall proposed along this boundary includes both grass cover and planting which will assist with visually softening and integrating the wall in the landscape, when viewed from northern properties and users of Great South Road.
- An area of shrub planting is proposed in the north west corner of the site, immediately adjacent to Great South Road within the area of the stormwater outfall to the Ngakoroa Stream. This planting next to Great South Road will provide strategic screening for the transient views from Great South Road.
- Low planting is shown for the full length of the northern boundary which will provide partial visual screening of hard surfaces and other site features. Larger size planting for screening purposes was considered within the designation along the northern boundary but technical considerations for oversize vehicle movements indicated that this was not feasible. Instead, low planting of under 1 m high that allows for clearance for oversize vehicles accessing the site is shown. Further constraints arose from the wall engineering. The structure of the Terramesh wall is not suitable for large shrubs or trees to be planted on top of the wall, as large root systems were considered a risk to undermine the wall.

Responding to the second part of RFI 3, visual effects have been assessed based on the current environment. The number of residents to the north of the site is limited to more distant viewpoints. A transient viewing population using the Great South Road will have intermittent views that will be partially screened by topography, roadside cuttings and intervening vegetation.

The closest residential property to the north of the Project site is located in the north east corner of 1998 Great South Road, approximately 100m to the north west of the Project site. In addition to the screening provided by the pine trees along the Ngakoroa Stream, existing established tree planting along the eastern boundary of this property, along with intervening berm embankments along Great South Road provide partial screening of the Project site.

The next closest residential property at 1988 Great South Road is located approximately 200m to the north west of the site. Dotted shrubby vegetation along Great South Road and intervening landform provide partial screening from this view, in addition to the pine trees along the Ngakoroa Stream.

The remaining northern residential properties are more distant, where the site will form a much smaller component in the overall vista, and where there is intervening vegetation, landform and in some instances, buildings that would provide partial screening of the site. These more distant northern views would also be seen in the context of development occurring in the wider landscape along Great South Road and west of SH 1.

In the event that pine trees were to be removed at some time in the future, there is intervening vegetation within the riparian margins and proposed planting at the CVSC site, which will continue to grow and assist with screening.

Overall, for the reasons outlined above, the proposed planting will be a 'second line of defence' if the pine trees were to be removed. The proposed planting provides mitigation that aligns with many of the relevant AUP objectives and policies (i.e., Chapter H19) which aim to mitigate effects on landscape and rural amenity values.

2.4 Clarification.

RFI 4. Please update the drawings as per the recommendations of the LVA. Clarification is needed as these drawings are directly referred to in the condition set and no condition regarding final material/colour and light reflective values is proposed to confirm the finish prior to construction.

Figure 3 in the LVA shows a blue, grey, and green clad Compliance building. However, the drawing set illustrates a yellow/orange element and in the LVA it indicates that all cladding

should be visually recessive with a light reflectance value no more than 40% and a non-bright colour.

Response:

The drawing set has been updated in accordance with the landscape mitigation requirement for visually recessive colours with a reflectivity value of less than 40%. The compliance building previously in yellow has been replaced with green/olive. Refer to drawing 5C4353-54-SK-AB-1001 in Appendix 2.

2.5 Clarification:

RFI 5. Clarification. Please confirm the maximum height of the terramesh walls. The LVA and AEE note that the terramesh walls are to have a maximum height of 3.7m and 1.8m high. However, the detail drawings (page C-3011 (Rev 0A)) annotate the walls as having a maximum height of 4.2m and 2.5m high. An additional 500mm and 700mm on top of already high walls and fencing is a significant structure to mitigate the effects of the increase in height from 1.8m – 2.5m and 3.7m – 4.2m may impact on the assessment undertaken in the LVA or the planting required for mitigation.

Response:

The maximum height of the Terramesh walls is confirmed as 1.8m (northern boundary wall) (as shown on Drawing C-3005 Rev 0A) and 3.7m (southern boundary wall) (as shown on Drawing C-3006 Rev 0A). Please refer to the cross sections in the General Arrangement Plans submitted with the application (Appendix B.1) sheets C-3005 and C-3006.

2.6 Clarification:

RFI 6. Please confirm the treatment of the walls. The LVA notes that the terramesh walls will be filled with topsoil and grass seeded. However, the landscape plans (drawings L-2000 and L-3000) note *muehlenbeckia complexa* to be planted.

Response:

As the face of the wall will be visible from Great South Road and as the growing conditions may be difficult, we are proposing both planting and grassing to maximise the chance of successful sustainable vegetation establishment and a green cover to reduce visual effects. Consequently, the Terramesh walls will be both planted with *muehlenbeckia complexa* and grassed from the outset.

2.7 Clarification:

RFI 7. Please provide a detailed plan and cross-section illustrating how the proposed planting will be implemented. Confirm whether any alternatives were considered for the underplanting. The landscape plan illustrates *pittosporum tenuifolium* at 45L planted along the southern and eastern boundary, it also labels the area 'Planting Mix 6' which consists of *pittosporum tenuifolium* at 5L along the same boundaries.

Response:

Detailed landscape plans have been provided as part of the General Arrangement plans L-1000 to L-5001. Two additional cross sections have been prepared at a larger scale showing the landscape planting treatment along the southern and eastern boundaries, provided as Appendix 3. The original concept in the Application plans was to provide an immediate visual screen with the use of large grades while addressing possible plant losses with the use of small grades of the same species. This concept has been updated in the s92 response with proposed planting providing greater plant diversity and that follows a more traditional approach with the underplanting. *Pittosporum tenuifolium* at 45L grades will still be planted along the southern and eastern boundary. However, the underplanting (Planting Mix 6) has

been updated to replace *pittosporum tenuifolium* at 5L with *Phormium cookianum* 'Green Dwarf', which will have the advantage of screening from ground level (L-3000).

2.8 Clarification:

RFI 8. Please provide a plan, sections and images indicating the location, type, design, and dimensions of signage, including whether signage is located to the road, elevated, or lit (internally or externally).

Response:

Refer to attached plans Drawings C-7010 and C-7011, provided in Appendix 4 of this response. Internal signage (within the CVSC) will be illuminated by overhead lighting (on poles). Directional signage located to the road (GSR) will also be lit by proposed overhead street lighting on approach to the CVSC. Signage along Great South Road will be fixed on posts (single or dual) and will be elevated for visibility from traffic and in accordance with the relevant roading standards.

2.9 Clarification:

RFI 9. Please confirm the finished appearance of the inspection shed, is this anticipated to be painted a recessive colour or left silver?

Response:

It is proposed that the inspection shed is painted in a recessive colour, in accordance with the landscape mitigation recommendation as follows:

- Use of recessive, low reflective colours (a reflectivity value of less than 40%) and material finishes for buildings and structures (including site security fencing) to minimise their visibility in the landscape. Avoid visually conspicuous and bright colours.

It is noted that the typical detail for the compliance building includes Resene 'Celebrate' on the Stria cladding which is a bright yellow. This has been updated with a darker, recessive colour. The new proposed colour for the compliance building is shown in Appendix 2.

2.10 Clarification:

RFI 10. Please provide [example/guide] images of the proposed fence types and gates. Please also clarify how the fencing will be implemented within the wetland extent and whether this will result in any adverse impacts on the health of the wetland (e.g., footings for the fence?).

Response:

Refer to attached plans, Drawings C-8000 – C-8002 in Appendix 5. The fencing proposed within the wetland extent was a typical post and wire farm fence. Further consideration of post placement through the wetland has resulted in the decision to remove this fencing. The tie-in to the existing farm fence provides adequate protection from stock. It appears stock do not graze the area adjacent to the wetland.

2.11 Clarification:

RFI 11. Please provide a landscape maintenance and management plan (report) demonstrating how the proposed planting will be implemented and maintained for the life of the activity of the site. This is requested as the planting is being relied upon to minimise effects on surrounding properties / visual amenity effects on residents.

Response:

A Landscape maintenance and management plan is provided (refer to Appendix 6). Best practice objectives for this project are to provide for successful and sustainable establishment and plant coverage at the end of the maintenance period (five years for this type of project). The maintenance and management plan covers this establishment period. P39 (Waka Kotahi standard specification document) has been used for the structure of the management plan.

3. Transport (NOR)

3.1 Trip Generation

RFI 12. Trip Generation. Provide an assessment of forecast future motorway volumes taking into account the improvements to the motorway and forecast development (locally and regionally).

Reason for request - TIA Section 4.1 - Traffic data has been used from 2019 to estimate the number of HCV trips that may occur. Current and planned improvements to the motorway network plus development in the area (Drury, Papakura) may increase traffic volumes on the motorway. Increased volumes on the motorway could be expected with development in the local area as well as in the wider regions. Therefore, the number of HCVs may be underestimated by using the 2019 data.

Response:

The intersection modelling data collection and analysis were conducted by third-party entities, namely GHD and Aurecon. The assumption regarding truck movements relied on the Average Annual Daily Traffic (AADT) data from 2019, as it exhibited the highest volume within the 2016-2020 timeframe.

To ensure a precise estimation of trip generation in TIA, WSP conducted a reassessment of AADT from NZTA between 2016 and 2023 (refer to Table 1 below). Upon analysing the AADT figures on SH1, it was noted that the AADT in 2019 stood out as the highest among these years, predating the onset of the Covid period. This observation suggests that data from 2019 may accurately represent the traffic scenario.

Table 1 - Average Annual Daily Traffic 2016 - 2023

AADT	2016	2017	2018	2019	2020	2021	2022
Bombay - Telemetry Site 72 - NB	22720	23554	24295	24657	21551	20295	24342
Bombay - Telemetry Site 72 - SB	20532	22156	23763	24372	21530	20191	23647
Total	43252	45710	48058	49029	43081	40487	47989

The Heavy Vehicle (HV) rate on SH1 has experienced an increase, rising from 12.1% to 13.9% since 2021 based on the Mobile Road website. Utilizing this updated rate of 13.9% and employing the same methodology as outlined in the TIA report, it is anticipated that up to 17 vehicles will be directed to the CVSC during the peak hour (50,000 x 10% x 13.9% x 2.5%). It is not much different compared to the trip generation of 15 vehicles in the report, and this increase does not alter the assessment of effects in the TIA.

3.2 Traffic Count Data

RFI 13. Traffic Count Data. Provide evidence that the February 2021 traffic count volumes are representative of typical flows and were not affected by COVID19.

Reason for request - TIA Section 6.1.1 states that traffic modelling is based on a traffic count in February 2021. These traffic counts may have been affected by COVID19 and therefore may not be representative of typical conditions pre or post-COVID19. If the counted traffic volumes are lower than typical traffic volumes, this would make the modelling more favourable.

[3] The AADT for the year 2023 is currently unavailable.

Response:

The traffic volume count utilized for intersection modelling was collected by GHD and made available to Aurecon in February 2021. While the GHD Memorandum does not specify the exact date of the traffic count, we can ascertain that it predates March 2020, given the Memo's completion date of 8 March 2020. Consequently, we are confident that the data collected before March 2020 accurately reflects the typical traffic conditions, especially considering that the initial onset of the COVID-19 pandemic in New Zealand occurred towards the end of March 2020.

3.3 Traffic Count Data

RFI 14. Traffic Count Data. Provide clarification as to what traffic volumes have been used in the assessment (the February 2021 count or earlier traffic counts undertaken for the March 2020 GHD modelling memo). If the original volumes in the GHD memo have been utilised, provide comment on a comparison of the GDH volumes and the February 2021 traffic volumes.

Reason for request - TIA Section 6.1.1 states that traffic counts undertaken in February 2021 were used for the traffic modelling. The date of the traffic modelling report that was used as the basis of the traffic modelling assessment prepared by GHD is dated 8 March 2020. A check of the traffic volumes in the GHD memo against the traffic modelling outputs in the body of the report indicate that the traffic volumes are the same (taking into account the peak hour factor).

Response:

As mentioned in the response to RFI 13, it has been confirmed that GHD gathered the traffic volume count for the intersection modelling before March 2020. Aurecon conducted intersection model sensitivity tests in February 2021 using the available data and assumptions regarding new traffic volume generation.

3.4 Traffic Modelling

RFI 15. Traffic Modelling. Provide evidence that demonstrates that the base traffic model for the SH1 interchange, including the Great South Road / Mill Road roundabout is calibrated and represents actual operating conditions.

Reason for request - TIA Section 6.1.2 states that a full calibration/validation exercise of the base model has not been undertaken. Therefore, it is not clear if the model is representative of actual conditions at the intersections including the extent of queuing and delays. Without calibration/validation of the models, there is uncertainty around the validity of the assessment of effects of the proposed CVSC. For instance, the base model results show that queues are contained on the southbound off-ramp and do not block back to the motorway. However, the GHD traffic modelling memo in the Appendices to the TIA states that "during the evening peak long queues are forming on the ramp extending to the motorway network". Site observations also show that queues on the southbound off-ramp blocked back onto the motorway for a period of time during the afternoon peak period. Observations also showed that two lanes of queues formed on the ramp even though only one lane is marked for most of its length. Therefore, there is concern that the modelling does not accurately reflect the operation of the intersections, particularly the SH1 southbound off-ramp.

Response:

The intersection modelling was carried out by a third party, specifically GHD and Aurecon, as WSP does not currently have access to the models but have been able to utilise the results of the modelling and rechecked the analysis. WSP is satisfied that the modelling undertaken is sufficiently robust to support the NOR process.

3.5 Traffic Modelling

RFI 16. Traffic Modelling. Update the modelling to include the correct number of inbound trucks (8) at the northbound off-ramp and to include outbound trucks from the CVSC site. Provide an assessment of the operation of the SH1 interchange including the Great South Road / Mill Road roundabout with the revised modelling.

Reason for request - TIA Section 6.1.2 states that the modelling has only considered inbound CVSC traffic. This is likely to underrepresent the traffic associated with the site as trucks will be both entering and leaving the site. The commentary in the TIA states that the site would accommodate up to 6 vehicles at any one time. Therefore, trucks would need to vacate the site to allow for additional trucks to enter. TIA Section 6.1.5 states that eight HCV are added to each ramp. However, only six have been added in the model; no outbound vehicles have been included in the model. Furthermore, the model results show that the northbound off-ramp is very sensitive to changes in traffic volumes. Therefore, the effects may be underestimated as the development traffic is less than forecast.

Response:

As per RFI 15, the intersection modelling was carried out by a third party, specifically GHD and Aurecon, as WSP does not currently have access to the models but have been able to utilise the results of the modelling and rechecked the analysis. HCV volumes were updated in accordance with RFI 12 above, anticipating that the intersection will be signalised in the near future (planned for 2024).

The CVSC has the capacity to simultaneously accommodate a maximum of eight trucks with trailers, each extending up to 23 metres in length, including two vehicles on the weigh bridge or parked within the off-load area.

3.6 Traffic Modelling

RFI 17. Traffic Modelling. Provide evidence to demonstrate that 3 minutes is an appropriate measure for the maximum time for motorists to wait before entering the intersection.

Reason for request - TIA Section 6.1.3 states that the delay should not be too long (i.e. no more than 3 minutes). It is not clear where this 3-minute limit has been derived. Some motorists may become impatient for less than this period and thus make unsafe movements or enter the intersection using smaller than desirable gaps in opposing traffic, resulting in safety risks. It is noted from site observations that some motorists at the height of the evening peak already wait in excess of 3 minutes.

Response:

Key performance indicators for evaluating the intersection's performance encompass the Level of Service (LOS), Degree of Saturation (DoS) and Average Delay. In the modelling analysis, refer to Figure 1 below, the cycle time of 180 seconds was set up in the signalised intersection models as a network practical cycle time. The mentioned 3 minutes in the report serves as an illustrative example of network cycle time rather than a decisive trigger indicator.

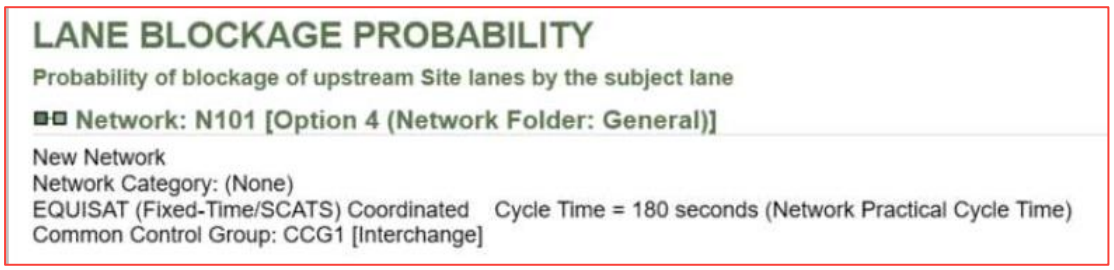

Figure 1 Key Performance Indicators

3.7 Traffic Modelling

RFI 18. Traffic Modelling. Provide an assessment of the safety and operational effects of the long delay times for the right turn movement from the northbound off-ramp with the addition of CVSC traffic, including any mitigation proposed to manage potential safety or operational effects.

Note: The assessment should consider the situation before any anticipated upgrades to the intersection proposed by Waka Kotahi and the operation of the intersection post upgrade.

Reason for request - TIA Sections 6.1.4 and 6.1.5 present the results of the traffic modelling without and with the CVSC. For the northbound off-ramp, the delays anticipated for the right turn movement are forecast to double from 117 seconds to 235 seconds (i.e., approximately 2 minutes to 4 minutes). This delay will result in wait times significantly exceeding the 3-minute wait time referenced in TIA Section 6.1.3. As highlighted in the TIA this poses a safety risk as motorists can become impatient; this is particularly of concern given that the CVSC will increase the number of HCVs on the ramp.

These vehicles will be long vehicles and will require a long time to turn across the intersection as they would be doing so from a stop and at slow speed; this is highlighted in TIA Section 6.7.1.

Response:

The TIA has considered both scenarios with upgrades to the intersection, including signalisation and a scenario without signalisation. The interchange will be upgraded to a signalised intersection in 2024, which has now been confirmed with NZTA. In addition, other anticipated interim upgrades include turning bays along Mill Road for eastbound traffic to merge from the commercial precinct, providing mitigation for HCVs making the right turn movement. Consequently, it will improve the safety of right-turn movements on the northbound off-ramp.

The operational effects of the CVSC assessment, described below, focusses on the scenario of an upgraded signalised intersection.

TIA Section 6.1.7 presents the results for the signalised northbound off-ramp, which indicates that without additional CVSC traffic volume, a heavy delay will occur on the right turn lane on the northbound off-ramp with a queue length of 142m. It is expected that additional CVSC traffic (7-8 HCV vehicles) will contribute an additional length of 150m to this queue. Given the distance of 320m from the Stop Lane of the northbound off-ramp to the SH1 traffic lane, the queue length of 290m will be accommodated within the off-ramp and will not affect the SH1 traffic lane.

It is noteworthy that the queue length of 290m is an assumption of the worst-case scenario.

NZTA manages the state highway network, and with Auckland Transport (AT), through the Auckland Transport Operation Centre (ATOC), monitor conditions on the roading network. If there is a problem on the network, the operating system for the CVSC will be adjusted to manage the number of trucks being diverted to the site. There is a well established network management system in place, led by the requiring authority and applicant for these consents.

Therefore, the CVSC operational effects at the northbound off-ramp can be managed such that effects will be less than minor.

3.8 Traffic Modelling

RFI 19. Traffic Modelling. Provide summary SIDRA Lane and Movement outputs for the signalised arrangements at the northbound and southbound off-ramps in scenarios with and without CVSC development traffic.

Reason for request - TIA Sections 6.1.7 and 6.1.8 describe the modelling results with the northbound and southbound off-ramps signalised. However, no summary model output is provided in the main body of the report or in the appendices to the report. To be able to review and assess the effects of the CVSC on the signalisation of the interchange, summary model output should be provided for both signalised off-ramps, both with and without CVSC development traffic.

Response:

The intersection modelling was completed by Aurecon and provided a summary of the SIDRA modelling outputs for the signalised arrangements at the northbound and southbound off-ramps in scenarios without CVSC development traffic only, as shown below in Table 2 and Table 3.

As mentioned in RFI 18, the number of vehicles to the CSVC can be managed by the operator of the site, particularly during the general peak hour between 17:00 and 18:00.

Consequently, during the general peak hour, the volume of additional HCV traffic generated by the CVSC is expected to be low, which will not affect the model result.

Table 2 - Signalising Northbound Off-Ramp results (PM peak)

	Approach Road	NB Off-Ramp		Approach	Mill Road Westbound		Approach	Mill Road Eastbound		Approach
	Turn Movement	Left Turn	Right Turn		Through	Right Turn		Left Turn	Through	
Bombay I/C West	DOS	0.389	* 1.446	1.446	0.508	* 0.077	0.508	0.202	* 1.533	1.533
	Avg Delay (s)	7.3	458.2	107.2	2.4	23.9	3.3	4.4	530.4	345.7
	LOS	LOS A	LOS F	LOS F	LOS A	LOS A	LOS A	LOS A	LOS F	LOS F
	95% Queue Length (m)	11	142.2	142.2	10.4	7.2	10.4	0	81.6	81.6

Table 3 -Signalising Southbound off-ramp results (PM Peak)

	Approach Road	Mill Road Westbound	Approach	SB Off-Ramp		Approach	Mill Road Eastbound	Approach
	Turn Movement	Through		Left Turn	Right Turn		Through	
Bombay I/C East	DOS	0.322	0.322	0.108	0.97	0.97	0.691	0.691
	Avg Delay (s)	24.7	24.7	11.7	76.4	63.9	9.3	9.3
	LOS	LOS A	LOS A	LOS A	LOS E	LOS E	LOS B	LOS B
	95% Queue Length (m)	60.8	60.8	9.4	265.6	265.6	60	60

3.9 Traffic Effects

RFI 20. Traffic Effects. Provide details of mitigation that will be provided to address the increased safety risk with the operation of the CSVC with additional HCVs turning right at the SH1 northbound on/off-ramp should the CSVC be:

- implemented prior to the possible signalisation of the interchange, or should the interchange upgrade not occur, or the upgrade takes a different form that does not mitigate the safety risk identified in the TIA.

Reason for request - TIA Section 6.7.1 highlights that mitigation is required for the increased number of right turning HCVs at the Mill Road / SH1 northbound off-ramp. However, no specific measures are proposed other than reliance on Waka Kotahi "considering" the signalisation of the interchange. As there is no committed project at this stage, there is a risk that the safety issue will not be mitigated. Additionally, should the CVSC be operational prior to the signalisation of the interchange, then the safety risk will exist until the upgrade occurs.

Response:

NZTA confirm the intersection will be upgraded to a signalised intersection in 2024. In addition to this, there will be additional measures such as the extra detection loop to monitor traffic conditions at the off-ramps. Please see response to RFI 18.

3.10 Site Operation

RFI 21. (*renumbered from '19' in original request from this point on*) Site Operation. Provide details of directional signage to the site from the motorway to direct truck drivers diverted from the motorway to the site.

Reason for request - TIA Section 6.5 provides details of signage internal to the site. No details of signage external to the site are provided. As truck drivers will have been directed from the motorway and may be unfamiliar with the area and location of the CVSC, it may not be apparent to truck drivers as to the location of the site. Without signage, this could confuse some drivers which could leave to safety issues.

Response:

Refer to attached plans Drawings C-7010 and C-7011, provided in Appendix 4. There will be directional signage along the state highway corridor including the responsive electronic messaging to direct HCVs to the CVSC, as necessary. Signage will also be located to the road (Great South Road) on approach to the CVSC from the Mill Road roundabout.

3.11 Car Parking

RFI 22. Car parking. Provide an assessment of the effects of displaced on-street parking from Great South Road due to the proposed NSAAT parking restrictions, particularly in relation to events at the temple.

Reason for request - TIA Section 6.6 states that there is on-street parking associated with the temple during events. The proposed NSAAT would remove parking from Great South Road.

Response:

The temple representatives have advised that the maximum number of guests for a wedding event would be 200, and the venue contains more than 90 available parking spaces. They also advised that since wedding events at the temple are pre-arranged, attendees typically travel together, with an estimated average of 2.5 people per vehicle. Considering the AUP Chapter E27 Transport provisions and parking standards (subject to Plan Change 79 (PC79) amendments), the theoretical minimum parking requirement (demand) is calculated to be 80

spaces. Consequently, the existing 90 parking spaces adequately meet the needs of the event arrangements and removing on-street parking will not affect the event operation at the temple.

It is noted however, that the minimum number of carparks requirements in the AUP were removed in response to the National Policy Statement: Urban Development[4] (through PC 79) and as such the removals of on-street parking are considered only as part of a wider effects assessment of local traffic impacts, rather than being standards to be met by the proposal.

3.12 Construction Traffic Effects

RFI 23. Construction Traffic Effects. Provide an assessment of the anticipated volume of construction vehicles (including HCVs), the effects on the operation of the interchange and any mitigation required to address adverse effects on the transport network.

Reason for request - TIA Section 6.9 – Construction traffic. There is no assessment of the volume of construction traffic expected from the site. As highlighted by the traffic modelling, even with moderate numbers of HCVs there is an effect on the operation of the interchange. Therefore, construction traffic may have an adverse effect which could require mitigation which has not been identified in the assessment.

Response:

Construction of the CVSC is anticipated to occur for 12 months. As noted in the application, given the site constraints and size of the construction site, typically 6-wheeler trucks with a capacity to cart about 10 tonnes will be used for the project. During this period, about 35,000 tonnes of earth will be required to be transported off-site. Assuming in an hour, the site can be worked by two excavators loading 4 truckloads of material to cart off-site, this equates to a movement of 8 trips in an hour over 20 weeks, including 4 movements to and 4 movements from the site, respectively. These levels of truck traffic can be accommodated on the interchange transport network with little effect.

In the second phase of the construction period, the engineered fill (approximately 3,500 tonnes) will be transported to the site with the other construction activities in progress, it is anticipated only 2 trucks per hour (or 4 trips per hour) to transport the engineered fill to site over 4 weeks. These levels of truck traffic can be accommodated on the interchange transport network with little or no effect.

Given the above, the impact of construction traffic is considered to be less than minor. Temporary Traffic Management Plans will be prepared by the contractor in accordance with the NZTA Code of practice for Temporary Traffic Management, prior to the commencement of construction works. These management plans would be based on the actual construction methodology to be implemented rather than a hypothetical one and enable the best on the ground solution to be worked through with the contractor. The methods of temporary traffic management will be guided by the applicable road level classification which is reflective of a road's intensity of use and associated risk (I.e. ability to undertake construction truck movements during off-peak periods).

The local roads will be operational during the construction period, except if there is a specific requirement for short term closures to ensure works can be undertaken safely. Such closures will occur overnight, when traffic volumes are low on both the state highway and local road network, minimising disruption for road users.

3.13 Operational Plan

RFI 24. Operational Plan. Provide a copy of the recommended Operational Plan as referenced in Section 7.1 of the TIA.

[4] Proposed Plan Change 79 – Transport (PPC79) to the Auckland Unitary Plan Operative in part Section 32 – Evaluation Report August 2022

Reason for request - TIA Section 7.1 refers to an Operational Plan for the CVSC. Such a plan has not been provided.

Response:

An operational plan is not needed for the NOR process, and the AEE and this s92 response provides sufficient operational detail to understand the nature of the site and to assess the relevant RMA effects of the project. For these reasons, an Operational Plan is not provided with this response.

3.14 Vehicle Access:

RFI 25. Provide an assessment of visibility for the:

- Vehicle crossing at the site entry
- Vehicle crossing at the site exit
- Realigned vehicle crossing along the northern boundary of the CVSC site

Note: The assessment should be provided for the driver's eye height for both cars and trucks.

Reason for request - ITA Section 6.3.4 provides details of the assessment of visibility at the site access. The report states the available sight distance that is available. However, it is not clear where this measurement has been taken from, i.e., whether it is from the site entry or exit. The entry and exits are some 35 to 40m apart, and therefore, the available visibility will differ to the north along Great South Road between the entry and exits due to the vertical and horizontal alignment of Great South Road.

Furthermore, the existing vehicle access along the northern boundary of the CVSC is to be realigned to the north which will affect visibility at this vehicle crossing.

The ITA does not state whether the visibility has been assessed for the driver's eye height of car drivers, truck drivers or both. From the assessment provided, there is uncertainty as to whether there is appropriate visibility at both the site entry and exit points, and at the realigned existing vehicle crossing.

Response:

WSP has undertaken both a desktop and site visit analysis to inform the site distance assessment. Supporting evidence to the findings within the TIA is provided in the Site Distance Assessment (SISD) as part of this response, provided in Appendix 7. In summary, the assessment finds sight distance availability is well in excess of minimum requirements.

3.15 Vehicle Access

RFI 26. Vehicle Access. Review the width of the vehicle crossings at the site boundary taking into account the vehicle tracking, opportunities to reroute vehicles using the off-load area around the site and allowing oversized vehicles to overhang berm areas (which is already shown in the tracking drawings at some locations within the site and at the site boundary).

Reason for request: The vehicle crossings are particularly wide. Examination of the vehicle tracking indicates that the widths provided appear to be generous for the tracking shown and that there appear to be opportunities to reduce the width of the vehicle crossings at the site boundaries through modifying the routeing of trucks using the off-load area through the site or allowing the wide load to overhang berms.

Response:

We have reviewed the vehicle tracking and vehicle movements on site and have been able to reduce the clear opening for the entrance and the exit to the site. The new entrance width is now 13.5m and the exit width is 12.0m wide as shown on sheet C-2001 in Appendix 8. Any further reduction is limited by the size of the vehicles and the range of various manoeuvres

that might need to happen for the site operation to be successful. We believe that we have been able to reduce the entrance to the minimum width possible at this point.

3.16 Vehicle Access

RFI 27. Vehicle Access. Provide an assessment of the effect of the proposed right turn bay on the operation of the access into the temple.

Reason for request The right turn bay has been designed as an intersection bay. The bay will affect vehicles turning right into the temple.

Response:

We have returned to the use of a flush median instead of a right turn bay. This change will ensure vehicles from both directions can use the flush median to turn if required.

3.17 Vehicle Access Width

RFI 28. Infringement of AUP standards. Provide an assessment of the infringement E27.6.4.3 of the width of the vehicle crossings at the site boundary against the relevant Restricted Discretionary activity criteria in Chapter E27.

Reason for request: The proposal infringes AUP Standard E27.6.4.3 with regards to the vehicle crossing width at the site boundary which exceeds the maximum width of 9.0m. However, this has not been included in the application as a reason for consent and no assessment has been made against the relevant Restricted Discretionary activity criteria in the AUP.

Response:

Please see above response to RFI 26. The vehicle crossings have been reviewed to reduce widths while also ensuring operational requirements can be met. Further, the Chapter E27 standards are district plan matters and the application applies for consent for regional plan matters only.

3.18 Site Operation

RFI 29. Site Operation. Provide details of how oversized vehicles will be managed when there are already trucks in the inspection bays to prevent trucks from queuing back into the adjacent road reserve.

Reason for request: The oversized vehicle tracking shows that the oversized vehicles straddle a number of inspection bays. If there are trucks already in the bays, this could prevent the vehicle from circulating the site which could in turn result in vehicles queuing back onto the adjacent road reserve.

Response:

The initial step in the truck inspection process involves proceeding to the weigh bridge and subsequently navigating to various bays under the guidance of staff. As illustrated in Figure 2 below, the CVSC has capacity to simultaneously accommodate a maximum of eight trucks with trailers, each extending up to 23 meters in length, including two vehicles on the weigh bridge. As outlined in RFI 12 regarding trip generation, during the peak hour, a maximum of 17 vehicles will visit the CVSC at different intervals, a capacity that can be effectively managed on-site.

The oversized vehicles will also be required to operate with a permit. Therefore, the police and NZTA will know about these oversized vehicles in advance. It is unlikely that a vehicle of that size (10m wide) will be on the road during atypical hours of operation for this site because they usually drive overnight.

Regarding the inspection bays, the bays at the top of the site are likely to be used last. They are there for peak times but will not likely be used as the primary option because they require a circular manoeuvre around the site to enter. It is highly unlikely that a vehicle 10m wide would be on the site at the same time these inspection bays are in use. If this were to happen then the vehicles in the northern inspection bays would have to move to the offload area and allow the oversized vehicle to manoeuvre through the site (and potentially occupy more than one inspection bay). The drivers will be with their trucks during the inspection process and thus will be able to move their trucks quickly upon request.

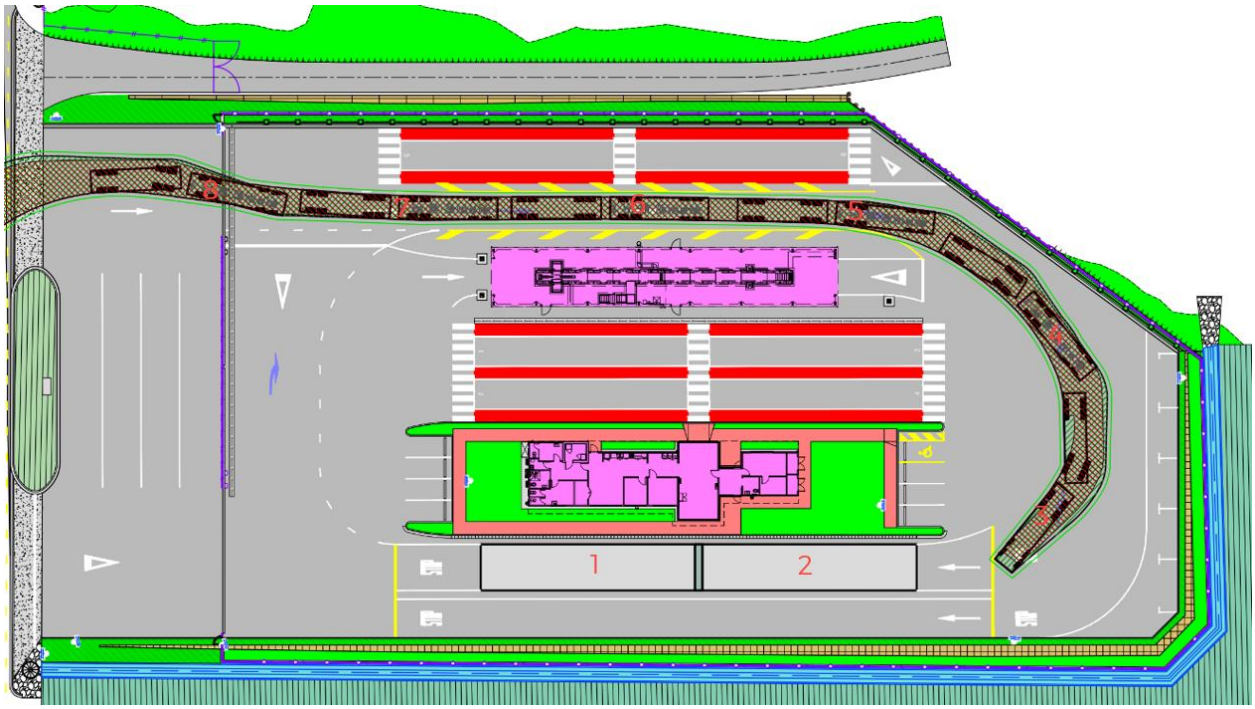

Figure 2 – CVSC Site manoeuvres

3.19 Peer Review

RFI 30. Peer Review. Provide a copy of the peer review undertaken by AT and Edin Transport Consultants as referenced in Section 6.5.3 of the AEE with details as to how the recommendations have been incorporated into the report.

Reason for request AEE Section 6.5.3 refers to a peer review of proposals undertaken by Edin Transport Consultants and AT and states that these comments have been incorporated into the TIA.

Response:

Edin Transport Consultants assisted Auckland Transport in reviewing the Traffic Impact Assessment[5]. A copy of the peer review by Edin is provided in Appendix 9. The key recommendations of the peer review that were incorporated into the TIA (and AEE) are:

- Confirmation of failed inspection processes, outlining temporary use of the off-load facility and no onsite repairs of vehicles; and also confirmation that the automated detection system enables disabling of the VMS if the CVSC is at full capacity at any one time (not reliant on manual staff control).
- Reduction of vehicle crossing widths with suitable tracking to illustrate this.
- Review of the SISD investigation, with a finding in agreement with Edin.

[5] Auckland Transport correspondence, received 18 January 2023

- Road marking changes along Great South Road with subsequent amendment to the right turn bay replaced with a flush median instead as a formal provision for turning movements into the CVSC.
- Review northbound right-turn movement onto Mill Road (safety).

The drawings submitted with the application package, or subsequently amended in accordance with the responses contained in this Memo, reflect these elements.

3.20 Safety

RFI 31. Safety. Provide a copy of the Road Safety Audit Report as referenced in Section 7.2.4 of the AEE, together with any designer's response and Client decisions on the road safety auditors' recommendations.

Reason for request AEE Section 7.2.4 refers to a road safety audit and a recommendation for street lighting along Great South Road. The road safety audit may have provided other recommendations that would need to be incorporated into the design.

Response:

The final Road Safety Audit (RSA) is currently undergoing review and cannot be provided with the s92 response. This is not considered an impediment to Council continuing processing the NOR without it, and it is not needed for the statutory process.

Changes and/or additions to the design response will be recorded in the RSA report within the decision tracking table.

The RSAs to date have considered the Bombay Interchange components (although out of scope of the 'Weigh Right' programme), and the local road network, as part of providing a safe operating environment for the proposed CVSC. This has resulted in a review of directional signage, road marking, and vehicle tracking requirements demonstrated in the application.

The matters covered are road improvement and management issues best addressed through a coordinated response between the roading authorities (NZTA and Auckland Transport).

4. Noise (NOR)

4.1 Clarification:

RFI 32. A brief comment on the existing noise environment is provided but no noise monitoring of existing ambient or background levels has been completed. Noise monitoring of the existing environment is considered appropriate when noise levels are predicted to exceed a reasonable nighttime noise level (i.e., 45 dB LAeq) by up to 6 dB at some neighbouring sites containing dwellings. Accordingly, please advise if noise monitoring will be carried out to assist with assessing the effects of predicted exceedances. You are advised that suitable monitoring is likely to/should comprise a 7-day unattended logger and attended short-term monitoring on at least two or three occasions.

Response:

An updated Acoustic Assessment (Appendix 10) has been provided to Council along with this s92 response to address the clarifications sought in RFIs 33-41 that follow. Key changes to the report being clarifications on properties used for assessment purposes; updated data source for HCV noise based on comparative actual site measurements in the UK; and updated inspection shed plant information.

The acoustic report is based on a sufficient level of understanding of the existing noise environment, without the need to undertake ambient noise monitoring. Ambient noise monitoring is not considered necessary for this site and would be unlikely to change any conclusions in the acoustic report.

4.2 Clarification:

RFI 33. Please advise why typical sound pressure levels are sourced from British Standard BS 5228-1:2009 'Code of practice for noise and vibration control on construction and open sites' when it is reasonable to assume the applicant will have representative sound power and/or sound pressure levels for the NZ truck fleet.

Response:

BS 5228-1:2009 was used initially as its data and methodologies are well-established and accepted within the industry. Nevertheless, the assessment has been revised, using the same methodology (BS5228) but utilising WSP site measurements of heavy goods vehicles undertaken in Australia.

It should be noted that vehicular noise levels can vary between geographies due to differences in road surface treatments, however, at speeds not exceeding 10 km/hr, within the CVSC facility, truck noise will be primarily attributed to engine and exhaust noise, with negligible contribution from tyres. We expect no significant differences in noise levels from engines and exhausts for trucks in comparable conditions between these geographies, and the Australian measurements are representative of those anticipated at the CVSC.

In summary, the measurements were taken under vehicle operating conditions comparable to those that are anticipated to arise at the CVSC (vehicle idling and pulling away), and this does not change the outcomes of the assessment.

4.3 Clarification:

RFI 34. Predicted noise levels assume a total of 5 minutes for idling and/or manoeuvring for each truck (i.e., on-time of 5 minutes over a 30-minute assessment period). Please clarify why 5 minutes was selected and confirm if is it representative of Scenario B particularly when proposal details include 'provisional stacking for five trucks prior to the weigh bridge (approximately 125m of stacking)'.

Response:

WSP initially assumed 15 HCVs per hour during peak periods (including inspection) as per the information in the AEE report, which equates to 4 minutes per vehicle. This has since been updated to 17 HCVs in response to RFI 12 , representing one vehicle every 3.5 minutes. 5 minutes per truck was assumed in the initial WSP assessment allow for potential delays in the inspection process and paperwork completion.

Scenario B in the Acoustic Assessment had initially assumed 8 trucks simultaneously moving/running their engines for 5 minutes in a 30-minute period. Scenario B has now been updated to assume 7 trucks on site concurrently with engines running continuously for the entire 30-minute assessment period. Seven trucks have been assumed on the basis of the 5 vehicle site stacking capacity being fully occupied, one truck driving through the weighbridge and one truck leaving the site. The truck noise measurement used for the assessment is of a single truck pulling away.

WSP is satisfied that Scenario B is sufficiently conservative to account for worst case operating conditions, particularly with the proposed signage instructing drivers to switch off vehicles when not required to move.

4.4 Clarification:

RFI 35. Please confirm the predicted noise levels for the dwelling located in the northeast corner of the site at 1998 Great South Road (i.e., temple site) under all three scenarios.

Response:

An updated acoustic assessment including this information has been provided (Appendix 10) along with the s92 response (see RFI 32). Table 5.1 in the assessment has been updated to more clearly identify the temple and the dwelling, and the noise levels for both, under each scenario. There are no changes to the outcomes of the assessment, with a minor exceedance (up to 2dB) under Scenario C for the dwelling.

4.5 Clarification: (36)

RFI 36 Regarding Table 5.1, please identify the physical address for 'Great South Road' where exceedances are predicted for Scenario B and Scenario C and advise if these sites contain dwellings.

Response:

This is included in the updated acoustic assessment (see RFI 32) (Appendix 10).

4.6 Clarification:

RFI 37. Please advise the predicted 75 dB LAFmax levels, particularly at all affected sites containing dwellings (e.g., air brake release, audible reverse alarms, impact noise).

Response:

Maximum levels have been calculated based on measurements of HCV air brake release noise (the loudest expected noise source). LAFmax levels at all adjacent properties are provided in Table 5.2 of the updated acoustic assessment (Appendix 10) provided as part of this s92 response.

4.7 Clarification:

RFI 38. Please clarify if noise from truck unloading /loading located in the designated Off-Load Area is included in the predicted noise levels.

Response:

A single diesel forklift operating in the off-load area is included in our analysis. It has been assumed that the engines of trucks would be off while in the designated off-load area.

4.8 Clarification:

RFI 39. Please clarify if noise from any mechanical equipment located inside the Inspection Shed is expected to contribute to predicted noise levels (e.g., roller brake machine).

Response:

The noise generated by the roller brake machine is anticipated to be comparable to that of an accelerating truck. The Inspection Shed will be enclosed on two sides, with the exception of the entry and exit doors. Assuming 0.55mm thick sheet metal for the shed construction, noise emissions will be attenuated by the shed's walls and roof. The presence of trucks in the queue (Scenario B) will further contribute to mitigation of noise (e.g. from the entry or exit openings) at receivers.

Based on the above considerations, it is concluded that the noise contribution from mechanical equipment, such as a roller brake machine, will not significantly impact the predicted noise levels outlined in the updated acoustic report (Appendix 10) provided as part of this s92 response.

4.9 Clarification:

RFI 40. Please clarify if noise from any mechanical equipment located inside the Inspection Shed is expected to contribute to predicted noise levels (e.g. roller brake machine).

Response:

As per the response to RFI 39, as this RFI is a duplicate.

4.10 Clarification:

RFI 41. Please provide comments on whether the site design considered noise emissions and the adoption of the best practicable option to ensure truck noise is minimised as far as practicable (i.e., satisfies s16 RMA).

Response:

Yes, the site design has considered noise emissions and the adoption of the best practicable option to ensure truck noise is minimised in accordance with s16 RMA. The revised assessment confirms that the noise levels at all nearby sensitive receivers will be compliant with the criteria, except for 1998 Great South Road and the parent site, 253 Mill Road, which would be exposed to no more than slight exceedances (≤ 3dB) under Scenario C, therefore, it is considered that mitigation is not required.

4.11 Clarification:

RFI 42. The draft Site Management Plan dated 18 August 2023 does not include any noise controls. Please comment on whether any specific noise management measures are required to ensure noise effects are minimised as far as practicable and/or were included in modelling inputs/assumptions.

Clarification on RFI 42 provided by Council Planner 19 December 2023: As the SMP is specifically for management of contamination and ESC matters only, please summarise the specific noise management and/or mitigation measures which will be adopted to ensure noise effects are minimised as far as practicable and if a specific condition of consent is required to ensure effective implementation.

Response:

Signage advising drivers to turn off engines when stopped will be used to minimise noise emissions. There is ample circulation space, inspection bays and an off-load area for the anticipated volume of HCVs on site at any one time (and this can be restricted) to prevent unnecessary vehicle idling. As no other mitigation measures are necessary, no conditions of consent are proposed.

5. Wastewater disposal (NOR/RC)

5.1 Clarification:

RFI 43. To assess the practicality of the proposed waste water holding tank, please put forward an assessment of the daily wastewater volume generated, the design of the holding tank and how it accords with TP58 chapter 7.8.7. along with a proposed service plan.

Please confirm what wastewater related conditions, if any, are offered as part of the proposal.

Note: The typical approach for wastewater holding tanks is that the applicant is required to have a formal service agreement in place and to submit annual reports documenting pump outs, servicing and documenting that suitable disposal is ongoing. The preferred way of Environmental Monitoring is to have this as conditions of the land use consent and for this LUC to be classified as high risk so that ongoing monitoring can be done.

Response:

Item 1: "Assessment of daily wastewater volume generated"

TP-58 Section 6.3.2, Table 6.2: Domestic Wastewater Flow Allowances – Per Capita, Commercial Flow Allowances for Standard Fixtures, Day Staff, High Water Usage lists 60 L pp/pd. The note relating to this selection states:

"Increased water usage allowances are appropriate where staff activities likely to involve regular cleaning of themselves and/or the facilities e.g. rural food preparation factory. Where staff are likely to use showers, the designer should consider all the activities being undertaken by staff and rates higher than 60litres per person per day may apply."

Due to not knowing the full extent of use of facilities in this premises, a more conservative number of 80 L pp/pd was used in the design.

The staffing numbers indicated by NZTA were an average of 8 staff and a maximum of 12 staff daily. Additionally, an average of five visiting truck drivers was stated per working day (being called into the compliance building facility) with no wider public usage of the facilities. Based on the above figures, the maximum volume is calculated as 1.36m^3 or 1360L daily as below.

	WW Flow $m^3/p/d$	Staff	Drivers	Daily Vol. m^3
Average	0.08	8	5	1.04
Peak	0.08	12	5	1.36

Response:

Item 2: "Design of the holding tank and how it accords with TP58 ch 7.8.7"

While not desirable per TP-58, a holding tank and regular of-site wastewater disposal was considered as the only viable option for this site due to the following two factors:

- There is no reticulated Wastewater service in the area to discharge to
- The constrained nature of the site limits the land available for on-site wastewater discharge. Assessments of different on-site disposal solutions found the available area to be inadequate for servicing this site's wastewater output.

The holding tank selected is an off-the-shelf product supplied by Promax. Per TP-58 (section 7.8.7) requirements, it has capacity for a minimum of 7 days of storage, it will be supplied with an anchor-block restraint system to prevent floatation due to high groundwater when empty, it will have no overflow point. It will also have a high-level alarm to notify site staff when at a

pre-set high-level set-point. Additionally, it has been located in an easy to access location where pump-out can occur without disruption to site operations.

Response:

Item 3: "Proposed service plan"

As per Council's guidance note, *the typical approach for waste water holding tanks is that the applicant is required to have a formal service agreement in place and to submit annual reports documenting pump outs, servicing and documenting that suitable disposal is ongoing*. A formal service agreement is not yet in place. Please see response to 'Item 4' as follows.

Response:

Item 4: "Wastewater related conditions offered as part of the proposal"

As the CVSC will provide for holding tanks only rather than a wastewater treatment system, any formal maintenance requirements can likely be covered in the site operation and maintenance plan that can appropriately handle day to day maintenance of the tanks prior to wastewater collection and off-site disposal. This maintenance is likely to entail checking the manholes periodically for blockages and checking the high level alarm on the holding tank is in working order.

As noted on the Council website, there are many companies in Auckland who service, pump out and repair on-site wastewater systems (including those southern based operators). The companies listed in the table use a standard form for servicing and can provide this form directly to Council on the operator's behalf.

Lastly, as the wastewater storage tanks are permitted under the district land use rules, designation conditions relating to wastewater disposal are not required, and are not proposed.

6. Earthworks

6.1 Clarification:

RFI 44. The proposed Erosion and Sediment Control Plan (Report) by WSP, dated 29 June 2023 does not have a clear GD05 based earthworks ESC methodology. Please describe the proposed earthworks staging/phasing methodology including the type of controls and why relatively low efficiency Silt Fences (~50% efficient) are proposed. Given the sensitive receiving environment, please justify why more efficient Decanting Earth Bunds (~70-80% with flocculation) and or Sediment Retention Ponds (~80-90% with flocculation) are not proposed. I note the 2 x Lamellas shown in the ESCP Drawings; however, the expected use and likely efficiency is not explained.

Response:

The Erosion and Sediment Control Plan (ESCP) submitted provides an indicative plan to assist the Contractor in preparing their own detailed ESCP, staged according to their methodology and incorporating the requirements of Auckland Council's Guideline GD05. The contractor's specific methodology, including phasing, will be part of their detailed E&SCP, submitted to Council for approval.

The basis of the indicative ESCP is that all dirty water is contained within the work site and conveyed via storage to a clarifier unit before being discharged to the environment. Because space within the site may prohibit such mechanisms as decanted settlement ponds, we have nominally included clarifier units with lamella plates which are in use at other sites around Auckland (we believe they are used at CRL sites) . The Contractor may equally nominate alternative treatment units such as the Siltbuster®, also commonly in use in Auckland (presently in Okahu Bay) and approved by Auckland Council. Flocculation may not be appropriate at this site due to the soil types present.

6.2 Clarification:

RFI 45. If the proposed ESCP is to be retained in any form, please ensure that any non-GD05 practices are fully described in a technical report that demonstrates the likely efficiency of the device/s. I note the proposed two ESCP options do not clearly depict how it all works, ie what is the purpose of the Filter Socks?

Note: Whilst the option to condition a Finalised ESCP is available, the indicative plan must be capable of being a final ESCP and any subsequent Finalised ESCP will need to meet the same standard or higher.

Response:

The Contractor will be required to prepare a detailed ESCP compliant with GD05. It is in the Contractor's best interests to ensure that the ESCP they submit is GD05-compliant and acceptable to Council; iterative exchanges of queries and responses are time consuming and therefore costly and contractors are invariably keen to avoid this. We are not in a position to provide an ESCP capable of use as a final ESCP as a Contractor has not been appointed. The Contractor's phasing of the works could affect the treatment devices selected; they may, for example, phase the work so as to allow them to use decant ponds in areas where work is not occurring during a particular phase.

7. Soil contamination

7.1 Clarification:

RFI 46. Council's soil contamination specialist has reviewed the proposal and considers that, based on the information provided, no consent under the NES: CS or E30 is required for the proposed works, for the reasons outlined below. Please confirm whether you concur with the conclusion reached. If yes, please provide an updated AEE that removes reference to consent being triggered for soil contamination and confirms that this aspect of the application is withdrawn.

Comments from soil contamination specialist:

The technical documentation provided in support of the application is quite straight forward and I accept it has been reviewed/released by a suitably qualified and experienced contaminated land practitioner (SQEP), as defined in the Users' Guide to the NES:CS, MfE, 2012.

Unfortunately, I do not concur with the conclusions made in both the AEE and the Site Management Plan (SMP), provided by WSP, stating consents under NES:CS and Chapter E30 of the AUP(OP) are needed for the proposed land-disturbance activity.

Based on the level of contamination within the area proposed to be excavated, the material can generally be considered as 'Cleanfill material', defined in Chapter J of the AUP(OP), with a single exception (Sample SA03, 0.1m-depth) where shallow subsurface soil sample was found to contain arsenic in a concentration of 20mg/kg, in exceedance of the natural background level range of 0.4-12mg/kg, and trace asbestos in concentration of 0.00003%w/w, being 33 times lower than the Soil Guideline Value for asbestos fines & fibres, set out in the Asbestos in Soil Guidelines, BRANZ, 2017.

The soil represented by Sample SA03 does not pose a risk to human health or the environment and therefore does not require any remediation or special management during the works. While the volume of the soil represented by such a sample has not been estimated within the report, based on the soil-profile description within the borelogs provided, it can be assumed that the elevated level of arsenic and trace asbestos is contained within the topsoil layer of approximately 130mm in thickness.

Considering the history of the former land use within the proposed project area, consistency within the soil testing results, very low levels of metals (meeting the natural background levels), geotechnical soil description in the borelogs, soil appearance in the soil pit photographs, the absence of detectable organochlorine/organonitro/organophosphorus pesticides, and the absence of detectable asbestos in any other soil samples tested, the majority of the soil volume to be excavated can be considered as 'Cleanfill material'.

Except for the soil represented by the sample SA03, the majority of the soils within the proposed project area can be considered as 'Land not covered' (Regulation 5(9) of the NES:CS), to which the NES:CS Regulations do not apply. Any excavation, relocation, or disposal of the soil represented by Sample SA03 can likely be undertaken under the Permitted Activity (PA) provisions of Regulation 8(3) of the NES:CS.

Also, the interpretation of the Contaminated Land Rules in Chapter E30 of the AUP(OP) seems to be incorrect, as a Controlled Activity consent is being sought under Rule E30.4.1(A6), while the contamination status of the soil within the proposed project area actually falls within the PA provisions of Rule E30.4.1.(A4), meeting the corresponding Standard E30.6.1.4.

Overall, NO consent under the NES:CS or E30 is required for the proposed works, in my view.

Response:

Following discussions between the specialists post-lodgement, the Site Investigation Report (contaminated land) Review Memorandum has been updated, in support of the conclusion reached by Council. The updated Memo is provided as Appendix 11.

Consequently, the relevant sections of the AEE have also been updated to remove references to the need for consent in relation to triggers for soil contamination and the need for additional site management during construction. WSP confirm that this aspect of the application is withdrawn and the amended AEE (Revision E, dated 09 January 2024) is provided as Appendix 12

8. Flooding (NOR/RC)

8.1 Flood Assessment

RFI 47. Please confirm the details in Table 2. Table 2: Sub-catchment Area Breakdown for Post—development Scenarios has 12.7% imperviousness for subcat 2 for ED+DEV. For MPD+DEV this decreases to 10.9%. How does it decrease? Please amend Table 2 if required and clarify.

Reason for request - *To confirm information in Table 2.*

Response:

An error was recorded for the MPD+DEV case. Table 2 is amended to be 12.7% impervious for Subcatchment 2 for both cases in the updated Flood Assessment provided in Appendix 13. This amendment does not affect the assessment outcomes and effects assessed as being less than minor.

8.2 AEE, pg. 52

RFI 48. AEE, pg. 52 For culvert 2 at Great South Road, Please confirm whether has the assessment considered culvert blockage and the impact of an increase in water levels in the surrounding environment.

Reason for request- *Information needed to better understand the flood effects of the project.*

Response:

No blockage of the culvert was considered. The subject here is the incremental increases in flood levels that would occur as a result of the site development, and the exclusion of any representation of culvert blockages is conservative in this context and would not affect the assessment outcomes.

Without blockages, the resultant lower flood plain levels over the road and accessway result in narrower flood plain widths. When incremental increases in flow rate are applied to narrow flood plains, the increase in flood plain depth is greater than it would be if applied to a wider flood plain.

RFI 49. AEE, pg. 53 In paragraph 2 on page 53 it was stated “However, the assessment finds no flood depth effect with inundation depths such that flood hazard risk are not increased” . Please clarify this sentence.

Reason for request - *Information needed to better understand the flood effects of the project.*

Response:

When read within the context of the AEE, this matter relates to the flood depths at both the accessway and at Great South Road. The flood analysis has demonstrated that it is unnecessary to provide mechanisms such as attenuation to mitigate flood plain effects. The figures supplied are a simple function of flood plain area and additional runoff volume, the depth increases being simply the additional runoff volume divided by the flood plain area. Please see further detail provided in response to RFI 51.

RFI 50. AEE Please provide information on what effects a climate change temperature of 3.8 degrees would be, for the proposed development.

Reason for request - *Information needed to better understand the flood effects of the project*

Response:

TP108 rainfall and a climate change temperature increase of 2.1 degrees by 2090 was used as the basis of analysis and design. This is consistent with the requirements of section 4.2.10 of the Auckland Stormwater Code of Practice version 3, Jan 2022.

RFI 51. AEE, pg. 53 The AEE states that the depth of runoff from the site post-development is changed by 25.8mm for the 100yr EDC case and 27.6mm for the 100y MPD case. Please provide a proposed condition to ensure that the change in runoff will be appropriately managed to ensure the increase in depth of runoff is no more than as stated.

Reason for request - *To ensure the flood effects are as stated in the AEE.*

Response:

The purpose of the analysis provided was to demonstrate that it should not be necessary to provide mechanisms such as attenuation to mitigate the flood plain effects assessed as being less than minor. The figures supplied are a simple function of flood plain area and additional runoff volume, the depth increases being simply the additional runoff volume divided by the flood plain area. Rather than to consider how runoff from the site could be further managed,

WSP suggests consideration of a sensitivity approach: If, for instance, additional Climate Change rainfall were to be 10% greater than allowed for (which is the difference between RCP6.0 2081-2100 and RCP8.5 2081-2100), the flood plain depth increase would increase by the same proportion: 25.8mm becomes 28.4mm, a difference of only 2.6mm. The 27.6mm increment increases by only 2.8mm. So for a 10% increase in rainfall (or runoff), the flood level responses are very small.

RFI 52. AEE, pg. 53 Please provide further assessment of the flood hazards during construction. And if any effects are identified how will the effects be managed and if a condition is required.

Reason for request - *To understand the construction effects related to flooding and how it will be managed.*

Response:

The potential flood hazards during construction are sediment entrained surface run-off and soil erosion that could occur during rainfall events and/or dewatering processes, if land disturbance is not properly managed. The potential effects will be managed through implementation of the site ESCP to ensure effective isolation of the work area from the downstream environment (induced wetland and stream) that are located within a flood plain.

The Contractor will be required to prepare a detailed ESCP, staged according to their methodology and incorporating the requirements of Auckland Council's Guideline GD05, including the design of up-slope clean water diversions (described in section E2.1.1) to convey 5% AEP (20-year) runoff around the site.

RFI 53. AEE Please provide an assessment against the Auckland Water Strategy 2022-2050. Reason for request: *To provide information on whether the proposed NoR will be consistent with the Auckland Water Strategy.*

Response:

The proposed work is consistent with the strategy that seeks to protect and enhance Auckland's water. Two watercourses are relevant, the Ngakoroa Stream tributary (external to the site) and a delineated wetland, partially within the project area. The delineated wetland will be protected (no net loss) and enhanced through wetland and perimeter planting appropriate to its context. This will provide an ecological connection to the Ngakaroa Stream

improving wetland ecological health while providing for resilient infrastructure that has responded through design optioneering to the environmental features of the site and limited its footprint.

Due to a lack of existing infrastructure, water and wastewater management will be off-site with controlled stormwater discharges from the site only. This further protects the receiving environment at this location. The necessary infrastructure is provided within the designation (such as hydrological detention, treatment devices; erosion and sediment control measures) and does not rely upon other existing or council infrastructure.

No water takes are necessary and water service needs will be limited to staff requirements (low) and operational usage as required, with flexibility provided by use of tanks. Some rainwater will also be captured to ensure efficiency of water usage and reduced demand on the potable water supply.

RFI 54. Please advise the rainfall depth/rain fall intensity used to calculate the flow rates. And provide TP108 calculation sheet for volumetric assessment, to enable assessment.

Response:

Please refer to the below summary Table 4 for the rainfall depth used in the modelling.

Table 4 - Rainfall depth summary

	24hr Rainfall depth (mm)		
Event	Current	% inc by 2.1 deg	Future with Climate Change
2yr ARI	70	9.0%	76.3
5yr ARI	110	11.3%	122.43
10yr ARI	130	13.2%	147.16
100yr ARI	210	16.8%	245.28

Refer below for volumetric calculations requested.

100YR Pre Dev ED Case (Pre site development; Existing development in upstream catchment)

		Weighted CN	Pervious	Impervious	Notes			
Channelisation Factor	C	0.8	0.8	0.8	*From Table 4.2 TP108*		Calculate Value (see below)	Use the tables below to calculate the values
Slope	S_c	0.050	0.05	0.05	*From equal area method*		Measured Value	Specific to your study area
Curve Number	CN	61.00	61	98.00	*From TP108*		Self Calculating	Don't change these values
Rainfall depth	P_{24}	210	210	210	*From TP108 Isohytes*	Area (ha) =>	1.04	
Area (km2)	A	0.010	0.010	0.000	*Measured*	% Imperviousness =>	0.00%	
Length	km	0.20	0.20	0.20	*Measured*			
ha								
						% Perviousness =>	100.00%	
Initial Abstraction	Ia	5.00	5.00	0.00	*From Table 3.1 TP108*	Weighted CN =>	61.00	
Soil Storage	S	162.39	162.39	5.18	*From CN*			
Time of Concentration	tc	0.17	0.17	0.17	*uses C, L, CN, S*	**Min of 0.17 from TP108**		
Runoff index	c*	0.38	0.38	0.95	*From P_{24}, Ia, S*			C
Specific peak flow rate	q^*	0.10	0.10	0.17	*From c*, t_c*	**RATIONAL CHECK (10min TC only)**		
						Future Climate? (y/n)	y	
Peak flow rate	q_p	**0.224**	**0.224**	**0.000**	*From A, P_{24}, q^**	Runoff Coefficient	0.80	
Runoff Depth	Q_{24}	114	114	205	*From P_{24}, Ia, S*	10 min Intensity (mm/hr):	145.74	
Runoff Volume	V_{24}	1189	1189	0	*From Q_{24}*	Flow (m3/s):	Area Greater than 1 hectare - Please use TP108 Graphical Method	
			0.224	<= Total Peak Flow				
			1189	<= Total Runoff Volume				

100YR POST Dev ED Case (Post site development; Existing development in upstream catchment)

		Weighted CN	Pervious	Impervious	Notes			
Channelisation Factor	C	0.8	0.8	0.8	*From Table 4.2 TP108*		Calculate Value (see below)	Use the tables below to calculate the values
Slope	S_c	0.050	0.05	0.05	*From equal area method*		Measured Value	Specific to your study area
Curve Number	CN	90.08	61	98.00	*From TP108*		Self Calculating	Don't change these values
Rainfall depth	P_{24}	210	210	210	*From TP108 Isohytes*	Area (ha) =>	1.04	
Area (km2)	A	0.010	0.002	0.008	*Measured*	% Imperviousness =>	78.60%	
Length	km	0.20	0.20	0.20	*Measured*			
ha								
						% Perviousness =>	21.40%	
Initial Abstraction	Ia	1.65	5.00	0.00	*From Table 3.1 TP108*	Weighted CN =>	90.08	
Soil Storage	S	27.96	162.39	5.18	*From CN*			
Time of Concentration	tc	0.17	0.17	0.17	*uses C, L, CN, S*	**Min of 0.17 from TP108**		
Runoff index	c*	0.79	0.38	0.95	*From P_{24}, Ia, S*			C
Specific peak flow rate	q^*	0.16	0.10	0.17	*From c*, t_c*		**RATIONAL CHECK (10min TC only)**	
						Future Climate? (y/n)	y	
Peak flow rate	q_p	**0.346**	**0.048**	**0.284**	*From A, P_{24}, q^**	Runoff Coefficient	0.80	
Runoff Depth	Q_{24}	184	114	205	*From P_{24}, Ia, S*	10 min Intensity (mm/hr):	145.74	
Runoff Volume	V_{24}	1909	254	1674	*From Q_{24}*	Flow (m3/s):	Area Greater than 1 hectare - Please use TP108 Graphical Method	
			0.332	<= Total Peak Flow				
			1928	<= Total Runoff Volume				

10YR Pre Dev ED Case

		Weighted CN	Pervious	Impervious	Notes			
Channelisation Factor	C	0.8	0.8	0.8	*From Table 4.2 TP108*		Calculate Value (see below)	Use the tables below to calculate the values
Slope	S_c	0.050	0.05	0.05	*From equal area method*		Measured Value	Specific to your study area
Curve Number	CN	61.00	61	98.00	*From TP108*		Self Calculating	Don't change these values
Rainfall depth	P_{24}	130	130	130	*From TP108 Isohytes*	Area (ha) =>	1.04	
Area (km2)	A	0.010	0.010	0.000	*Measured*	% Imperviousness =>	0.00%	
Length	km	0.20	0.20	0.20	*Measured*			
ha								
						% Perviousness =>	100.00%	
Initial Abstraction	Ia	5.00	5.00	0.00	*From Table 3.1 TP108*	Weighted CN =>	61.00	
Soil Storage	S	162.39	162.39	5.18	*From CN*			
Time of Concentration	tc	0.17	0.17	0.17	*uses C, L, CN, S*	**Min of 0.17 from TP108**		
Runoff index	c*	0.27	0.27	0.93	*From P_{24}, Ia, S*			C
Specific peak flow rate	q^*	0.08	0.08	0.16	*From c*, t_c*		**RATIONAL CHECK (10min TC only)**	
						Future Climate? (y/n)	y	
Peak flow rate	q_p	**0.101**	**0.101**	**0.000**	*From A, P_{24}, q^**	Runoff Coefficient	0.80	
Runoff Depth	Q_{24}	54	54	125	*From P_{24}, Ia, S*	10 min Intensity (mm/hr):	90.22	
Runoff Volume	V_{24}	565	565	0	*From Q_{24}*	Flow (m3/s):	Area Greater than 1 hectare - Please use TP108 Graphical Method	
			0.101	<= Total Peak Flow				
			565	<= Total Runoff Volume				

10YR Post Dev ED Case

		Weighted CN	Pervious	Impervious	Notes			
Channelisation Factor	C	0.8	0.8	0.8	*From Table 4.2 TP108*		Calculate Value (see below)	Use the tables below to calculate the values
Slope	S_c	0.050	0.05	0.05	*From equal area method*		Measured Value	Specific to your study area
Curve Number	CN	90.08	61	98.00	*From TP108*		Self Calculating	Don't change these values
Rainfall depth	P_{24}	130	130	130	*From TP108 Isohytes*	Area (ha) =>	1.04	
Area (km2)	A	0.010	0.002	0.008	*Measured*	% Imperviousness =>	78.60%	
Length	km	0.20	0.20	0.20	*Measured*			
ha								
						% Perviousness =>	21.40%	
Initial Abstraction	Ia	1.65	5.00	0.00	*From Table 3.1 TP108*	Weighted CN =>	90.08	
Soil Storage	S	27.96	162.39	5.18	*From CN*			
Time of Concentration	tc	0.17	0.17	0.17	*uses C, L, CN, S*	**Min of 0.17 from TP108**		
Runoff index	c*	0.69	0.27	0.93	*From P_{24}, Ia, S*			C
Specific peak flow rate	q^*	0.15	0.08	0.16	*From c*, t_c*		**RATIONAL CHECK (10min TC only)**	
						Future Climate? (y/n)	y	
Peak flow rate	q_p	**0.203**	**0.022**	**0.175**	*From A, P_{24}, q^**	Runoff Coefficient	0.80	
Runoff Depth	Q_{24}	105	54	125	*From P_{24}, Ia, S*	10 min Intensity (mm/hr):	90.22	
Runoff Volume	V_{24}	1095	121	1021	*From Q_{24}*	Flow (m3/s):	Area Greater than 1 hectare - Please use TP108 Graphical Method	
			0.197	<= Total Peak Flow				
			1142	<= Total Runoff Volume				

100YR Pre Dev MPD (Pre site development; Maximum Probable development in upstream catchment)

		Weighted CN	Pervious	Impervious	Notes			
Channelisation Factor	C	0.6	0.6	0.6	*From Table 4.2 TP108*		Calculate Value (see below)	Use the tables below to calculate the values
Slope	S_c	0.050	0.05	0.05	*From equal area method*		Measured Value	Specific to your study area
Curve Number	CN	61.00	61	98.00	*From TP108*		Self Calculating	Don't change these values
Rainfall depth	P_{24}	245	245	245	*From TP108 Isohytes*	Area (ha) =>	1.04	
Area (km2)	A	0.010	0.010	0.000	*Measured*	% Imperviousness =>	0.00%	
Length	km	0.20	0.20	0.20	*Measured*			
ha								
						% Perviousness =>	100.00%	
Initial Abstraction	Ia	5.00	5.00	0.00	*From Table 3.1 TP108*	Weighted CN =>	61.00	
Soil Storage	S	162.39	162.39	5.18	*From CN*			
Time of Concentration	tc	0.17	0.17	0.17	*uses C, L, CN, S*	**Min of 0.17 from TP108**		
Runoff index	c*	0.42	0.42	0.96	*From P_{24}, Ia, S*			
Specific peak flow rate	q^*	0.11	0.11	0.17	*From c*, t_c*		**RATIONAL CHECK (10min TC only)**	
						Future Climate? (y/n)	y	
Peak flow rate	q_p	**0.283**	**0.283**	**0.000**	*From A, P_{24}, q^**	Runoff Coefficient	0.80	
Runoff Depth	Q_{24}	143	143	240	*From P_{24}, Ia, S*	10 min Intensity (mm/hr):	170.22	
Runoff Volume	V_{24}	1491	1491	0	*From Q_{24}*	Flow (m3/s):	Area Greater than 1 hectare - Please use TP108 Graphical Method	
			0.283	<= Total Peak Flow				
			1491	<= Total Runoff Volume				

100YR Post Dev MPD (Post site development; Maximum Probable development in upstream catchment)

		Weighted CN	Pervious	Impervious	Notes			
Channelisation Factor	C	0.6	0.6	0.6	*From Table 4.2 TP108*		Calculate Value (see below)	Use the tables below to calculate the values
Slope	S_c	0.050	0.05	0.05	*From equal area method*		Measured Value	Specific to your study area
Curve Number	CN	90.08	61	98.00	*From TP108*		Self Calculating	Don't change these values
Rainfall depth	P_{24}	245	245	245	*From TP108 Isohytes*	Area (ha) =>	1.04	
Area (km2)	A	0.010	0.002	0.008	*Measured*	% Imperviousness =>	78.60%	
Length	km	0.20	0.20	0.20	*Measured*			
ha								
						% Perviousness =>	21.40%	
Initial Abstraction	Ia	1.65	5.00	0.00	*From Table 3.1 TP108*	Weighted CN =>	90.08	
Soil Storage	S	27.97	162.39	5.18	*From CN*			
Time of Concentration	tc	0.17	0.17	0.17	*uses C, L, CN, S*	**Min of 0.17 from TP108**		
Runoff index	c*	0.81	0.42	0.96	*From P_{24}, Ia, S*			
Specific peak flow rate	q*	0.16	0.11	0.17	*From c*, t_c*		**RATIONAL CHECK (10min TC only)**	
						Future Climate? (y/n)	y	
Peak flow rate	q_p	**0.409**	**0.060**	**0.331**	*From A, P_{24}, q**	Runoff Coefficient	0.80	
Runoff Depth	Q_{24}	219	143	240	*From P_{24}, Ia, S*	10 min Intensity (mm/hr):	170.22	
Runoff Volume	V_{24}	2271	319	1962	*From Q_{24}*	Flow (m3/s):	Area Greater than 1 hectare - Please use TP108 Graphical Method	
			0.392	<= Total Peak Flow				
			2280	<= Total Runoff Volume				

10YR Pre Dev MPD

		Weighted CN	Pervious	Impervious	Notes			
Channelisation Factor	C	0.6	0.6	0.6	*From Table 4.2 TP108*		Calculate Value (see below)	Use the tables below to calculate the values
Slope	S_c	0.050	0.05	0.05	*From equal area method*		Measured Value	Specific to your study area
Curve Number	CN	61.00	61	98.00	*From TP108*		Self Calculating	Don't change these values
Rainfall depth	P_{24}	147	147	147	*From TP108 Isohytes*	Area (ha) =>	1.04	
Area (km2)	A	0.010	0.010	0.000	*Measured*	% Imperviousness =>	0.00%	
Length	km	0.20	0.20	0.20	*Measured*			
ha								
						% Perviousness =>	100.00%	
Initial Abstraction	Ia	5.00	5.00	0.00	*From Table 3.1 TP108*	Weighted CN =>	61.00	
Soil Storage	S	162.39	162.39	5.18	*From CN*			
Time of Concentration	tc	0.17	0.17	0.17	*uses C, L, CN, S*	**Min of 0.17 from TP108**		
Runoff index	c*	0.30	0.30	0.93	*From P_{24}, Ia, S*			C
Specific peak flow rate	q*	0.08	0.08	0.16	*From c*, t_c*		**RATIONAL CHECK (10min TC only)**	
						Future Climate? (y/n)	y	
Peak flow rate	q_p	**0.127**	**0.127**	**0.000**	*From A, P_{24}, q**	Runoff Coefficient	0.80	
Runoff Depth	Q_{24}	66	66	142	*From P_{24}, Ia, S*	10 min Intensity (mm/hr):	102.13	
Runoff Volume	V_{24}	690	690	0	*From Q_{24}*	Flow (m3/s):	Area Greater than 1 hectare - Please use TP108 Graphical Method	
			0.127	<= Total Peak Flow				
			690	<= Total Runoff Volume				

10YR Post Dev MPD

		Weighted CN	Pervious	Impervious	Notes			
Channelisation Factor	C	0.6	0.6	0.6	*From Table 4.2 TP108*		Calculate Value (see below)	Use the tables below to calculate the values
Slope	S_c	0.050	0.05	0.05	*From equal area method*		Measured Value	Specific to your study area
Curve Number	CN	90.08	61	98.00	*From TP108*		Self Calculating	Don't change these values
Rainfall depth	P_{24}	147	147	147	*From TP108 Isohytes*	Area (ha) =>	1.04	
Area (km2)	A	0.010	0.002	0.008	*Measured*	% Imperviousness =>	78.60%	
Length	km	0.20	0.20	0.20	*Measured*			
ha								
						% Perviousness =>	21.40%	
Initial Abstraction	Ia	1.65	5.00	0.00	*From Table 3.1 TP108*	Weighted CN =>	90.08	
Soil Storage	S	27.97	162.39	5.18	*From CN*			
Time of Concentration	tc	0.17	0.17	0.17	*uses C, L, CN, S*	**Min of 0.17 from TP108**		
Runoff index	c*	0.72	0.30	0.93	*From P_{24}, Ia, S*			C
Specific peak flow rate	q*	0.15	0.08	0.16	*From c*, t_c*		**RATIONAL CHECK (10min TC only)**	
						Future Climate? (y/n)	y	
Peak flow rate	q_p	**0.235**	**0.027**	**0.198**	*From A, P_{24}, q**	Runoff Coefficient	0.80	
Runoff Depth	Q_{24}	122	66	142	*From P_{24}, Ia, S*	10 min Intensity (mm/hr):	102.13	
Runoff Volume	V_{24}	1269	148	1162	*From Q_{24}*	Flow (m3/s):	Area Greater than 1 hectare - Please use TP108 Graphical Method	
			0.225	<= Total Peak Flow				
			1310	<= Total Runoff Volume				

RFI 55. Please confirm if the proposed retaining wall will be built in flood plain area. If so, please provide assessment against E36.8.2(4).

Response:

The northern/north-eastern retaining walls are proposed to be built along the curvature of the flood plain and out of the wetland. No impedance or blockage of passage of flood waters is expected.

RFI 56. Your application has been forwarded to Healthy Waters for review. Any queries they may have will be forwarded to you on receipt and would form part of this further information request.

Response:

The application was lodged in October 2023 and Council has confirmed Healthy Waters raised RFIs 45-53. Healthy Waters have therefore had around two months to ask any further

questions. As no further questions have been received from HW, RFI56 does not require any response and the s92 process can be closed out.

9. Groundwater Diversion (RC)

9.1 Groundwater Levels:

RFI 57. Groundwater levels: Please provide all the groundwater level data collected fortnightly and after major storm events referenced above.

Reason for request: *Section 7.2.1 (Assessment Methodology) of the AEE states "Piezometers were installed to monitor groundwater conditions and these were monitored fortnightly between August 2022 to November 2022, and after major storm events."*

However, the only groundwater level monitoring data that we can find are the readings for two monitoring events (measured on 13/01/2022 and 28/11/2022) at two piezometers, as presented in Table 3 of the Groundwater Monitoring of Geotechnical Site Investigations Factual Report (dated 09 February 2023).

Response:

The piezometer summary for boreholes 1 and 2 that was gathered on-site is provided in Appendix 14.

The ground-level information was collected from August to November 2022.

9.2 Wetlands:

RFI 58. Could the applicant please provide a more detailed explanation to support the statement "diversion of any groundwater shall not affect the base flow of any rivers or springs and the levels and flows into the wetland."

Reason for request: *Appendix C.2 states "Further, the Flood Assessment provided with the Application has assessed the levels and flows within the adjoining induced wetland and flood plain areas. The diversion of any groundwater shall not affect the base flow of any rivers or springs and the levels and flows into the wetland. Post-construction there will be reinstatement of overland flow around the CVSC with continued discharge to the wetland. This will maintain the existing hydrological regime (refer to the Flood Assessment).*

Although we have reviewed both the Ecological Impact Assessment Report and Flood Assessment report we do not consider that the matter above has been suitably covered.

Response:

The proposed stormwater drainage has been updated so that the subsoil drains behind the northern, as well as the north-eastern and eastern retaining walls will go to the wetland. Additional drawings have been provided (Sheets C-4200 and C-3011 in Appendix 15) to show the additional northern outlet point for the subsoil drain, also with rip rap protection, within the designation boundary. This is a beneficial change that will provide greater overland flow reinstatement into the wetland to maintain existing levels. In total, the wetland will receive flows via two outlets, and a singular outlet for the treated site stormwater to the Ngakaroa Stream.

9.3 Detailed Cross-section:

RFI 59. Detailed cross-section. Could the applicant please provide a critical geological cross-section (from south to north) showing the deepest excavation level, the wetland level, stream beds and the groundwater level throughout the section selected.

Response:

Please refer to the geological cross-section provided on sheets C-0040 and C-0041 in Appendix 16 which includes further detail on the deepest excavation level, and includes the wetland level, stream bed and groundwater levels.

10. Stormwater Diversion and Discharge and ITA (NOR/RC)

RFI 60. Please provide a separate stormwater report, attached with the preliminary design sizing calculations for the proposed devices (attenuation detention tanks, swale, Stormwater 360 Stormfilter, oil and water separator) and the outlet) in addition to the impervious catchment for each device, to enable assessment of the proposed stormwater management.

Response:

Please refer to the attached calculation sheets and supplementary design information provided in Appendix 17. These should be clear and self-explanatory.

- Appendix 17A: Design sizing calculations for the swale and stormwater Lines A, B, C, D and E; the cutoff drain and detention device.
- Appendix 17B: Information regarding the detention tank, stormfilter and oil and water separator, including manufacturer details. WSP correspondence with the proposed Stormfilter supplier is included.
- Appendix 17C: Please refer to the calculation sheets (sizing of detention tank)

RFI 61. Please confirm whether the following advice note pertaining to industrial and trade activities is accepted:

Advice note: This consent does not authorise the discharge of contaminants from or use of land for any industrial or trade activity at the existing site, or future industrial trade activity associated with any additional works within the site. Any industrial or trade activity at the site should be reviewed against Chapter E33 of the Auckland Unitary Plan and demonstrate that all aspects of the relevant permitted activity standards can be compiled with or apply for any relevant consents.

Response:

There will be no industrial or trade activity discharges associated with the proposed work. However, if Council considers an advice note is needed with any others at the end of the consent conditions set, then the text above is accepted. Please also see response to RFI 70.

11. Freshwater and Terrestrial Ecology (RC)

RFI 62. The AEE indicates that consent is required for E3.4.1 (A44) Any activities not complying with the general permitted activity standards in E3.6.1.1 or the specific activity standards in E3.6.1.14 to E3.6.1.23. Please discuss what activities trigger the need for this consent and clearly indicate the location of this activity on a plan.

Response:

Consent is sought for an activity not meeting the standards in E3.6.1.14 and E3.6.1.15, specifically the following provisions as indicated by underlined text:

E3.6.1.14. Standards for new structures and the associated bed disturbance or depositing any substance, diversion of water and incidental temporary damming of water

(2) During construction bed disturbance upstream or downstream of the structure must not exceed 10m either side, excluding the length of the structure.
(3) The structure must not prevent the passage of fish upstream and downstream in waterbodies that contain fish, except that temporary restrictions to fish passage may occur to enable construction work to be carried out.

E3.6.1.15. New structures and the associated bed disturbance or depositing any substance, diversion of water and incidental temporary damming of water for temporary structures

(1) The activity must comply with the standards in E3.6.1.14 above.
(2) This activity does not need to comply with Standard E3.6.1.1(2).
(3) The temporary structure must be in place no longer than 14 days within any six month period.

Temporary diversion and damming of surface water may be necessary in proximity to the wetland area during construction. The proposed methodology could entail sheet piling during earthworks with necessary rigorous erosion and sediment controls as per the final Erosion and Sediment Control Plan. This will protect the temporary cut slope on the north-eastern boundaries adjoining the wetland until building the permanent retaining walls. As shown in Figure 3 (C-3010) provided in **Appendix 18**, the proposed construction method will be implemented within a restricted space of approximately 900mm between the wetland perimeter and the base of the permanent retaining wall.

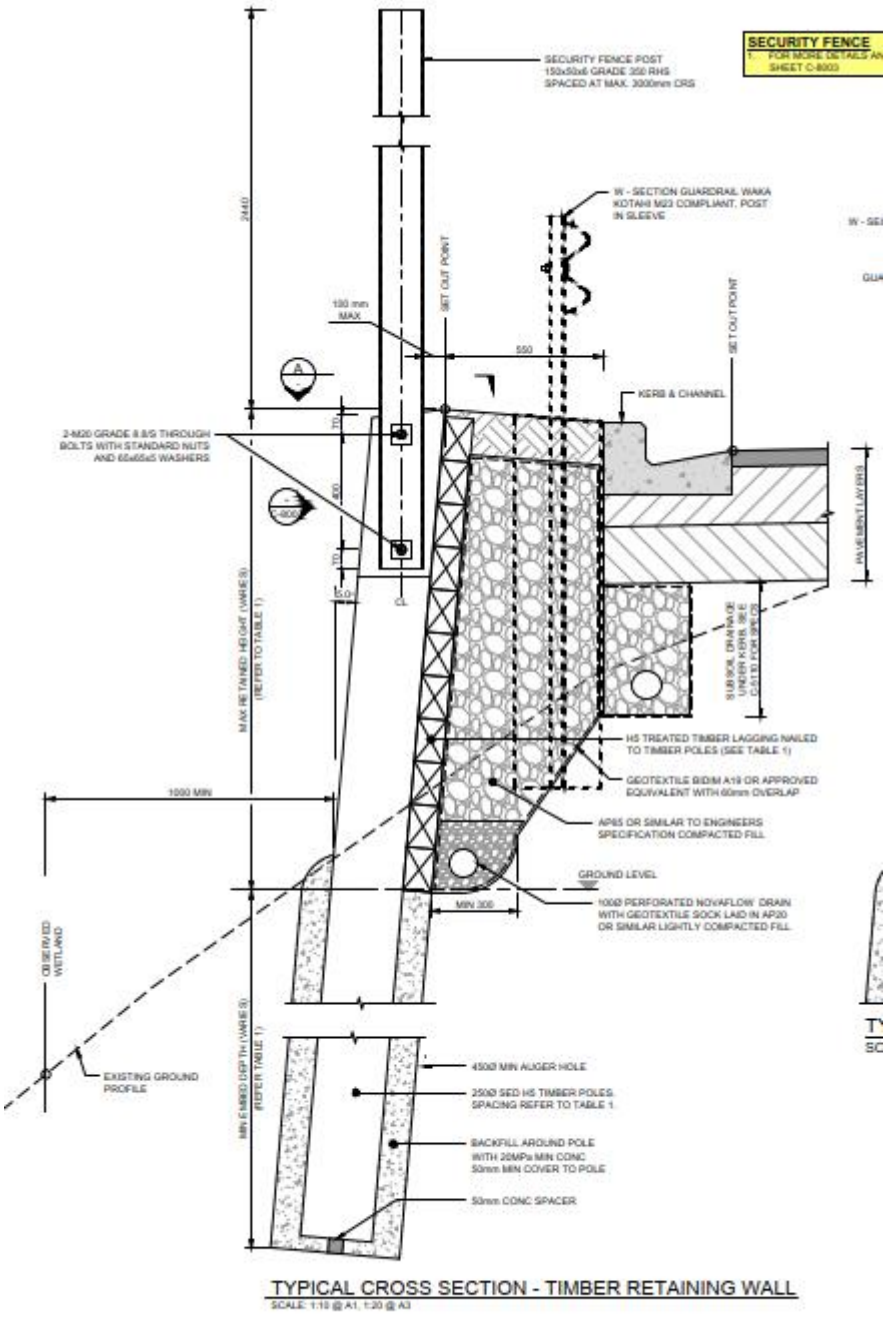

Figure 3 - Typical cross-section of the timber retaining wall showing proximity to the delineated wetland extent (refer to Drawing Sheet C-3010)

In the absence of detailed construction methodology, it is anticipated there will be temporary structures (E3.6.1.15) at the interface between the retaining wall and the wetland on the north-east corner of the site. Under E3.6.1.15 the temporary structure must not be in place longer than 14 days within any 6mth period.

Consent is therefore sought conservatively as the temporary controls may be right on the boundary of the wetland but also due to construction duration where the temporary structures will likely be in place for a duration exceeding 14 days. The general standards in E3.6.1.1 can be met with appropriate Erosion and Sediment controls during construction.

RFI 63. On page 3, 9, 20 and 21, of the EIA, dewatering and associated fish salvage are discussed. Please confirm if dewatering is only associated with the replacement of culverts in the Ngakoroa stream?

Response:

Dewatering and the potential for any necessary fish salvage is limited to any temporary diversions which may be necessary in proximity to the wetland during construction only. Further detail has been provided in response to RFI 62. There will be no replacement of culverts as part of the proposed work.

RFI 64. Please undertake an assessment under the NES-F for the replacement of culverts (rules 70 & 71).

Response:

As there will be no replacement of culverts as part of the proposed work an assessment against the provisions of the NES-F is not required.

RFI 65. Please discuss culverts with regard to principles and design standards in the NZ Fish Passage Guidelines (NIWA 2018).

Response:

There will be no replacement of any culverts as part of the proposed work.

RFI 66. Please identify the 10m riparian margin measured horizontally from the top of the bank of the Ngakaroa Stream and provide an assessment of any required earthworks and vegetation removal within the riparian margin.

Response:

Please refer to the cross-sectional sketch produced (SK-C-0030) and provided as **Appendix 19** which illustrates the 10m offset from the riparian margin.

The proposed work within the margin is limited to minor earthworks to construct the new access road (supporting retaining) and perimeter fencing only, as shown on the section views in drawing sheet C-2210, that were provided in the General Arrangement Plan set submitted and also provided in **Appendix 20**.

The affected area is a grassed area and as such no vegetation removal is necessary within the riparian margin. Figure 4 to Figure 10 illustrate the conditions within this area, subject to weather conditions and maintenance with short–to–long grass in this vicinity.

Figure 4 - Westward facing view with Ngakoroa Stream riparian margin to the right

Figure 5 – Maintained grassed area north of the existing accessway

Figure 6 - Grassed area to the north of the existing accessway as viewed looking south along Great South Road

Figure 7 - Grassed area at location of proposed stormwater outlet above the Ngakaroa Stream looking west towards Great South Road

Figure 8 - Close-up of grassed area at location of existing accessway

Figure 9 - Grassed area (view across Great South Road) during wet conditions

Figure 10 - Comparative view of grassed area during wet conditions

12. Mana Whenua values (RC)

RFI 67. Please provide detail of your engagement with Mana Whenua representatives in the form of any written comments received (e.g. email correspondence, Cultural Values Assessment), to confirm whether Mana Whenua values may be affected by the proposal.

Response:

The Southern Iwi Integration Group (SIIG) has been the primary means of engaging with Mana Whenua representatives. The SIIG is a forum representing iwi who have expressed an interest in NZTA projects in the south of Auckland. The purpose of the forum is to enable meaningful and efficient engagement on southern projects.

Iwi groups attend monthly meetings with NZTA, discussing items on a pre-circulated agenda. Standard practice is for NZTA and technical specialists working on projects to present to the forum and participate in the exchange of information and ideas with iwi. This information is then fed back into the respective projects.

At the SIIG Hui, the project team has provided project updates and information as design optioneering progressed, and plans were produced (i.e., planting plans). Technical specialist reporting information was also summarized for attendees.

In addition to discussion and feedback received during multiple SIIG hui between the period of November 2021 through December 2023 (to date), a separate hui was held with Ngaati Te Ata Waiohua in August 2022 who also provided a Cultural Values Assessment (CVA) for the project. It is at the request of Ngaati Te Ata Waiohua that this CVA is not provided as part of the Application but that the contents, and the recommendations and outcomes outlined in it, were to be received and considered to achieve the final design responses and project outcomes.

Further, a site visit was conducted with SIIG representatives and WSP's special matter experts (March 2022) that has further informed the project of the desired outcomes for Mana Whenua.

In summary, feedback received at both hui and the site visit have informed the outcomes of the project.

RFI 68. Have any Mana Whenua groups requested further engagement, following lodgement of the application? If yes, please provide detail of your recent engagement, and confirm if any Cultural Values assessment are required, but not yet received?

Response:

At the request of the SIIG, NZTA will continue to engage with the forum, with the most recent attendance at the December 2023 hui to update on lodgement of the Application and a summary of the Application contents was shared with the SIIG.

No further Cultural Values Assessments are anticipated nor have been signalled by the SIIG. At the SIIG, NZTA requested that if iwi wished to comment on the information shared, that this feedback be provided by February 2024. Any feedback received will support NZTA's ongoing implementation of the project.

RFI 69. The Auckland Council website identifies that, in addition to the Mana Whenua groups that have been consulted with through the SIIG, that Waikato-Tainui have an interest in the area. Therefore, please provide details of your consultation with Waikato-Tainui representatives.

Response:

The SIIG is comprised of:

- Ngāti Whanaunga;
- Ngāti Te Ata;

- Ngāti Tamaoho;
- Te Ahiwaru - Waiohua;
- Ngāti Maru;
- Ngāi Tai ki Tamaki;
- Te Ākitai Waiohua; and
- Ngāti Tamaterā (they receive the monthly meeting invitation and agenda but do not attend).

Following on from the protocol established on the Southern Corridor Improvements the project, Tainui defer to local Tainui related iwi Ngāti Tamaoho, Ngati te Ata, Te Ahiwaru, Te Akitai.

All iwi above, regardless of attendance at the monthly meetings, receive the meeting agendas and minutes.

13. Hazardous Substances (NOR)

RFI 70. Please confirm there are no hazardous substances proposed to be stored on-site and no workshop activities are proposed, just an inspection shed and weighbridge, etc., If hazardous substances are being stored, then you need to provide an assessment of the effects and proposed mitigation/spill response /environmental management plans.

Response:

No hazardous substances will be stored on site (i.e., in drums or above/below ground tanks), and no workshop activities, just the inspection shed and weighbridge. There will only be the oil and grit separator on site to help reduce contaminants from reaching the stormwater system.

Conclusion

All of the information requested in the Council's letter of 30 November 2023 has been provided (or explanation given) and no further requests for information have been received. In this case, please complete the notification determination. Public notification is not required; in our view, the NOR and consent applications can be considered on a non-notified basis.

Please can you also advise timeframe to recommend confirmation of the designation and grant of the consents.

Proposed designation conditions and draft consent conditions were included with lodgement, if Council is proposing any changes to those, please can we review the draft conditions before a decision report is completed.