

26 May 2023  
Job No: 0030552.9082

Auckland Council  
Private Bag 92300  
Victoria Street West  
Auckland 1142

Attention: Mark Ross

Dear Mark

**Point Erin Tunnel**  
**Response to s92 request: Landscape and Visual effects - further clarification questions**

Thank you for providing Auckland Council's comments and further clarification questions (dated 28 April 2023), following our provision of the s92 response on 19 April 2023.

We note that several of the responses are accepted, however there are a number of responses where there are outstanding comments or questions.

We step through each Request for Information (RFI) and provide further detail and/or explanation as applicable. For each, the RFI question is reproduced in full and italicised in *blue font* at the start of each relevant section.

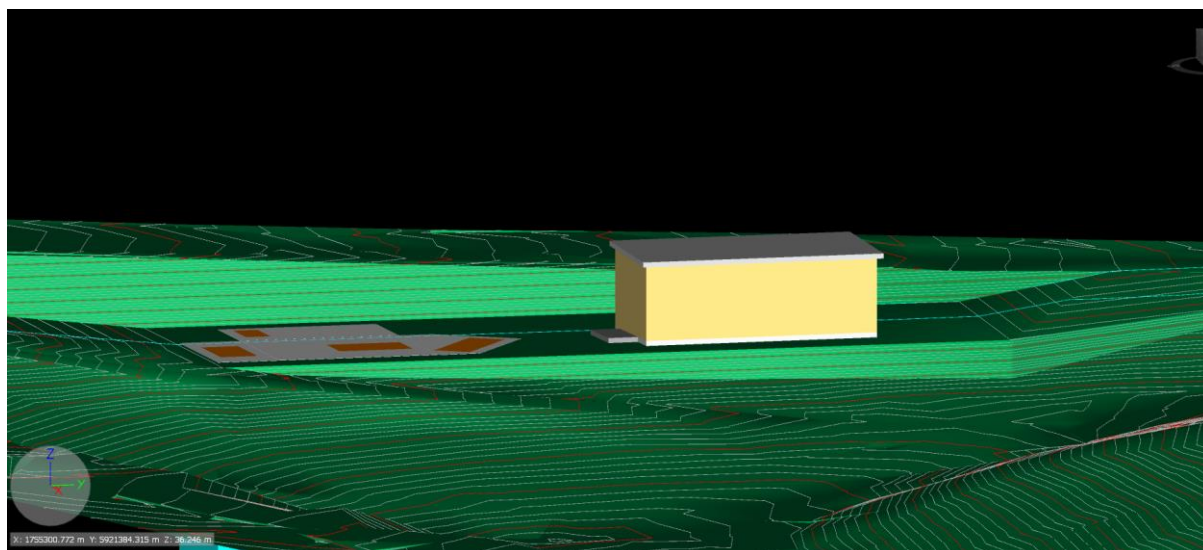
In addition to the responses provided below, amendments have been made to the condition set to include conditions relating to traffic management in proximity to Ponsonby Primary School during drop-off and pick-up times (Appendix A). These conditions have been added in response to the Ministry of Education's submission on the application, and further engagement between Watercare and the Ministry. Comments on Council's proposed groundwater and settlement conditions are also provided.

**Request 23:**

- *The applicant has provided a mood board for the retaining walls, vent and plant room and has provided simple 3D Design model captures.*  
*The applicant is asked to provide some additional model views of the south-west corner site as seen at a pedestrian level walking into the site and walking out of the site from the existing footpaths (loop path that goes north and path that goes east). They do not need the site photo behind them if one is not available- or if one is available, they can provide the photo and model view separately to enable ease of reading.*

The 3D Design model has limitations on how it can be viewed, as it is not intended to be a visual simulation tool. As such, it is not possible to generate images within the model of views at pedestrian level. However, to provide some additional context to the likely appearance of the permanent above-

ground infrastructure, additional captures from the model are provided below, along with some photos from Point Erin Park looking towards the embankment which will be retained.



*Figure 1.1: Looking towards plant room and retaining wall location from within Point Erin Park*



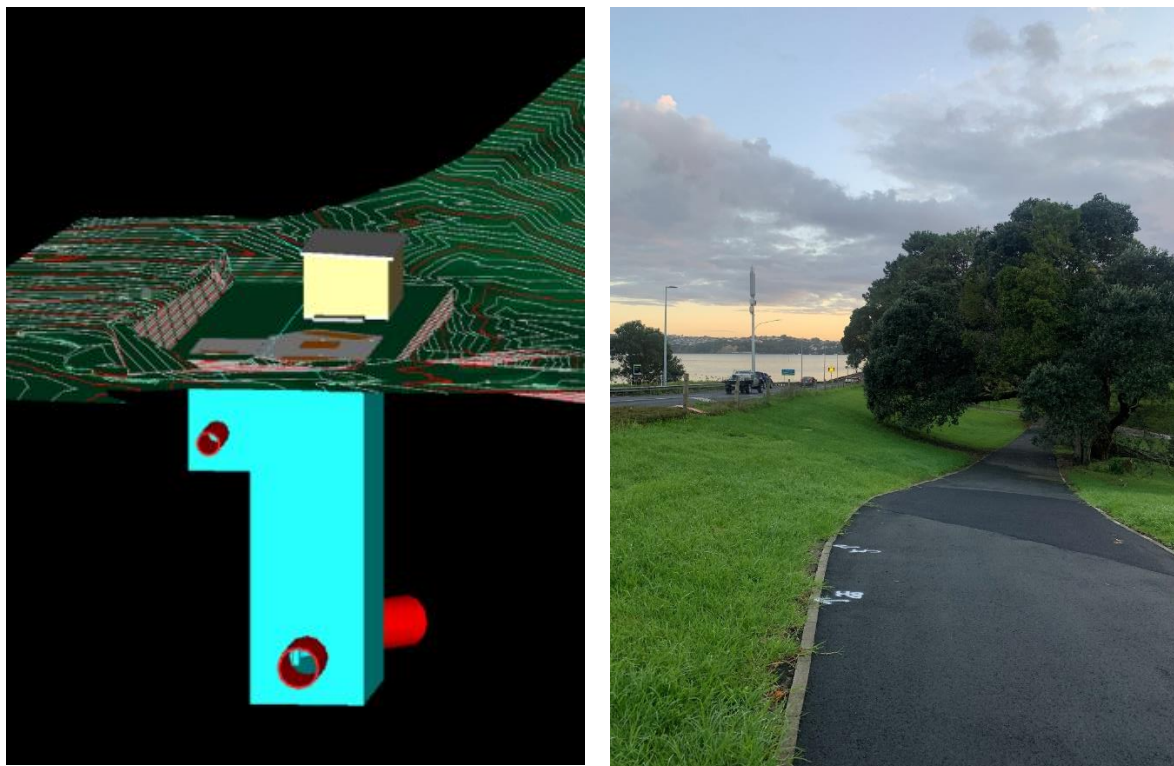


Figure **Error! No text of specified style in document..2**: Looking down into Point Erin Park from entrance to park – Plant room will be behind pōhutukawa seen overhanging path (tree to be removed).

- *A high-level planting plan for the south-west corner is also provided; however, this does not provide details on hard landscape, final contours/levels, access, planting schedule. Some additional information would be beneficial to provide more certainty around the final design, amenity values, CPTED and useability of the open space.*

As set out in the application, the final design of the above ground infrastructure and reinstatement planting is proposed to be developed in consultation with mana whenua and Auckland Council. Watercare does not want to pre-empt the outcome of the design consultation process, or preclude the opportunity for genuine engagement with mana whenua by committing to specific details at this stage. As the landowner, Auckland Council Parks will need to approve the details of the design. Nevertheless, to provide more certainty that good design, maintaining or enhancing amenity values, CPTED<sup>1</sup> and useability of the open space will be key focuses for the park reinstatement works, we have amended the conditions to include these matters as stated objectives. Refer to the updated condition set (Appendix A).

- *I am not convinced that there is space to integrate the tall western wall (along Curran Street) with planting, and that reliance on materials/colour is unlikely to suitably mitigate and integrate the height of the wall (up to 4m high). – I understand from the meeting that there is space for low plants and climbers- it would be good if this was more clearly shown on the plan or provided somehow in writing – e.g., outcomes sought include x, y, z.*

The western retaining wall along the boundary to Point Erin Park and Curran St is the larger of the two retaining structures. It is **up to 2-3m high in the centre** (not 4m as stated in the question above), tapering along its length in both directions to ground level. **For most of its length it will be less than**

<sup>1</sup> CPTED was already included in the condition relating to permanent buildings and structures.

**1m in height.** The western retaining wall will be approximately 10-15m from the walkway which is likely to be reinstated in a similar location to its current alignment.

An updated indicative planting plan has been included, which more clearly articulates the objectives of planting (Appendix B). The plan demonstrates that there is space available for shrubs and/or climbers along the retaining wall, which would serve to 'break-up' the continual expanse and scale of the wall, and provide a layering of vegetation in combination with tree and shrub planting to the east of the plant room. Planting efforts will be focussed on those parts of the wall that are greater than 1.5m in height. Parts of the wall which are lower in 1.5m in height (and are of a more pedestrian scale) will be mitigated by the planting to the east and south of the lower terrace area.

- *An indicative planting palette would be useful. I understand this might change through the design process, but it would be good to understand scales, type (e.g., coastal influence or species within the park already), palette proposed.*

The planting palette will need to be developed in consultation with Auckland Council's Parks Department, as the landowner. A planting palette has been provided in the updated indicative planting plan. We anticipate there may be some further refinements to the planting palette to reflect the species present within the park and its coastal setting, as well as satisfying Council Parks preferences for species mix in parks.

- *While precedent images have been provided, I am not sure how the precedent images correlate into tangible outcomes in the future. e.g., are these going to influence the proposed conditions offered to ensure these outcomes can be achieved. – As mentioned in the meeting is there a way of collating the information into a masterplan set which can be used to base the conditions off. This may include but not limited to:*
  - *Masterplans of the areas to be modified by the works and re-designed post works.*
  - *High level landscape/planting plans for each space (southwest, central and path reinstatement area) covering the basic planting areas, hardscape areas, building areas, level changes, paths, furniture/lighting/signage.*
  - *Indicative planting palette(s)*
  - *Mitigation of the two pōhutukawa trees being removed which are visually significant at the south-west entry point.*
  - *Precedent imagery and how these are to be used/influence design quality and respond to site characteristics etc.*
  - *Cross sections*
  - *Intent and objectives to be achieved for the final designs – written outcomes.*

Amendments have been made to the conditions to set clearer objectives/outcomes.

The works are required to be undertaken in general accordance with the information submitted through the application process. All of the information provided to date will be referenced in Condition 1 of the consent and therefore forms part of the consent requirements. As such, at this stage we do not consider it necessary to compile the documents into a single report, given they will already be referenced in Condition 1. Amendments have been made to Condition 1 to include the key landscape documents provided to date. However, if there are aspects of the information which Council considers to be particularly relevant to an individual condition, it could be referred to within that condition as well.

**Request 24:**

- *The applicant's response is noted. I understand that the applicant would like flexibility however, this does lead to some uncertainty with regards to the impact and dominance of the wall. – From the meeting I understand the height of the wall is to be more like 2-3m high – is this notated on the plans?*

The scale of the permanent retaining walls is shown on Section 1, Drawing 2013964.009 in the drawing set provided with the application. The permanent retaining along Curran St will be 2-3m high at its maximum height, tapering to ground level at both ends along a length of 90m. Along much of its length the retaining wall will be less than 1m in height.

- *Is there a way of avoiding or managing damage and vandalism (graffiti) to the temporary retaining walls and hoardings. Maintenance condition?*

Watercare and the CI contractor maintain their construction sites, and remedy any graffiti as soon as practicable. Graffiti has not been a major issue on any other CI sites. We consider that there is nothing unique about this project which makes it any more susceptible to graffiti. Nevertheless, Watercare is willing to offer a condition requiring removal of graffiti (refer updated condition set in Appendix A).

**Request 25**

- *The applicant's response is noted. A very high-level planting plan has been provided for the south-west corner as noted above a set of landscape masterplan set would be beneficial. The application is for a resource consent, I am required to assess the effects resulting from the temporary and permanent works. The removal of two large pōhutukawa will result in a landscape, amenity, and visual loss. The planting plan provides a simple idea that planting will be provided, but still does not ensure suitable mitigation of the loss of vegetation and is reliant on conditions. I encourage the applicant to consider how the conditions could be more specific in terms of certain outcomes that must be achieved (not necessarily the design) but an outcome -e.g., visually integrate retaining walls, provide a human scaled environment, reinstate open space for informal recreation, provide for native vegetation enhancement, replace the loss of two large pōhutukawa trees with the same species of a suitable scale and location to provide a connection to the coast and entry to the park, etc. I understand that the applicant does not want to pre-empt the consultation process with mana whenua and Auckland Council (Parks); however, from a landscape perspective having greater confirmation on the final design outcomes and intents for the park would be beneficial, for example if I condition pōhutukawa trees to replace those being removed, but parks does not agree that this is appropriate in the park, then the condition may not be able to be met resulting in issues later.*

Amendments have been made to the conditions to better capture the intended objectives of the park reinstatement works. We consider that the works are human scaled, given the western retaining wall at its highest will be 2-3m and for most of its length will be less than 1m. The plant room is of a similar scale to typical above-ground infrastructure and public amenity buildings (such as public toilets) located within parks.

It is difficult for Watercare to commit to planting two large specimen trees within the park ahead of obtaining Council Parks approval, as they are the landowner. However, Watercare is willing to offer a 'best-endeavours' condition that they will seek Parks approval for two large native specimen trees to be planted in this area of the park.

Watercare's arborist (The Tree Consultancy) has advised that these replacement specimen trees are 160L in size, as it is generally not feasible to source anything larger from nurseries. A condition has been included to this effect in the amended condition set (Appendix A). Species selection and location would also need to take into account the location of underground services and potential conflicts with future rootzones, as well as future viability of the trees:

### **Request 27**

- *I understand the final details will be worked through with Council (Parks) and mana whenua, however the indicative planting plan provided does not convince me that there is suitable space to screen a high retaining wall (up to 2-3m) along the boundary, and that reliance on material/colour is unlikely to be able to achieve an appropriate outcome from a landscape perspective. – See comments above regarding providing notes on the landscape plan about the planting intent for retaining walls.*

Refer to response to Request 23.

### **Request 30**

- *A summary of the CVA prepared by Te Ākitai Waiohūa has been provided in the response. As only a summary of one CVA has been provided, once all CVA's have been received by the applicant these should be provided. This was requested to understand whether any landscape specific concerns / recommendations / commentary (including coastal, planting, cultural) were raised. – I understand the applicant is still actively engaging with mana whenua and any conditions that may be required will be offered or worked through in the co-design process. I note one of the recommendations in Te Ākitai Waiohūa is the retention of Tree 16 & 17 on site and replace the loss of each tree with eight trees - which the applicant has noted is not going to occur. Does this impact the support or non-support offered by Te Ākitai Waiohūa to the proposal*

Watercare cannot speak on behalf of Te Ākitai Waiohūa. However best endeavours to retain Tree 16 & 17 will be made, and Watercare has discussed this commitment with Te Ākitai Waiohūa.

Watercare confirms they will continue to work closely with mana whenua partners, including Te Ākitai Waiohūa. Watercare met with Te Ākitai Waiohūa on 15 May 2023 to discuss their CVA, and have organised a site visit for 25 May 2023. At the discussion on 15 May 2023, Te Ākitai Waiohūa communicated their desire to have a cultural lens applied across the project's management plans, and for Council's typical conditions regarding karakia and cultural inductions to be included in the condition set.

We trust that the above information adequately addresses the outstanding points of clarification. Should you have any questions regarding the above responses, please contact Rachel Signal-Ross ([RSignal-Ross@tonkintaylor.co.nz](mailto:RSignal-Ross@tonkintaylor.co.nz)).

Yours sincerely



Rachel Signal-Ross  
Senior Planner



Karen Baverstock  
Project Director

26-May-23

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## **Appendix A      Updated condition set**

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## Appendix A - Proposed Key Conditions – Section 92 set

### Notes:

*The effects of the proposed Point Erin Tunnel project are well understood as a result of the existing work that has occurred to date on CI. The conditions of consent proposed below are informed by practical on-the-ground experience gained through the CI project to date and have proven to be effective at managing effects while also providing sufficient flexibility for the contractor.*

*The proposed conditions are based on the CI and Grey Lynn Tunnel consent conditions previously approved by Auckland Council, subject to changes to reflect current practice for condition drafting, experience from CI and implementation of the CI conditions, and specific matters relevant to the Project location particularly for the works in Point Erin Park.*

*The proposed conditions are intended to provide a project-specific key condition set. Watercare expects that there will be standard and administrative type conditions, along with additional other conditions, Auckland Council considers are required.*

*This is the Section 92 condition set – changes since lodgement are shown in track change.*

### A. General conditions

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| 1 | <p>Except as modified by the conditions below and subject to final design, the works shall be undertaken in general accordance with the plans and information submitted with the application, including:</p> <ul style="list-style-type: none"><li>• <u>Central Interceptor – Point Erin Tunnel Assessment of Effects on the Environment (AEE), prepared by Tonkin &amp; Taylor Ltd dated February 2023 <del>and Appendices to the AEE</del></u></li><li>• <u>Reports</u></li><li>• <u>Watercare Central Interceptor Point Erin Park Recreation Assessment, prepared by Rob Greenaway &amp; Associates, dated February 2023</u></li><li>• <u>Extension to the Central Interceptor - Point Erin Tunnel: Assessment of Noise and Vibration Effects, prepared by Tonkin &amp; Taylor Ltd, dated February 2023</u></li><li>• <u>Preliminary Site Investigation – Point Erin Park, prepared by Tonkin &amp; Taylor Ltd, dated December 2022</u></li><li>• <u>Draft Erosion and Sediment Control Plan – Central Interceptor Point Erin Tunnel, prepared by McConnell Consultancy Ltd, dated 25 January 2023</u></li><li>• <u>CI Extension – Point Erin Tunnel: Screening-level Assessment of Groundwater and Settlement Effects, prepared by Tonkin &amp; Taylor Ltd, dated February 2023</u></li><li>• <u>Central Interceptor – Point Erin Extension: Natural Character, Landscape and Visual Assessment Report, prepared by Isthmus Group Limited, dated 1 February 2023</u></li><li>• <u>Arboricultural Assessment of Effects of Extension of the Central Interceptor wastewater tunnel into Point Erin Park, resulting in the removal of reserve trees, prepared by The Tree Consultancy Company, dated 25 January 2023</u></li><li>• <u>Central Interceptor extension, Point Erin Park, Auckland: Archaeological Assessment, prepared by Clough &amp; Associates Ltd, dated January 2023</u></li><li>• <u>Central Interceptor extension – Point Erin Tunnel: Integrated Transport Assessment, prepared by Tonkin &amp; Taylor Ltd, dated February 2023</u></li><li>• <u>Point Erin Extension – Assessment of Potential Flood Impacts Memorandum, prepared by Jacobs, dated 25 January 2023</u></li><li>• <u>Central Interceptor Extension – Point Erin Tunnel: Air Quality Assessment, prepared by Tonkin &amp; Taylor Ltd, dated February 2023</u></li></ul> |
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- [Point Erin Central Interceptor: Addendum Report – Assessment of Groundwater and Settlement Effects, prepared by Tonkin & Taylor Ltd, dated March 2023](#)

| <u>Drawing title and reference</u>  | <u>Rev</u>         | <u>Date</u>                 |
|---|--------------------|-----------------------------|
| <u>Prepared by Jacobs in association with AECOM and McMillen Jacobs Associates:</u>     |                    |                             |
| <a href="#">Tawariki St to Pt Erin – Tunnel Plan 2011933.006</a>                        | <a href="#">2</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Tawariki St to Pt Erin – Tunnel Plan 2011933.007</a>                        | <a href="#">2</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Tawariki St to Pt Erin – Auckland Unitary Plan Zoning 2011933.008</a>       | <a href="#">1</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Tawariki St to Pt Erin – Other Auckland Unitary Plan Zoning 2011933.009</a> | <a href="#">1</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Site General – Proposed site layout 2013964.002</a>                         | <a href="#">2</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Site General – Point Erin Site – Construction Phase Plan 2013964.003</a>    | <a href="#">23</a> | <a href="#">2.2.17.4.23</a> |
| <a href="#">MH – 11 Shaft/Tunnel Connection Plan and Section 2013964.005</a>            | <a href="#">2</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Point Erin Flow Diversion Pipeline Longitudinal Section 2013964.006</a>     | <a href="#">2</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Point Erin Control Chamber Plan and Sections 2013964.007</a>                | <a href="#">2</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Point Erin Site – Longitudinal Section and Cross sections 2013964.009</a>   | <a href="#">1</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Point Erin – Other Auckland Unitary Plan Zoning 2013964.010</a>             | <a href="#">1</a>  | <a href="#">2.2.23</a>      |
| <a href="#">Site General - South West Corner Site Entry</a>                             | <a href="#">1</a>  | <a href="#">17.4.23</a>     |

Other additional information

- [‘Response to s92 requests – Point Erin Tunnel’, prepared by Tonkin & Taylor Ltd, dated April 2023](#)
- [‘Response to s92 requests: Landscape and Visual effects - further clarification questions’, prepared by Tonkin & Taylor Ltd, dated May 2023.](#)
- [‘Point Erin Tunnel: Landscape and Visual effects – further clarification questions’, prepared by Tonkin & Taylor Ltd, dated May 2023](#)
- [Indicative planting masterplan, prepared by Isthmus, dated May 2023](#)
- [Precedent study, prepared by Isthmus, dated April 2023](#)
- [‘Further information on potential design and appearance of above-ground infrastructure – Point Erin Park’, prepared by Tonkin & Taylor Ltd, dated March 2023](#)

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| 2 | <p>The consent shall lapse on the expiry of a period of ten (10) years after the date on which the last of any appeals on the consent are determined or withdrawn, or if no appeals are lodged, the date on which the consent is granted in accordance with Section 104 of the RMA.</p> <p><i>Advice note: An extension to the lapse date specified above is subject to the provisions of Section 125 (1A) of the RMA.</i></p> |
| 3 | Detailed drawings and design   |

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|  | At least twenty (20) working days prior to commencement of works, the Consent Holder shall submit detailed engineering design plans for the Project, or for that stage of the Project works, to the Council. |
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## B. Construction phase consent conditions

| Community Liaison and Communications |   |
|--------------------------------------|---|
| 4                                    | A liaison person shall be appointed by the Consent Holder for the duration of the construction phase of the Project to be the main and readily accessible point of contact for persons affected by the construction work. The liaison person's name and contact details shall be advised to affected parties by the Consent Holder. This person must be reasonably available for on-going consultation on all matters of concern to affected persons arising from the Project. If a liaison person will not be available for any reason, an alternative contact person shall be nominated to ensure that a Project contact person is available by telephone 24 hours per day seven days per week during the construction phase.   |
| 5                                    | <p>The Consent Holder shall prepare a Communications Plan (CP) for the construction phase of the Project or for each Project stage. The CP shall be submitted to the Council no less than twenty (20) working days prior to works commencing for certification that the CP complies with the requirements of Condition 6.</p> <p><i>Advice note: "Project stage" means a separable part of the Project by activity, programme or location/geographic extent (e.g. tunnelling, terminal shaft construction, control chamber construction, TBM removal).</i></p>  |
| 6                                    | <p>The objective of the CP is to set out a framework to ensure appropriate communication is undertaken with key stakeholders during the construction phase of the Project. The CP shall set out:</p> <ul style="list-style-type: none"> <li>(a) the method(s) of consultation and liaison with key stakeholders and the owners/occupiers of neighbouring properties regarding the likely timing, duration and effects of works. This shall include the method(s) to ensure affected properties are notified of noisy activities prior to works commencing;</li> <li>(b) details of prior consultation or community liaison undertaken with the parties referred to in (a) above, including outlining any measures developed with such persons or groups to manage or to mitigate any adverse effects or inconvenience that may arise from any construction;</li> <li>(c) full contact details for the person appointed in accordance with Condition 4 to manage the public information system and be the point of contact for related enquiries.</li> </ul> |
| Construction Management              |   |
| 7                                    | The Consent Holder shall prepare a Construction Management Plan (CMP) for the Project or for each stage of the Project (e.g. tunnelling works, terminal shaft construction and control chamber construction). The purpose of the CMP is to set out the detailed management procedures and construction methods to be undertaken in order to avoid, remedy or mitigate potential adverse effects arising from construction activities and to achieve compliance with the specific conditions of this consent that relate to the matters referred to in Condition 8 (a) to (l) below. The CMP shall be submitted to Auckland Council no less than twenty (20) working days prior to works commencing on the Project or stage of the Project (as relevant) for certification that the CMP complies with the requirements of Condition 8 as applicable.   |

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| 8                  | <p>The CMP required by Condition 7 above shall include specific details relating to the management of all construction activities associated with the relevant Project stage, including:</p> <ul style="list-style-type: none"> <li>(a) Details of the site or project manager and the construction liaison person identified in Condition 4 including their contact details (phone, postal address, email address);</li> <li>(b) An outline construction programme;</li> <li>(c) The proposed hours of work;</li> <li>(d) Measures to be adopted to maintain the land affected by the works in a tidy condition in terms of disposal / storage of rubbish, storage and unloading of construction materials and similar construction activities;</li> <li>(e) Location of site infrastructure including site offices, site amenities, contractor's yards site access, equipment unloading and storage areas, contractor car parking, and security;</li> <li>(f) Procedures for controlling sediment run-off, dust and the removal of soil, debris, demolition and construction materials (if any) from public roads and / or other places adjacent to the work site;</li> <li>(g) Procedures for ensuring that residents, road users, park users and businesses (including Community Leisure Management (CLM) which manages the Point Erin Pool) in the immediate vicinity of construction areas are given prior notice of the commencement of construction activities and are informed about the expected duration and effects of the works;</li> <li>(h) Means of providing for the health and safety of the general public and for pedestrian management as required by Conditions 31 and 32;</li> <li>(i) Procedures for the management of works which directly affect or are located in close proximity to existing network utility services (note: this requirement does not apply to the Consent Holder's infrastructure or where written approval has been obtained from the relevant network utility operator);</li> <li>(j) A mechanism and nominated stakeholder manager responsible for receiving, addressing and monitoring queries and responding to complaints in relation to the construction works;</li> <li>(k) Procedures for the refuelling of plant and equipment;</li> <li>(l) Measures for the protection and management of trees as identified in Conditions 39 and 40.</li> </ul> |
| 9                  | <p>The CMP shall be implemented and maintained by the Consent Holder throughout the entire construction period for the Project or relevant Project stage to manage potential adverse effects arising from construction activities. The CMP or any specific component of the CMP shall be updated as necessary and provided to the Council for certification prior to being implemented.</p>  |
| Construction hours |  |
| 10                 | <p>Construction hours shall be as follows, except where work is necessary outside the specified days or hours for the purposes specified in Condition 11 below.</p> <ul style="list-style-type: none"> <li>(a) Tunnelling activities - 24 hours a day, 7 days a week operations for all tunnelling activities;</li> <li>(b) General site activities - 7 am to 6pm, Monday to Friday, 8am to 6pm Saturday; and</li> <li>(c) Truck movements - 7am to 6pm, Monday to Friday, 8am to 6pm Saturday.</li> </ul>   |

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| 11  | <p>Work may occur outside of the specified days or hours set out in Condition 10 for the following purposes:</p> <ul style="list-style-type: none"> <li>(a) where, due to unforeseen circumstances, it is necessary to complete an activity that has commenced;</li> <li>(b) where work is specifically required to be planned to be carried out at certain times (e.g. to tie into the existing network during period of low flow or for commissioning sewer connections);</li> <li>(c) for delivery of large equipment or special deliveries required outside of normal hours due to traffic management requirements;</li> <li>(d) in cases of emergency;</li> <li>(e) for the securing of the site or the removal of a traffic hazard; and/or</li> <li>(f) for any other reason specified in the CMP or CTMP.</li> </ul> <p>Where any work is undertaken pursuant to (a) to (f) above, the Consent Holder shall, within five (5) working days of the commencement of such work, provide a report to Council detailing how the work was authorised under those provisions.</p> <p>Activities such as dewatering during excavation and concrete pours may be undertaken outside of the specified days or hours subject to meeting the noise limits specific in Condition 24 (or as otherwise provided for through an ASCNVMP required by Condition 25).</p> |
| <p>Earthworks</p> <p><i>Note: It is anticipated that Auckland Council will include a full suite of standard earthworks conditions. The below proposed conditions are intended to provide a key condition set.</i></p> |  |
| 12  | <p>At least ten (10) working days prior to the commencement of any earthworks at the site authorised by this consent, the Consent Holder must submit a final Erosion and Sediment Control Management Plan (ESCP) for certification by the Council. No earthworks activities shall commence until the ESCP has been certified. Any subsequent amendments to the certified ESCP(s) and/or methodology must be provided to the Council at least ten (10) working days prior to the proposed amendment and certified prior to any such amendment being implemented.</p>  |
| 13  | <p>The objective of the ESCP shall be to set out the methods and techniques and management procedures and protocols for controlling the potential for erosion and sediment runoff as a consequence of earthworks. The ESCP must be prepared by a suitably qualified and experienced practitioner in accordance with Auckland Council Guidance Document, Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region, June 2016, Guideline Document 2016/005 (GD05) and the draft ESCP referenced in Condition 1.</p>  |
| 14  | <p>The ESCP shall include the following information:</p> <ul style="list-style-type: none"> <li>(a) Timing and duration of construction and operation of control works;</li> <li>(b) Specific erosion and sediment control works (location, dimensions, capacity) in accordance with GD05, including staging details (where relevant) and specific erosion and sediment controls. Erosion and sediment controls are to include: <ul style="list-style-type: none"> <li>a. stabilised site accesses</li> <li>b. clean water diversion around the construction areas to reduce the contributing catchment to the exposed working areas;</li> <li>c. silt fences and super silt fences;</li> </ul> </li> </ul>  |



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|                          | <ul style="list-style-type: none"> <li>d. stabilised construction area platform surface;</li> <li>e. wheel wash facility at the site exit (as a contingency/if required);</li> <li>f. progressive stabilisation of works area as required; and</li> <li>g. the removal of stripped topsoil and surplus excavated material from site.</li> </ul> <p>(c) Supporting calculations and design drawings;</p> <p>(d) Catchment boundaries and contour information;</p> <p>(e) Provision for regular inspection and maintenance of ESC measures to maximise the sediment retention efficiency of the site; and</p> <p>(f) Specific dust control measures (where required) in accordance with the Good Practice Guide for Assessing and Managing the Environmental Effects of Dust Emissions, MfE (2016) and the Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region – GD05, Auckland Council (2016).</p> |
| 15                       | All perimeter controls shall be operational before bulk earthworks commence. All cleanwater runoff from stabilised surfaces including catchment areas above the construction areas shall be diverted away from earthworks areas via a stabilised system so as to prevent surface erosion.  |
| 16                       | At least ten (10) working days prior to the commencement of earthworks at the site, a Chemical Treatment Management Plan (ChTMP) shall be submitted to the Council for certification. The objective of the ChTMP is to set out the management methods, controls and reporting standards to be implemented relating to the chemical treatment of the water treatment devices. For the avoidance of doubt, the ChTMP can be prepared as a standalone plan or as part of the ESCP required by Condition 12 above.   |
| 17                       | To prevent discharge of sediment-laden water or other debris into any public stormwater drainage systems or watercourses and therefore into receiving waters, and to prevent nuisance and amenity impacts on users of the road reserve, there shall be no deposition of earth, mud, dirt or other debris on any public road or footpath resulting from earthworks activity on the site. In the event that such deposition does occur, it shall immediately be removed. In no instance shall roads or footpaths be washed down with water without appropriate erosion and sediment control measures in place to prevent contamination of the stormwater drainage system, watercourses or receiving waters.  |
| 18                       | The Consent Holder shall ensure that all excavation, dewatering systems, retaining structures and associated works for the construction of the chamber, shafts, tunnels, underground structures and associated works, including all temporary and permanent works, are designed, constructed and maintained to avoid, as far as practicable, any damage to buildings, structures and services (including road infrastructure assets such as footpaths, curbs, catch-pits, pavements and street furniture).   |
| 19                       | The Consent Holder shall ensure that all discharges from dewatering activities, wheel washes and other occasional construction site related discharges are treated to an appropriate standard prior to discharge to either land or stormwater drainage systems or other receiving waters.  |
| Unexpected Contamination |  |
| 20                       | In the event of the accidental discovery of contamination during earthworks which has not been previously identified, including asbestos material, the consent holder must immediately cease the works in the vicinity of the contamination, notify the council, and engage a suitably qualified and experienced contaminated land practitioner (SQEP) to assess the situation (including possible sampling and revision of the ESCP) and decide on the best option for managing the material.   |

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| Construction Lighting            |  |
| 21                               | Construction lighting shall be minimised to the extent practicable and shall meet the relevant permitted standards in Chapter E24 of the Auckland Unitary Plan.  |
| Construction Noise and Vibration |  |
| 22                               | <p>The Consent Holder shall prepare a Construction Noise and Vibration Management Plan (CNVMP) for the Project, or each stage of the Project, that addresses the management of construction noise and vibration from the works. The CNVMP shall be submitted to the Council no less than twenty (20) working days prior to works on that stage commencing for certification by Council that the CNVMP complies with the requirements of Conditions 23 to 29, as applicable.</p> <p>The objectives of the CNVMP are to:</p> <ul style="list-style-type: none"> <li>(a) Identify the Best Practicable Option (BPO) for the management and mitigation of construction noise and vibration effects.</li> <li>(b) Identify how Project noise and vibration limits will be met and set out the methods for scheduling and undertaking works to manage disruption.</li> <li>(c) Ensure engagement with affected receivers and timely management of complaints.</li> </ul>   |
| 23                               | <p>The CNVMP shall be prepared by a suitably qualified and experienced practitioner and shall set out, as a minimum:</p> <ul style="list-style-type: none"> <li>(a) The relevant construction noise and vibration criteria/limits set out in these conditions;</li> <li>(b) Description and duration of the works, predicted construction noise and vibration levels, anticipated equipment and hours of operation (including specific times and days when construction activities causing noise/vibration would occur);</li> <li>(c) The processes to be undertaken including general acoustic management and mitigation measures proposed to be implemented throughout the course of the Project consistent with best practice and the triggers or thresholds for implementing them (if relevant);</li> <li>(d) Physical noise mitigation measures, including prohibiting the use of tonal reverse alarms, maintenance of access roads (to ensure they are smooth), plant selection and maintenance procedures, orientation of plant and machinery, and site layout. Physical noise mitigation measures shall also include the following, as required to ensure a BPO approach to the management of noise: setting minimum setback distances from sensitive receivers (dwellings); acoustic screening of the control chamber construction area and shaft site construction area; and/or pre-drilling of pile locations;</li> <li>(e) The identification of activities (e.g. sheet piling, tree chipping, out of hours concrete pours, night works) and locations that will require specific noise mitigation measures (including scheduling of works, location and orientation of works and/or the use of temporary acoustic barriers e.g. for tree chipping or night works), consultation undertaken with affected properties to develop the proposed noise management measures, any feedback received from those stakeholders along with the noise management measures that will be adopted based on this consultation;</li> <li>(f) Identification of any activities particularly sensitive to vibration and noise in the vicinity of the proposed works (e.g. Stebbing Recording Centre located at 108/114 Jervois Road, Herne Bay) along with the details of consultation with the land owner(s) of the sites where the sensitive activities are located and any management measures that will be adopted, where required, based on this consultation;</li> <li>(g) Details of noise and vibration monitoring to be undertaken and reporting requirements.</li> </ul> |

|                             | <p>(h) Communication requirements with stakeholders including notice to owners and occupiers of adjacent buildings prior to construction activities commencing on the site;</p> <p>(i) A complaint management system with contact numbers for key construction staff responsible for the implementation of the CNVMP and complaint investigation.</p> <p>(j) The process for changing, updating, and certifying any changes to the CNVMP; and</p> <p>(k) Training procedures for construction personnel.</p> <p>The CNVMP shall be implemented and maintained by the Consent Holder throughout the construction period for the Project or relevant Project stage to manage potential adverse noise and vibration effects arising from construction activities. The CNVMP or any specific component of the CNVMP shall be updated as necessary and provided to the Council for certification prior to being implemented.</p>   |                 |                  |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|-----------------------------|---|-----------------|------------------|---------------------------|--|-----------------|------------------|----------|-----------------|----|----|-----------------|----|----|-----------------|----|----|-----------------|----|----|-----------|-----------------|----|----|-----------------|----|----|-----------------|----|----|-----------------|----|----|-----------------------------|-----------------|----|----|-----------------|----|----|-----------------|----|----|-----------------|----|----|
| 24                          | <p>Construction noise shall be measured and assessed in accordance with NZS6803:1999 <i>Acoustics – Construction Noise</i>, and shall comply with the following <del>AUP</del>-noise limits except where authorised by an ASCNVMP (Condition 25):</p> <table><tr><th rowspan="2">Time of week</th><th rowspan="2">Time Period</th><th colspan="2">Maximum noise level (dBA)</th></tr><tr><th>L<sub>eq</sub></th><th>L<sub>max</sub></th></tr><tr><td rowspan="4">Weekdays</td><td>6:30am - 7:30am</td><td>60</td><td>75</td></tr><tr><td>7:30am - 6:00pm</td><td>75</td><td>90</td></tr><tr><td>6:00pm - 8:00pm</td><td>70</td><td>85</td></tr><tr><td>8:00pm - 6:30am</td><td>45</td><td>75</td></tr><tr><td rowspan="4">Saturdays</td><td>6:30am - 7:30am</td><td>45</td><td>75</td></tr><tr><td>7:30am - 6:00pm</td><td>75</td><td>90</td></tr><tr><td>6:00pm - 8:00pm</td><td>45</td><td>75</td></tr><tr><td>8:00pm - 6:30am</td><td>45</td><td>75</td></tr><tr><td rowspan="4">Sundays and public holidays</td><td>6:30am - 7:30am</td><td>45</td><td>75</td></tr><tr><td>7:30am - 6:00pm</td><td>55</td><td>85</td></tr><tr><td>6:00pm - 8:00pm</td><td>45</td><td>75</td></tr><tr><td>8:00pm - 6:30am</td><td>45</td><td>75</td></tr></table> <p><i>Advice note:</i></p> <p><del>i. These limits are contained in Table E25.6.27(1) of the AUP and modified by Standard E25.6.27(4).</del></p> <p><del>ii. Project construction hours are subject to Condition 10.</del></p> | Time of week    | Time Period      | Maximum noise level (dBA) |  | L <sub>eq</sub> | L <sub>max</sub> | Weekdays | 6:30am - 7:30am | 60 | 75 | 7:30am - 6:00pm | 75 | 90 | 6:00pm - 8:00pm | 70 | 85 | 8:00pm - 6:30am | 45 | 75 | Saturdays | 6:30am - 7:30am | 45 | 75 | 7:30am - 6:00pm | 75 | 90 | 6:00pm - 8:00pm | 45 | 75 | 8:00pm - 6:30am | 45 | 75 | Sundays and public holidays | 6:30am - 7:30am | 45 | 75 | 7:30am - 6:00pm | 55 | 85 | 6:00pm - 8:00pm | 45 | 75 | 8:00pm - 6:30am | 45 | 75 |
| Time of week                | Time Period   |                 |                  | Maximum noise level (dBA) |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             |   | L <sub>eq</sub> | L <sub>max</sub> |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
| Weekdays                    | 6:30am - 7:30am   | 60              | 75               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             | 7:30am - 6:00pm   | 75              | 90               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             | 6:00pm - 8:00pm   | 70              | 85               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             | 8:00pm - 6:30am   | 45              | 75               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
| Saturdays                   | 6:30am - 7:30am   | 45              | 75               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             | 7:30am - 6:00pm   | 75              | 90               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             | 6:00pm - 8:00pm   | 45              | 75               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             | 8:00pm - 6:30am   | 45              | 75               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
| Sundays and public holidays | 6:30am - 7:30am   | 45              | 75               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             | 7:30am - 6:00pm   | 55              | 85               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             | 6:00pm - 8:00pm   | 45              | 75               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
|                             | 8:00pm - 6:30am   | 45              | 75               |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
| <u>24A</u>                  | <p><u>Between 22:00 and 07:00 regenerated noise from tunnelling activities shall not exceed 35 dB LAeq(15 min) within occupied buildings except where authorised by an ASCNVMP (Condition 25).</u></p>  |                 |                  |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
| 25                          | <p>An Activity Specific Construction Noise and Vibration Management Plan (ASCNVMP) shall be prepared for works predicted to exceed the project construction noise or vibration limits. For the avoidance of doubt, an ASCNVMP may be a separate management plan or may be included as a section in the CNVMP or otherwise appended to the CNVMP.</p>  |                 |                  |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |
| 26                          | <p>In preparing an ASCNVMP, the Consent Holder shall consult with those parties likely to be exposed to noise levels exceeding the relevant noise limit(s) and shall submit the results of this consultation to Auckland Council, including any response by the Consent Holder to a matter raised in consultation. The ASCNVMP(s) shall be submitted to the Council for review and approval at least 7 working days prior to the proposed works commencing.</p> <p>Works subject to the ASCNVMP(s) shall not commence until approval is received from the Council. If monitoring shows that levels specified in an ASCNVMP are being exceeded, work generating the</p>  |                 |                  |                           |  |                 |                  |          |                 |    |    |                 |    |    |                 |    |    |                 |    |    |           |                 |    |    |                 |    |    |                 |    |    |                 |    |    |                             |                 |    |    |                 |    |    |                 |    |    |                 |    |    |

|                                      | <p>exceedance shall stop and not recommence until further mitigation is implemented in accordance with an amended ASCNVMP approved by the Council.</p> <p>An ASCNVMP must:</p> <ul style="list-style-type: none"><li>(a) describe the activity (including duration), plant and machinery that is expected not to comply with the noise limits in Condition 24;</li><li>(b) describe the mitigation measures proposed to reduce the noise levels as far as practicable, including any options that have been discounted due to cost or any other reason;</li><li>(c) provide predicted noise levels for all receivers where the noise levels will not be compliant with the limits in Condition 24, including the effect of mitigation specified in (b) above;</li><li>(d) provide a set of noise limits that are Activity – Specific;</li><li>(e) describe the noise monitoring that will be undertaken to determine compliance with the Activity – Specific noise limits; and</li><li>(f) describe any additional noise mitigation measures that may be implemented to maintain compliance with Activity Specific noise limits.</li></ul> <p>Note: It is accepted that the noise limits in Condition 24 may not be met at all times, but that the Consent Holder will adopt the Best Practicable Option to achieve compliance.</p> |                                     |        |                                     |                                      |                          |          |                        |          |                          |               |          |
|--------------------------------------|---|-------------------------------------|--------|-------------------------------------|--------------------------------------|--------------------------|----------|------------------------|----------|--------------------------|---------------|----------|
| 27                                   | An ASCNVMP shall be submitted to Auckland Council no less than seven (7) working days prior to works on that stage commencing for certification that the ASCNVMP complies with the requirements of Conditions 25 and 26, as applicable.   |                                     |        |                                     |                                      |                          |          |                        |          |                          |               |          |
| 28                                   | Construction activities shall comply with the Guideline vibration limits set out in the German Industrial Standard DIN 4150-3 (1999) Structural Vibration – Part 3 Effects of Vibration on Structures (DIN 4150).   |                                     |        |                                     |                                      |                          |          |                        |          |                          |               |          |
| 29                                   | <p>All tunnelling and construction works must be designed and undertaken to ensure that vibration from the Project does not exceed the following vibration limits in buildings (amenity values):</p> <table><tr><th>Receiver</th><th>Period</th><th>Peak Particular Velocity (PPV) mm/s</th></tr><tr><td rowspan="2">Occupied activity sensitive to noise</td><td>Night-time 10 pm to 7 am</td><td>0.3 mm/s</td></tr><tr><td>Day-time 7 am to 10 pm</td><td>2.0 mm/s</td></tr><tr><td>Other occupied buildings</td><td>At all times.</td><td>2.0 mm/s</td></tr></table> <p>Note: Works generating vibration for three days or less between the hours of 7 am to 6 pm may exceed these limits subject to compliance with Condition 28 and provided that all occupied buildings within 50 m of the extent of the works generating vibration are advised in writing no less than three days prior to the vibration-generating works commencing. The written advice must include details of the location of the works, the duration of the works, a phone number for questions and complaints and the name of the site manager.</p> <p><i>Advice note: These limits are contained in Table E25.6.30.1 of the AUP.</i></p>   | Receiver                            | Period | Peak Particular Velocity (PPV) mm/s | Occupied activity sensitive to noise | Night-time 10 pm to 7 am | 0.3 mm/s | Day-time 7 am to 10 pm | 2.0 mm/s | Other occupied buildings | At all times. | 2.0 mm/s |
| Receiver                             | Period  | Peak Particular Velocity (PPV) mm/s |        |                                     |                                      |                          |          |                        |          |                          |               |          |
| Occupied activity sensitive to noise | Night-time 10 pm to 7 am  | 0.3 mm/s                            |        |                                     |                                      |                          |          |                        |          |                          |               |          |
|                                      | Day-time 7 am to 10 pm  | 2.0 mm/s                            |        |                                     |                                      |                          |          |                        |          |                          |               |          |
| Other occupied buildings             | At all times.   | 2.0 mm/s                            |        |                                     |                                      |                          |          |                        |          |                          |               |          |
| 30                                   | <p>If measured or predicted vibration exceeds the limits set out in Condition 29 the Consent Holder must consult with the occupants to:</p> <ul style="list-style-type: none"><li>(a) Discuss the nature of the work and the anticipated days and hours when the exceedances are likely to occur.</li></ul>   |                                     |        |                                     |                                      |                          |          |                        |          |                          |               |          |



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|                    | <p>(b) Determine whether the exceedances could be timed or managed to reduce the effects on the receiver.</p> <p>(c) Provide in writing, no less than three (3) days before the vibration-generating works begin, details of the location of the works, the duration of the works, a phone number for questions and complaints, and the name of the liaison person (Condition 4).</p> <p>The Consent Holder must maintain a record of the consultation and provide this to the Council upon request.</p> <p><i>Advice note: Vibration amenity limits do not apply at any dwelling that is not occupied during the works. This allows high vibration works to be scheduled when residents are not home, subject to compliance with Condition 28 and compliance with amenity controls at other nearby dwellings that are occupied.</i></p>  |
| Traffic management |   |
| 31                 | <p>The Consent Holder shall submit a Construction Traffic Management Plan (CTMP) to Council at least twenty (20) working days prior to the commencement of Project works at Point Erin Park. No construction activity shall commence until certification is provided from Council that the CTMP satisfactorily gives effect to the objectives set out below, and complies with the requirements in Conditions 32 to 34.</p> <p>The objectives of the CTMP are to:</p> <ul style="list-style-type: none"> <li>(a) Ensure construction traffic movements on the transport network, including Sarsfield Street, Curran Street and the SH1 onramp, are appropriately managed;</li> <li>(b) Provide for the safety of everyone at all times;</li> <li>(c) Minimise disruption and maintain pedestrian and vehicle access to/from surrounding residential properties and Point Erin Park including Point Erin Pool, carpark and playground;</li> <li>(d) Minimise disruption from construction traffic on the travelling public and road users along the identified sections of the construction routes;</li> <li>(e) Seek to avoid full road closures and minimise any partial or managed closures;</li> <li>(f) Manage integration with other construction projects and Auckland Transport projects.</li> </ul>   |
| 32                 | <p>The CTMP shall be prepared by a suitably qualified and experienced traffic expert and in accordance with the Council's requirements for traffic management plans or CTMPs (as applicable) and New Zealand Transport Authority's Code of Practice for Temporary Traffic Management and must set out, as a minimum:</p> <ul style="list-style-type: none"> <li>(a) Traffic management measures to be implemented;</li> <li>(b) Any road closures that will be required and the nature and duration of any traffic management measures that will result, including any temporary restrictions, detours or diversions for general traffic and buses;</li> <li>(c) Construction traffic routing;</li> <li>(d) The design of the access roads and vehicle crossings;</li> <li>(e) Methods to manage the effects of the delivery of construction material, plant and machinery. This shall include, but not be limited to: <ul style="list-style-type: none"> <li>• ensuring heavy vehicles access the south-western construction area via Shelly Beach Road and Sarsfield Street and a right turn into the construction area (i.e. not via Curran and Sarsfield Streets / no left turn into the construction area);</li> <li>• traffic management measures, including a site Traffic Management Supervisor: <ul style="list-style-type: none"> <li>– to ensure the safe movement of construction vehicles on Sarsfield Street and the Pool access road, to manage any potential effects, and to ensure the safe access of cars, cyclists, pedestrians, service trucks and emergency vehicles accessing the Pool and public carpark;</li> </ul> </li> </ul> </li> </ul> |

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|    | <ul style="list-style-type: none"> <li>– to ensure safe ingress from Sarsfield Street to the southwestern construction area and safe egress onto Curran Street;</li> <li>– to ensure construction vehicles can negotiate access and egress to avoid any additional queueing on the adjacent road network during congested peak periods and to ensure a suitable truck layover area is provided if required.</li> </ul> <p>(f) Measures to maintain existing vehicle access to property where practicable, or to provide alternative access arrangements;</p> <p>(g) Measures to maintain pedestrian and cyclist movements adjacent to and through Point Erin Park and measures to reduce the impact on mobility impaired users on roads and footpaths adjacent to the construction works. Where the works impact on existing pedestrian or cycle ways, alternative temporary accessways shall be provided where practicable in accordance with Condition 37. Such access shall be safe, clearly identifiable and seek to minimise significant detours.</p> <p>(h) Provision for construction staff and visitor parking on site as far as practicable;</p> <p>(i) Proposed traffic volumes and movements associated with works outside the usual construction hours specified in Condition 11 and associated management and mitigation measures to be implemented.</p> <p><del>(e)(j)</del> <u>A construction driver education programme (due to the proximity of the Point Erin Pool, carpark and playground, and Ponsonby Primary School). This shall include a briefing for all construction drivers on the importance of slowing down and adhering to established speed limits when driving past Ponsonby Primary School, and to look out for school children and reversing vehicles at all times;</u></p> <p><del>(b)(k)</del> <u>Measures to communicate traffic management measures throughout construction activities (note: these measures may form part of the CP required by Condition 5).</u></p> <p><u>(l) Any proposed monitoring to measure the impact of the works on traffic and the impact of the traffic management measures. If safety or operational issues are evident, measures to be implemented to address these issues.</u></p> <p><u>(m) Measures to manage and/or supervise the egress of vehicles onto Curran Street.</u></p> <p><u>(n) Measures to manage traffic on the Shelly Beach Rd off-ramp (where required).</u></p> <p><del>(e)(o)</del> <u>Details of consultation (including outcomes agreed) with the consent holder and Ponsonby Primary School with regard to maintaining the safety of school students during construction. Details of all safety measures and interventions will be documented in the CTMP. The CTMP will include details of restrictions on heavy vehicles along Curran Street (between Sarsfield Street and Jervois Road) during school pick up and drop off times (between 8:05am – 8:50am and 3:00pm – 3:30pm) during term time.</u></p> |
| 33 | The Consent Holder shall consult with the landowner (Auckland Council) and CLM to confirm measures to manage parking and ensure access is maintained for Pool maintenance and operational vehicles, emergency vehicles, and construction traffic during peak parking demand periods for the Point Erin Pool, how these measures will be implemented and the party responsible for implementing any measures identified.  |
| 34 | Access for all vehicles to the south western construction area shall be via a one-way system entering from the Sarsfield Street access and exiting from the Curran Street access. The design of the access and vehicle crossing on Curran Street shall ensure it does not affect the effective, efficient and safe operation of the Curran Street SH1 onramp.  |
| 35 | The temporary and permanent vehicle crossings from the south western construction area onto Curran Street shall be designed to meet minimum sight distance requirements of the Safe Intersection Sight Distance (SISD) requirements set out in 'Austroad (2009). Guide to Road Design Part 4A: Unsignalised and Signalised Intersections. Sydney'.   |

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| 36              | The Consent Holder shall ensure the construction areas in Point Erin Park are cordoned off/fenced to ensure public safety.  |
| 37              | <p>The Consent Holder shall install construction site fencing to prevent pedestrians using the section of footpath on Sarsfield Street between Curran Street and the site ingress.</p> <p>Prior to the temporary closure of the existing footpath through the south-western corner of Point Erin Park, the Consent Holder shall:</p> <ul style="list-style-type: none"> <li>(a) provide temporary pedestrian access through the Park to the east of the construction area and wayfinding signs to direct pedestrians to the temporary route and an existing accessible route in the south eastern corner of the Park.</li> <li>(b) undertake temporary improvements on the north side of Sarsfield Street for pedestrians to cross Sarsfield Street. This shall include the provision of a dropped kerb and tactile paving, a short section of surfacing in the berm, and a temporary parking restriction in the immediate area.</li> </ul> <p>These shall be maintained for the duration of the construction works. Once construction works are completed, the closed footpath through the south-western corner of Point Erin Park and the section of footpath on the northern side of Sarsfield Street shall be reinstated.</p> <p><i>Advice note: These requirements are subject to landowner and asset manager approvals.</i></p> |
| 38              | All construction traffic shall be managed at all times in accordance with the certified CTMP.   |
| Tree management |   |
| 39              | <p>The Consent Holder shall provide details in the CMP (required by Condition 7) as to how the potential impacts of construction on trees and vegetation will be managed and minimised. The details shall provide for the:</p> <ul style="list-style-type: none"> <li>(a) Identification of trees to be protected, pruned, removed, or transplanted and procedures for marking these out on site.</li> <li>(b) Procedures for identifying and protecting trees to be retained where works occur in the dripline or rootzone of such trees as identified by a suitably qualified and experienced arborist.</li> <li>(c) Temporary tree protection fencing which must remain in place for the duration of the works for the Project or relevant Project stage.</li> <li>(d) Procedures for undertaking the works under the supervision of a suitably qualified and experienced arborist including works within the dripline or rootzone of trees and the installation of the temporary fencing.</li> </ul>  |
| 40              | All works shall be undertaken in accordance with the Tree Protection Methodology set out in Appendix A of the Arboricultural Report referenced in Condition 1. All tree removal and pruning shall be undertaken by a suitably qualified and experienced arborist, with all work carried out in accordance with currently accepted arboricultural techniques (e.g., Arb Australia and NZ Arb Minimum Industry Standard MIS308).  |
| 41              | Within thirty (30) working days following completion of works on the site, the Consent Holder must supply a completion report to Council. The report must be prepared by a suitably qualified and experienced arborist. The completion report must confirm (or otherwise) that the works have been undertaken in accordance with the tree protection measures contained within the Arboricultural Report referenced in Condition 1 and subject to the specific tree protection measures identified in accordance with Conditions 39 and 33 above.   |
| Cultural        |   |

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| 42   | <i>[To be developed in consultation with mana whenua and in response to forthcoming cultural values assessments]</i>   |
| Archaeology and heritage                           |  |
| 43   | <p>The Consent Holder must engage a suitably qualified and experienced archaeologist to give advice on work undertaken on the site in Point Erin Park including monitoring preliminary earthworks. The names and qualifications of this specialist must be provided to the Council prior to earthworks commencing.</p> <p><i>Advice note:</i></p> <p><i>The Heritage New Zealand Pouhere Taonga Act 2014 (hereafter referred to as the Act) provides for the identification, protection, preservation and conservation of the historic and cultural heritage of New Zealand. All archaeological sites are protected by the provisions of the Act (section 42). It is unlawful to modify, damage or destroy an archaeological site without prior authority from Heritage New Zealand Pouhere Taonga. An Authority is required whether or not the land on which an archaeological site may be present is designated, a resource or building consent has been granted, or the activity is permitted under Unitary, District or Regional Plans.</i></p> <p><i>It is the responsibility of the Consent Holder to consult with Heritage New Zealand Pouhere Taonga about the requirements of the Act and to obtain the necessary authorities under the Act should these become necessary, as a result of any activity associated with the consented proposals. For information please contact the Heritage New Zealand Pouhere Taonga Archaeologist - 09 307 0413 / archaeologistMN@historic.org.nz.</i></p> |
| 44   | <p>If any archaeological sites, including human remains are exposed during site works then the following procedures shall apply:</p> <ol style="list-style-type: none"> <li>Immediately after it becomes apparent that an archaeological or traditional site has been exposed, all site works in the immediate vicinity shall cease.</li> <li>The Consent Holder shall immediately secure the area so that any artefacts or remains are untouched.</li> <li>The Consent Holder shall notify mana whenua, the Heritage New Zealand Pouhere Taonga and the Council (and in the case of human remains, the New Zealand Police) as soon as practicable, and advise those parties that an archaeological site has been exposed so that appropriate action can be taken. Works shall not recommence in the immediate vicinity of the archaeological site until approval is obtained from the Heritage New Zealand Pouhere Taonga.</li> </ol> <p><i>Advice note: Should earthworks on the site result in the identification of any previously unknown archaeological site, including any archaeological artefact, koiwi or taonga, the Land Disturbance – Regional Accidental Discovery rule [E12.6.1] set out in the AUP(OP) apply.</i></p>  |
| <u>Groundwater Permit Conditions – WAT60415460</u> |  |
| 45   | <u>This consent shall expire 35 years from the granting of the consent (or in May 2058) unless it has lapsed, been surrendered or been cancelled at an earlier date pursuant to the RMA.</u>   |
| 46   | <p><u>The Consent Holder must ensure that all excavation, dewatering systems, retaining structures and associated works for the construction of the shafts, tunnels, underground structures and associated works, including all temporary and permanent works, must be designed, constructed and maintained so as to avoid, as far as practicable, any damage to buildings, structures and services (including road infrastructure assets such as footpaths, kerbs, catch-pits, pavements and street furniture), unless otherwise agreed in writing with the asset owner.</u></p> <p><i>Advice note: This condition is subject to conditions 55 to 63 below.</i></p>   |

Commented [A1]: Based on Conditions 3.1 to 3.7 of Grey Lynn Tunnel consent Mark Does "shall" need to be changed to "must" throughout??

Commented [A2]: Condition inconsistent with 55 - 63 further below regarding damage which acknowledge this may happen but needs to be rectified.

Commented [A3R2]: Added advice note and "as far as practicable" to address.



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| 47   | The Consent Holder must ensure that all backfilling of temporary shafts is designed and constructed to the required engineering standard, so as to avoid any damage to buildings, structures and services.  |
| 48   | The Consent Holder must, at least 10 working days prior to the Commencement of Dewatering, advise the Council, in writing, of the date of the proposed commencement of this work.   |
| 49   | The Consent Holder must, at least 10 working days following Completion of Dewatering and excavation, advise the Council, in writing, of the date of completion  |
| 50   | <p>Under section 128 of the RMA the conditions of this consent may be reviewed by the Council at the Consent Holder's cost:</p> <p>Within six months after Completion of Dewatering and subsequently at intervals of not less than five years thereafter in order:</p> <p>a) To deal with any adverse effects on the environment which may arise or potentially arise from the exercise of this consent and which it is appropriate to deal with at a later stage</p> <p>b) To vary the monitoring and reporting requirements, and performance standards, in order to take account of information, including the results of previous monitoring and changed environmental knowledge on:</p> <ul style="list-style-type: none"> <li>• ground conditions</li> <li>• aquifer parameters</li> <li>• groundwater levels; and</li> <li>• ground surface movement</li> </ul> |
| 51   | <p>Within six months after Completion of Dewatering and subsequently at intervals of not less than five years thereafter in order:</p> <p>a) To deal with any adverse effects on the environment which may arise or potentially arise from the exercise of this consent and which it is appropriate to deal with at a later stage</p> <p>b) To vary the monitoring and reporting requirements, and performance standards, in order to take account of information, including the results of previous monitoring and changed environmental knowledge on:</p> <ul style="list-style-type: none"> <li>• ground conditions</li> <li>• aquifer parameters</li> <li>• groundwater levels; and</li> <li>• ground surface movement</li> </ul>   |
| <p>Groundwater and settlement</p> <p>The below proposed conditions are intended to provide key conditions to inform the application. It is anticipated that Auckland Council will impose further standard groundwater conditions, including monitoring requirements, similar to the Grey Lynn Tunnel conditions.</p> |   |
| 4552   | <p><b>Groundwater and Settlement Monitoring and Contingency Plan</b></p> <p>The Consent Holder <del>shall</del><b>must</b>, before Commencement of Dewatering, prepare a <b>Groundwater and Settlement Monitoring and Contingency Plan (GSM&amp;CP)</b> addressing groundwater and settlement monitoring for each of the relevant Project stages. This includes a draft and final <b>GSMCPM&amp;CP</b> as required by Condition <del>53</del>53.</p>  |

Commented [A4]: Given activity is short term associated with construction, not sure that 5 yearly reviews are required.

Commented [A5]: Appears to be a drafting error in GLT consent that this is a separate condition - should be one condition with the text above. Have combined here

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|             | <p>The <u>GSMCPM&amp;CP</u> <u>shall must</u> demonstrate how the conditions of this consent will be implemented and <u>shall must</u> include the following:</p> <ul style="list-style-type: none"> <li>(a) details of the groundwater monitoring programme;</li> <li>(b) details of the ground surface settlement and building movement monitoring required;</li> <li>(c) details of the building risk assessment process and building condition surveys process;</li> <li>(d) a location plan of settlement and building deformation marks, <u>retaining wall deflection markers</u> and the location of existing and proposed groundwater monitoring bores.</li> <li>(e) details of the shaft and control chamber retaining wall monitoring programme.</li> <li>(f) the groundwater, deformation and settlement Alert and Alarm Levels (Trigger Levels) to be utilised for early warning of settlement with the potential to cause damage to buildings and services and details of the processes used to establish, and if necessary, to review these triggers;</li> <li>(g) details on the procedures for notification of the <u>ManagerCouncil</u> in the event that Trigger Levels are exceeded;</li> <li>(h) options for additional investigations and analyses to determine the potential for groundwater effects or settlement and for damage to structures, including additional groundwater or settlement monitoring and building condition surveys; and</li> <li>(i) details of the contingency measures to be implemented in the event of Trigger Levels being exceeded, including details on the practicable methodologies to avoid, remedy, or mitigate surface settlements with the potential to cause damage to buildings.</li> </ul> <p><i>Advice note:</i></p> <p><i>'Commencement of Dewatering' means commencement of bulk excavation and/or commencing taking any groundwater from a chamber/shaft or tunnel excavation.</i></p> |
| <u>4653</u> | <p>The Consent Holder <u>shall must</u> submit to the Auckland Council for certification:</p> <ul style="list-style-type: none"> <li>(a) a draft <u>GSMCPM&amp;CP</u> including aspects dealing with pre-construction monitoring and locations of monitoring marks, including the pre-construction monitoring required under the conditions of this consent. This <u>shall must</u> be provided at least 6 months prior to the Commencement of Dewatering for chamber excavations/shaft sinking or tunnelling of any Project stage; and</li> <li>(b) the final <u>GSMCPM&amp;CP</u>. This <u>shall must</u> be provided at least 20 working days prior to Commencement of Dewatering for chamber excavations/shaft sinking or tunnelling of any Project stage.</li> </ul>   |
| <u>4754</u> | <p>The Consent Holder <u>shall must</u> comply with the <u>GSMCPM&amp;CP</u> at all times.</p> <p>The Consent Holder may amend the <u>GSMCPM&amp;CP</u> from time to time, as necessary for the Project or any Project stage. Any amendments to the <u>GSMCPM&amp;CP</u> must be certified by Auckland Council prior to any such amendment being implemented.</p>   |
| <u>4855</u> | <p>Risk <u>Assessment</u></p> <p>The Consent Holder <u>shall must</u> undertake a risk assessment to identify existing buildings and structures at risk of damage due to settlement caused by shaft sinking and chamber excavations, or tunnelling activities. The risk assessment process <u>shall must</u> be set out in the <u>GSMCPM&amp;CP</u> required by Condition <u>5252</u> and <u>shall must</u> be based upon the final tunnel alignment and construction methodology of the tunnel and chamber/shaft excavations, the groundwater and settlement</p>   |

Commented [A6]: Process for dealing with damage in following conditions (hence comment above)

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|                         | <p>monitoring required under this consent, and groundwater and settlement modelling completed using this data. The risk assessment <del>shall</del><b>must</b> include:</p> <ul style="list-style-type: none"> <li>(a) identification of the zone of influence where differential settlements of greater (steeper) than 1:1,000 are predicted due to chamber excavations/shaft sinking or tunnelling activities;</li> <li>(b) identification of the building types in this zone, and their susceptibility to settlement induced damage; and</li> <li>(c) identification of the buildings and structures at risk of damage due to chamber excavations/shaft sinking or tunnelling activities.</li> </ul>  |
| <del>49</del> <b>56</b> | <p>A schedule of the addresses of existing buildings and structures identified as being potentially at risk of damage through the risk assessment process defined in Condition 55<del>55</del> <del>shall</del><b>must</b> be included in the <del>GSMCPM&amp;CP</del> required by Condition <del>45-52</del> (Note: this requirement does not apply to the Consent Holder's infrastructure or where written approval has been obtained from the relevant network utility operator).</p>   |
| <del>50</del> <b>57</b> | <p>Pre-construction condition survey</p> <p>The Consent Holder <del>shall</del><b>must</b> consult with owners of existing buildings and structures identified through the building risk assessment process defined in Condition 55<del>55</del>, and subject to the owner's approval on terms acceptable to the Consent Holder, undertake a detailed pre-construction condition survey of these structures to confirm their existing condition and enable the sensitivity of the existing buildings and structures to any groundwater and ground settlement changes to be accurately determined. The survey <del>shall</del><b>must</b> be completed at least three months prior to the Commencement of Dewatering of any Project stage involving shaft sinking and chamber excavation, or tunnelling. The intent of the survey is to assist in enabling the magnitude of allowable effects from changes in groundwater pressure and ground settlement movements to be reasonably determined.</p> <p>The survey <del>shall</del><b>must</b> include but not necessarily be limited to the following:</p> <ul style="list-style-type: none"> <li>(a) major features of the buildings and site developments, including location, type, construction, age and existing condition;</li> <li>(b) type and capacity of foundations;</li> <li>(c) existing levels of aesthetic damage;</li> <li>(d) existing level of structural distress or damage;</li> <li>(e) assessment of structural ductility;</li> <li><del>(f)</del> <b>(f)</b> susceptibility of structure to movement of foundations, including consideration of the local geological conditions.</li> </ul> <p><i><del>Advice note: 'Commencement of Dewatering' means commencement of bulk excavation -and/or commencing taking any groundwater from a shaft or tunnel excavation (after construction of the pile walls (if required) and/or dewatering prior to bulk excavation).</del></i></p> <p>(f)</p> |
| <del>54</del> <b>58</b> | <p>Post-construction condition surveys</p> <p>Unless otherwise agreed in writing with the building owner that such survey is not required, the Consent Holder <del>shall</del><b>must</b> (subject to the owner(s) approval on terms acceptable to the Consent Holder), within six months of the Completion of Dewatering of any Project stage involving shaft sinking, chamber excavation or tunnelling, undertake a post construction survey of buildings identified in accordance with Condition 55<del>55</del>.</p>   |

Commented [A7]: Taken from GLT Condition 3.12

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|             | <p>The Consent Holder may, if they are able to provide evidence to show the deformation was not caused by activities related to this consent, seek written approval from Auckland Council to waive this condition. If any building damage is identified following completion of the pre-construction survey, the survey <del>shall</del><u>must</u> determine the likely cause of damage.</p> <p><i>Advice note:</i></p> <p><i>'Completion of Dewatering' means when all the permanent chamber and shaft lining, base slab and walls are complete and the tunnel lining is complete, and effectively no further groundwater is being taken for the construction of the chamber/shaft/tunnel, in accordance with the design.</i></p>   |
| <u>5259</u> | <p><b>Additional condition surveys</b></p> <p>The Consent Holder <del>shall</del><u>must</u>, at the direction of Auckland Council, and subject to the owner's approval on terms acceptable to the Consent Holder, undertake an additional survey on any existing building or structure surveyed in accordance with Condition 57<del>57</del>, for the purpose of checking for damage and for following up on a report of damage to that building. The requirement for any such survey will cease six months after the Completion of Dewatering of any Project stage involving shaft sinking, chamber excavation or tunnelling.</p>   |
| <u>60</u>   | <p><u>The building condition surveys required by the conditions of this consent must be undertaken by an independent and suitably qualified person. When requested in writing by the Council, the Consent Holder shall provide the contact details and qualifications of this person within five workings days</u></p>  |
| <u>5361</u> | <p>The Consent Holder <del>shall</del><u>must</u> ensure that a copy of the pre, post-construction and any additional building survey reports are provided to the respective property owner(s). A copy is also to be made available to Auckland Council upon request (unless the property owner(s) has instructed the Consent Holder not to do so).</p>   |
| <u>5462</u> | <p>The building condition surveys required by this consent <del>shall</del><u>must</u> be undertaken by an independent and suitably qualified and experienced practitioner. When requested in writing by Auckland Council, the Consent Holder provide the contact details and qualifications of this person within five workings days.</p>  |
| <u>5563</u> | <p><b>Repair of damage</b></p> <p>If the exercise of this consent causes any unforeseen damage to buildings, structures or services not assessed under Conditions 57<del>57</del> and/or 59<del>59</del>, the Consent Holder <del>shall</del><u>must</u> notify Auckland Council as soon as practicable, and provide in writing to the Auckland Council a methodology for repair of the damage caused that has been certified by a Chartered Professional Engineer, and <del>shall</del><u>must</u> urgently undertake such repairs in accordance with the certified methodology, at its cost, unless written approval for this damage is provided from the owners.</p> <p><i>Advice note:</i></p> <p><i>Unforeseen damage - means damage to buildings and structures that has occurred outside the area identified as the zone of influence under Condition 55<del>55</del> or to buildings or structures that are located within the zone of influence but were not considered to be at risk at the time of the approval of the <u>GSMCPM &amp; CP</u>.</i></p> |
| <u>64</u>   | <p><b>Groundwater Monitoring</b></p> <p><u>The Consent Holder must install and maintain groundwater monitoring boreholes at the locations described in the GSMCP for the period required by Conditions 66<del>66</del>, 68<del>68</del> and 70<del>70</del> or as otherwise set out in the GSMCP. Should any of the monitoring bores be damaged and become in-operable or unsuitable for monitoring, then the Consent Holder must contact the Council within three working days and a new monitoring bore must be installed at a nearby location in consultation with, and to the satisfaction of, the Council.</u></p>   |

Commented [A8]: Taken from GLT Condition 3.14



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| 65 | <u>The Consent Holder must monitor groundwater levels in the groundwater monitoring boreholes and keep records of the water level measurement and corresponding date. All water level data must be recorded to an accuracy of at least <math>\pm 5</math>mm. These records must be compiled and submitted to the Council at six monthly intervals.</u>   |
| 66 | <u>The Consent Holder must monitor groundwater levels monthly in boreholes identified in the GSMCP and keep records for a period of at least six (6) months before the Commencement of Dewatering of any Project stage involving shaft sinking or tunnelling. The variability in groundwater levels over this period will be utilised to establish the seasonal groundwater level variability. The Consent Holder must monitor groundwater levels at regular intervals in all proposed monitoring boreholes during the monitored period (three readings indicating steady state) before the Commencement of Dewatering of any Project stage involving shaft sinking or dewatering.</u>   |
| 67 | <u>Prior to the Commencement of Dewatering of any Project stage involving shaft sinking or tunnelling, the Consent Holder must assess the potential groundwater effects resulting from the exercise of this consent. The output of this assessment must be used to define the expected groundwater level at each borehole and to establish groundwater Trigger Levels for each borehole that minimise the potential for damage to existing buildings or structures. The process for establishing groundwater Trigger Levels must be set out in the GSMCP and must be based upon the final tunnel alignment and construction methodology, and any groundwater monitoring required under this consent, and must be based upon groundwater modelling completed using this data. A factor of natural seasonal variability must be allowed for in this review based on the survey completed under <u>Condition 68</u>.</u>  |
| 68 | <u>From Commencement of Dewatering of any Project stage involving shaft sinking or tunnelling, the Consent Holder must monitor groundwater levels in each borehole at a minimum of monthly intervals and records must be kept of each monitoring date, the corresponding water level in each borehole and the corresponding depth of all excavations or as otherwise set out in the GSMCP. In addition to the above, all boreholes located within 100 metres of the shaft construction site or within 100 metres of the tunnel excavation face must be monitored for groundwater level at least once in any period of seven consecutive days or as otherwise set out in the GSMCP. These records must be compiled and submitted to the Council at six (6) monthly intervals.</u>   |
| 69 | <u>All monitoring data obtained pursuant to Condition 68 must be compared to the predicted groundwater levels for each borehole. Where Trigger Levels are exceeded the actions as set out in the GSMCP must be undertaken and the Council must be notified within three working days, advising of the trigger exceedance, the risk of settlement causing damage to buildings and details of the actions taken.</u>   |
| 70 | <p><u>The Consent Holder must continue to monitor groundwater levels in each borehole at monthly intervals for a period of twelve (12) months following Completion of Dewatering of any Project stage involving shaft sinking or tunnelling, or for a lesser period if groundwater levels in any particular borehole show either:</u></p> <p><u>a) recovery of the groundwater level to within two (2) metres of the pre-construction groundwater level and is above trigger levels; or</u></p> <p><u>b) a trend of increasing groundwater level in at least three consecutive monthly measurements and is above trigger levels, in which case monitoring at that borehole may cease.</u></p> <p><u>After 12 months following the Completion of Dewatering of any Project stage involving shaft sinking or tunnelling, monitoring of groundwater levels must continue at the direction of the Council if groundwater levels are not recovering from construction effects and there is a risk of adverse effects on neighbouring buildings or properties.</u></p> |

Commented [A9]: Think this should be based on the pre-construction monitoring

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| 5671 | <p>Settlement and Deflection Monitoring</p> <p>The Consent Holder <del>shall</del><u>must</u> establish and maintain a Settlement Monitoring Network of ground <del>and building</del> settlement monitoring <del>and retaining wall</del> marks and inclinometers to detect any deformation (vertical and/or horizontal movements) at the locations described in the <del>GSMCPM&amp;CP</del> and for the period required by the conditions of this consent.</p> <ol style="list-style-type: none"> <li>The locations of the monitoring marks <del>shall</del><u>must</u> be identified on a plan within the <del>draft GSMCPM&amp;CP</del>, as required under Condition <del>52</del>52 (note: this <del>shall</del><u>must</u> reflect the draft monitoring plans provided as <del>Appendix D</del> to the <del>Addendum Report – Assessment of Groundwater and Settlement Effects</del>Assessment referenced in Condition 1);</li> <li>The locations and number of monitoring marks <del>shall</del><u>must</u> be sufficient to provide a reliable basis for assessing, monitoring and responding to settlement risk during chamber/shaft and tunnel construction work, and for confirming compliance with the limits set out in the <del>GSMCPM&amp;CP</del>.</li> </ol>   |
| 72   | <del>In the event of any of the monitoring marks required under Condition 71</del> <u>being destroyed or becoming inoperable, the Consent Holder must, unless otherwise agreed in writing by the Council, replace the monitoring marks with new monitoring marks.</u>  |
| 73   | <del>The Consent Holder must survey and record the elevation of each monitoring mark and record the corresponding date. Monitoring marks must be surveyed at least three times over a 12-month period prior to commencement of any Project stage involving shaft sinking or tunnelling to establish seasonal variability, and the minimum level of these baseline surveys must be used to establish the pre-construction reference ground level. All surveys are to be completed to an accuracy of at least ± 2mm for level and ± 5mm for plan position, or as otherwise achieved by best practice precise levelling.</del>  |
| 74   | <del>The Consent Holder must survey and record the readings of each inclinometer as required in Condition 71</del> <u>at an average of each two (2) metres depth of shaft excavation, and at a minimum frequency of fortnightly intervals from the Commencement of Dewatering of any Project stage involving shaft sinking for a period of one month after the Completion of Excavation, then monthly until the Completion of Dewatering for any Project stage involving shaft sinking, or as otherwise set out in the GSMCP. At least two baseline surveys must be completed by the Consent Holder before Commencement of Dewatering.</u>   |
| 5775 | <p>Prior to the Commencement of Dewatering of any Project stage involving chamber/shaft sinking or tunnelling, the Consent Holder <del>shall</del><u>must</u> assess the potential settlement effects resulting from the exercise of this consent. The output of this assessment <del>shall</del><u>must</u> be used to define the expected settlement levels and to establish settlement Trigger Levels (Alert Levels and Alarm Levels) that minimise the potential for damage to existing buildings or structures. The process for establishing settlement Trigger Levels <del>shall</del><u>must</u> be set out in the <del>GSMCPM&amp;CP</del> and <del>shall</del><u>must</u> be based upon the final tunnel alignment and construction methodology, any groundwater, deformation or settlement monitoring required under this consent, and groundwater and settlement modelling completed using this data. A factor of natural seasonal variability <del>shall</del><u>must</u> be allowed for in this review<del>R</del>.</p> <p><i>Advice Note:</i></p> <p><i>'Alert Level' is the Differential and Total Settlement Limit set at a threshold less than the Alarm Level, at which the Consent Holder <del>shall</del><u>must</u> implement further investigations and analyses as described in the <del>GSMCPM&amp;CP</del> to determine the cause of settlement and the likelihood of further settlement.</i></p> <p><i>'Alarm Level' is the Differential and Total Settlement Limit set in Condition <del>78</del>73, or which has the potential to cause damage to buildings, structures and services, at which the Consent Holder <del>shall</del><u>must</u> immediately stop dewatering the site and cease any activity which has the potential to</i></p> |

Commented [A10]: Appendix D to the Addendum report has the draft monitoring plans

Commented [A11]: Conditions 72 to 74 Taken from GLT Conditions 3.27 to 3.29

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|                                     | cause deformation to any building or structure or adopt the alternative contingency measures approved by the <del>Team Leader Compliance Monitoring Central</del> Council.   |
| 76                                  | <u>During construction in any Project stage involving shaft sinking or tunnelling, the Consent Holder must survey the settlement monitoring network described in Condition 71<del>74</del> at maximum six monthly intervals and keep records of each date and the corresponding ground surface and building level. In addition to the above, all monitoring marks located within 50 metres of the excavated tunnel and within 100 metres of the tunnel excavation face must be monitored at least once every month, monitoring marks located within 100 metres of an excavated shaft must be monitored at least once every week, or as otherwise set out in the GSMCP. These records must be compiled and submitted to the Council at six monthly intervals.</u> |
| 77                                  | <u>The Consent Holder must compare all settlement monitoring data obtained during shaft sinking and tunnelling construction work to the pre-construction minimum levels in accordance with the GSMCP. Where Trigger Levels are exceeded the appropriate actions as set out in the GSMCP must be undertaken and the Council must be notified within three working days, advising of the trigger exceedance, the risk of settlement causing damage to buildings, and details of the actions taken</u>  |
| <del>58</del> 78                    | The Consent Holder <del>shall</del> must ensure that the exercise of this consent does not cause building or ground settlement greater than the Alarm Level thresholds specified below or as otherwise identified in accordance with Condition <del>75</del> <del>75</del> and set out in the approved GSMCP. <ul style="list-style-type: none"> <li>(a) greater (i.e. steeper) than 1:1,000 differential settlement (the Differential Settlement Alarm Level) between any two adjacent settlement monitoring marks required under this consent; or</li> <li>(b) greater than 50 mm total settlement (the Total Settlement Alarm Level) at any settlement monitoring mark required under this consent.</li> </ul>  |
| 79                                  | <u>The Consent Holder must continue to monitor the Monitoring Stations at monthly intervals for a total period of 12 months after Completion of Dewatering of any Project stage involving shaft sinking or tunnelling, or for a shorter period if certified by the Council. At 12 months following the Completion of Dewatering of any Project stage involving shaft sinking or tunnelling, monitoring of ground and settlement marks must continue at the direction of the Council if monitoring marks have breached trigger levels and there is risk of adverse effects.</u>   |
| 80                                  | <u>The Council must be advised in writing within 10 working days of when excavation and dewatering has been completed.</u><br><br><u>Advice Note: The Consent Holder is advised that the discharge of pumped groundwater to a stormwater system or waterbody will need to comply with any other regulations, bylaws or discharge rules that may apply.</u>   |
| <u>Temporary construction yards</u> |  |
| 58A                                 | <u>Any temporary retaining wall required to form the construction areas for the Project shall be timber post and board, unless otherwise approved by Auckland Council. An alternative construction material may be used, provided that the alternative material will achieve similar or better landscape and amenity outcomes (and subject to the approval of Auckland Council).</u>   |
| 58B                                 | <u>The consent holder shall ensure that any graffiti applied to structures, buildings, or other surfaces within the temporary construction yards shall be promptly and effectively removed. Graffiti removal shall commence within 48 hours of its discovery.</u>  |

Commented [A12]: Conditions 76 and 77 taken from GLT conditions 3.31 and 3.32

Commented [A13]: Conditions 79 and 80 taken from GLT conditions 3.34 and 3.35

## C. Park reinstatement and permanent assets

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|------------------------------------|---|
| Permanent buildings and structures |   |
| 5981                               | <p>At least three (3) -months prior to their construction, the Consent Holder shall provide design plans and information which specifies the design details, location and materials of the permanent above-ground wastewater infrastructure to remain at the site including:</p> <ul style="list-style-type: none"> <li>(a) The plant room;</li> <li>(b) The air vent;</li> <li><del>(b)(c)</del> (c) Permanent retaining walls</li> <li><del>(c)(d)</del> (d) Any lid structures and chamber covers.</li> </ul> <p>The design for the buildings/aboveground structures shall take into account the following matters:</p> <ul style="list-style-type: none"> <li>(a) The requirement to meet the AUP permitted activity limits for operational noise (Condition 88<del>X</del>);</li> <li>(b) The extent to which the buildings/structures minimise potential adverse effects, and maintain and enhance the amenity of the surroundings (including neighbouring properties) including through: <ul style="list-style-type: none"> <li>• The use of building materials which minimise the potential for graffiti and vandalism;</li> <li>• Ensuring buildings/structures are visually integrated into, and respond to, the immediate surrounding environment through use of appropriate colours, textures, design and modulation of <del>the plant room building form</del> buildings/structures;</li> <li>• Minimising the visual clutter of surface elements;</li> <li>• The application of Crime Prevention Through Environmental Design (CPTED) principles in the design of <del>the plant room buildings/structures</del>; and</li> <li>• The use of planting to screen and/or visually anchor the plant room building and enhance amenity values.</li> </ul> </li> </ul> <p>The design plans and information for permanent buildings and structures may be provided separately or may form part of the PRLP required by Condition 84 below.</p> |
| Mitigation Planting                |   |
| 6082                               | <p>The Consent Holder shall provide planting to replace and mitigate the removal of trees within Point Erin Park. This shall comprise the planting of a minimum of 38 exotic trees or 49 native trees (native trees shall be preferentially used wherever practicable. As many of these trees as practicable and acceptable to the landowner (Auckland Council) shall be planted within Point Erin Park and comprise a component of the Park Restoration and Landscape Plan required by Condition 84 below.</p> <p><i>Advice note: Where these trees are to be planted within Auckland Council Parks, then the location and species to be planted shall be subject to the agreement of Auckland Council as landowner (Parks and Community Facilities).</i></p>  |
| 83                                 | <p><u>Should the two large pōhutukawa trees in the south-western corner of the park be removed for the project, and subject to obtaining approval from Auckland Council Parks, at least two of the trees referred to in Condition 82 shall be native specimen trees, at least 160L in size. The specimen trees are to be located as close as practicable to the two removed pōhutukawa trees in the south-western corner of the park, taking into account:</u></p> <ul style="list-style-type: none"> <li>• <u>the long-term viability of the trees (e.g. suitable soil/proximity to the coast/potential disease such as myrtle rust)</u></li> <li>• <u>the extent to which the replacement trees will mitigate the visual and amenity effects of the removal of the pōhutukawa trees</u></li> </ul>  |

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• <u>provision for informal recreation and walkways through the south-western corner of the park</u></li> <li>• <u>the need to avoid future conflicts between rootzones and infrastructure.</u></li> <li>• <u>Feedback received from mana whenua and Auckland Council Parks</u></li> </ul> <p><u>The species and location selected shall be provided to Auckland Council, setting out the reasons for the species and location selection.</u></p> <p><u>If Auckland Council Parks does not agree to the replanting of two large specimen trees in south-western corner of the park, the Consent Holder shall provide a record of Auckland Council Parks decision to the Council. The consent holder will still be obliged to meet the replanting requirements in condition 82.</u></p>   |
| Park Restoration and Landscape Plan (PRLP) |   |
| <u>6184</u>                                | The Consent Holder shall prepare a photographic record of the pre-construction condition of the park and any park assets within the footprint and immediate vicinity of the construction areas. This record shall be provided to the Council at least one (1) month prior to construction in Point Erin Park commencing.  |
| <u>6285</u>                                | <p>At least three (3) months prior to the completion of the Project, the Consent Holder shall prepare and submit to Auckland Council for certification a Park Restoration and Landscape Plan (PRLP) for the site. The objective of the PRLP is to provide details on the reinstatement of Point Erin Park to restore and enhance the landscape, amenity-<del>useability</del> and recreational values of the park. <u>In particular, the PRLP shall seek to achieve the following outcomes:</u></p> <ol style="list-style-type: none"> <li><u>1 Visual integration of above-ground permanent infrastructure.:</u></li> <li><u>2 Reinstatement of open space for informal recreation.</u></li> <li><u>3 Mitigation for the visual and amenity effects of the loss of two large pōhutukawa trees (if removed).</u></li> </ol>   |
| <u>6386</u>                                | <p>The PRLP is to be prepared by a suitably qualified and experienced landscape architect in consultation with the landowner (Auckland Council) and mana whenua and shall include the following:</p> <ol style="list-style-type: none"> <li>Removal of construction yards, equipment, temporary retaining walls, and construction access not required for operation and maintenance access.</li> <li>Details of the restoration of the open space to at least the same standard as that recorded as per Condition 84.</li> <li>Replacement or reinstatement of any park assets that were affected by the Project, or any new proposed assets, including, but not limited to: <ul style="list-style-type: none"> <li>• grassed areas</li> <li>• footpaths</li> <li>• park furniture</li> </ul> </li> <li>Details of proposed contouring, landscaping and planting. This is to include: <ul style="list-style-type: none"> <li>• finished contours / levels</li> <li>• details on the replacement of trees removed as per the mitigation planting required by Condition 82</li> <li>• any additional planting (including proposed species, location and planting timetable). This shall include details of replacement planting in the south western corner of the park to mitigate tree removal in this area and to assist in visually integrating the plant room and permanent retaining walls <u>as well as any planting proposed to visually integrate the air vent.</u></li> <li>• implementation and maintenance programmes (including a landscape planting management and maintenance plan)</li> </ul> </li> </ol> |

|      |  |
|------|--|
|      | <p>(e) Details of the treatment of permanent retaining walls, including wall construction, materials and design, planting, and any health and safety requirements (e.g. fencing).</p> <p>(f) Details of all hard landscaping materials, dimensions and specifications;</p> <p>(g) Any details of proposed way finding and interpretation signage within and adjacent to the park.</p> <p>(h) Record of consultation with the landowner (Auckland Council) and mana whenua.</p> <p>In preparing the PRLP, consideration shall be given to opportunities to enhance Point Erin Park including its existing recreation, landscape and amenity values (e.g. additional or alternative walkways, seating, appropriate recognition of cultural values, etc), and planting and landform modification around the plant room, ventilation arrangement and permanent retaining walls to assist in the visual integration of any permanent above ground infrastructure.</p> |
| 6487 | <p>The PRLP shall set out a timeframe for implementation. This shall be as soon as reasonably practicable, and unless otherwise confirmed through the PLRP, shall be within twelve (12) months of practical completion of construction works.</p>  |

## D. Operational phase consent conditions

| Noise                              |   |             |  |      |             |                                    |            |                        |                 |                            |
|------------------------------------|---|-------------|--|------|-------------|------------------------------------|------------|------------------------|-----------------|----------------------------|
| <a href="#">6588</a>               | <p>The noise arising from the operation of the plant room shall not exceed the following noise limits when measured within the <b>notional</b> boundary of any site zoned as follows:</p> <table border="1"> <tr> <th colspan="2">Residential</th></tr> <tr> <th>Time</th><th>Noise Limit</th></tr> <tr> <td>Monday to Saturday 0700-2200 hours</td><td rowspan="2">50 dB LAeq</td></tr> <tr> <td>Sunday 0900-1800 hours</td></tr> <tr> <td>All other times</td><td>40 dB LAeq<br/>75 dB LAFmax</td></tr> </table> <p><i>Advice notes:</i></p> <ul style="list-style-type: none"> <li>(a) These noise limits relate to noise generated by the normal operation of permanent works associated with the Project and do not apply to short term maintenance activities.</li> <li>(b) Noise levels shall be measured and assessed in accordance with New Zealand Standards NZS6801:2008 Acoustics - Measurement of Environmental Sound and NZS6801:2008 Acoustics - Environmental Noise.</li> </ul> | Residential |  | Time | Noise Limit | Monday to Saturday 0700-2200 hours | 50 dB LAeq | Sunday 0900-1800 hours | All other times | 40 dB LAeq<br>75 dB LAFmax |
| Residential                        |   |             |  |      |             |                                    |            |                        |                 |                            |
| Time                               | Noise Limit   |             |  |      |             |                                    |            |                        |                 |                            |
| Monday to Saturday 0700-2200 hours | 50 dB LAeq  |             |  |      |             |                                    |            |                        |                 |                            |
| Sunday 0900-1800 hours             |   |             |  |      |             |                                    |            |                        |                 |                            |
| All other times                    | 40 dB LAeq<br>75 dB LAFmax  |             |  |      |             |                                    |            |                        |                 |                            |
| Operational air quality            |   |             |  |      |             |                                    |            |                        |                 |                            |
| <a href="#">6689</a>               | The Consent Holder shall, at all times operate, monitor and maintain the Point Erin Tunnel so that odour discharges authorised by this consent are maintained at the minimum practicable level.   |             |  |      |             |                                    |            |                        |                 |                            |
| <a href="#">6790</a>               | <p>Within any private property there shall be no odour caused by discharges from the normal operation of the Point Erin Tunnel which, in the opinion of an enforcement officer, is noxious, offensive or objectionable.</p> <p><i>Advice Note: The storage and transfer of wastewater within the Point Erin Tunnel as well as scheduled maintenance activities, and any discharges into air arising from this, are considered part of the normal operation of the tunnel.</i></p>   |             |  |      |             |                                    |            |                        |                 |                            |
| <a href="#">6891</a>               | <p>The air vent shall be designed to disperse odour and minimise effects. This shall include:</p> <ul style="list-style-type: none"> <li>(a) a stack height of at least 3 m; and</li> <li>(b) a uni-directional discharge vent to allow the discharge when required but prevent inlet of air and preferentially draw inlet air through the control chamber.</li> </ul> <p>In the event that odour discharges are found to result in noxious, dangerous, offensive or objectionable, the Team Leader, Central Compliance Monitoring, may require the Consent Holder increase the vertical stack height to enable greater dispersion.</p>   |             |  |      |             |                                    |            |                        |                 |                            |
| <a href="#">6992</a>               | Except during maintenance, cleaning, or other inspections all access hatches shall be adequately covered to ensure fugitive discharges to atmosphere are kept to a minimum practicable level  |             |  |      |             |                                    |            |                        |                 |                            |
| <a href="#">7093</a>               | All odour complaints that are received arising from the operation of the Point Erin Tunnel shall be recorded. The complaint details shall include:  |             |  |      |             |                                    |            |                        |                 |                            |

- |  |  |
|--|--|
|  | <ul style="list-style-type: none"><li>(a) the date, time, location and nature of the complaint;</li><li>(b) the name, telephone number and address of the complainant, unless the complainant elects not to supply these details;</li><li>(c) weather conditions, including approximate wind speed and direction, at time of the complaint; and</li><li>(d) any remedial actions undertaken.</li></ul> |
|--|--|

Details of any complaints received (as recorded above) shall be provided to the Manager Council within 7 days of receipt of the complaint(s).

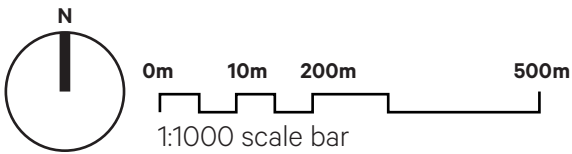


## **Appendix B      Updated indicative planting plan**

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# Indicative Planting Masterplan.

Drawing base: Jacobs 2013964.002



## Indicative Tree Species Palette (Subject to confirmation through Co-Design Process)

| Botanical Name        | Common Name |
|-----------------------|-------------|
| Alectryon excelsus    | Titoki      |
| Aristotelisa          | Makomako    |
| Beilschmiedia tarairi | Tarairi     |
| Metrosideros excelsa  | Pōhutukawa  |
| Pittosporum           | Kohuhu      |
| Sophora microphylla   | Kowhai      |
| Vitex lucens          | Puriri      |

It is anticipated that tree planting will occur in a range of grades between approximately 45Lt and 160Lt (approx. 2m - 3.5m in height).

## Indicative Shrub Species Palette (Subject to confirmation through Co-Design Process)

| Botanical Name           | Common Name    |
|--------------------------|----------------|
| Arthropodium cirratum    | Regarenga Lily |
| Carex lessoniana         | Rautahi        |
| Ficinia nodosa           | Wiwi           |
| Hebe diosmifolia         | Hebe           |
| * Muehlenbeckia complexa | Pohuehue       |
| Phormium colensoi        | Wharariki      |
| Phormium tenax           | Harakeke       |

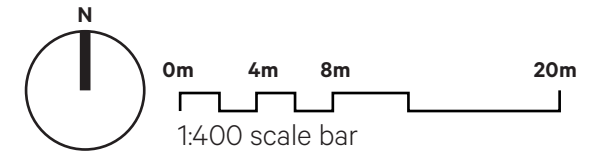
\*Indicating potential vine / climber species to be planted at the base of the Curran Street retaining wall.

NOTES: Planting is indicative only. The purpose of this drawing is to outline the intent of planting to assist in mitigating effects and successfully integrating the Project into the park and landscape setting. The park reinstatement plan will be developed during a co-design process with key stakeholders, with planting (location, species, grade) subject to change, whilst being consistent with the intent of planting indicated on these plans.



# Planting Intent - Lower Terrace.

Drawing base: Jacobs 2013964.008



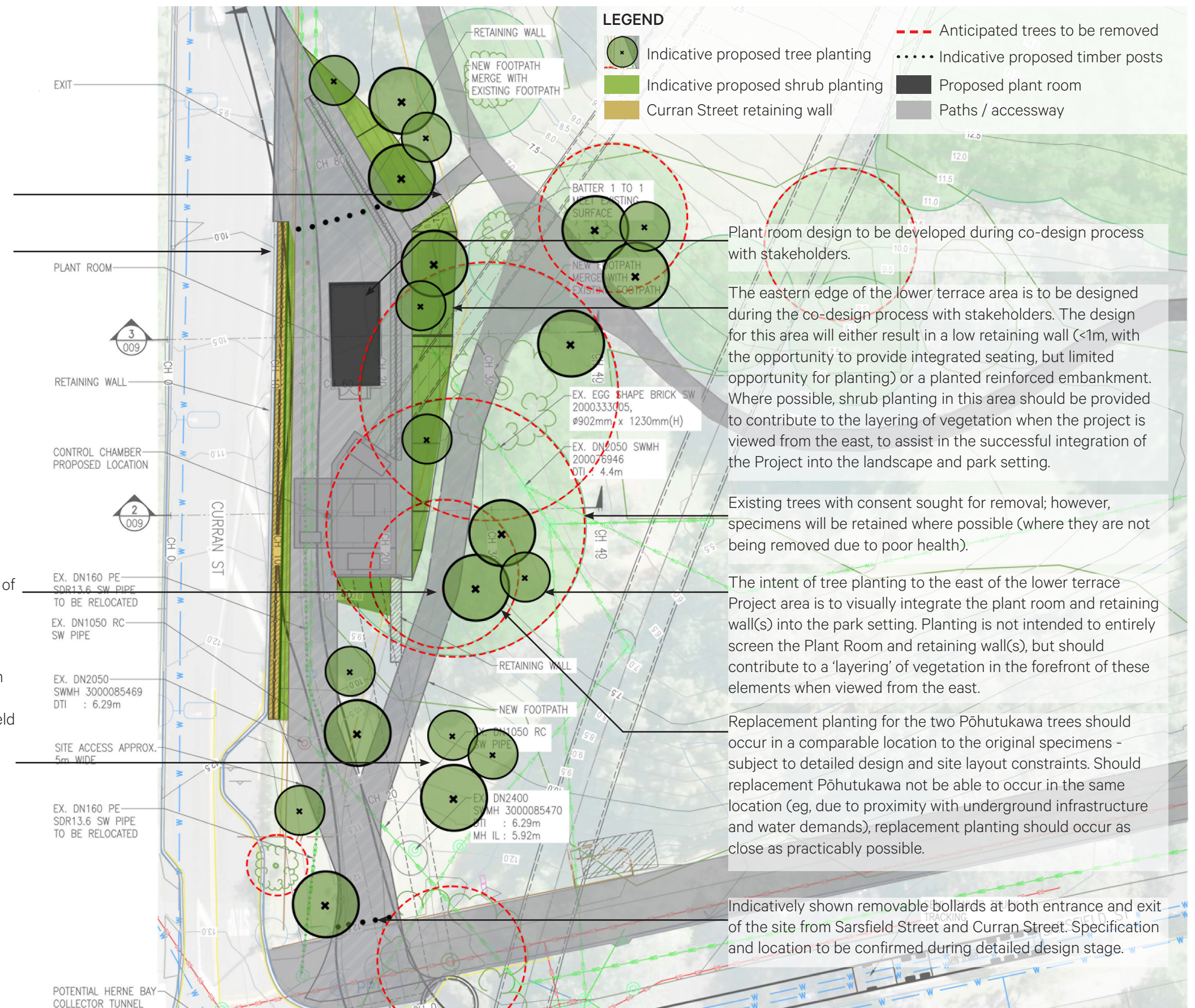
Opportunity to provide footpath connection between the lower terrace platform and the footpath network.

The Curran Street retaining wall is to be designed and detailed during a co-design process with stakeholders. The height of the retaining wall will be no greater than 3m, tapering to ground level to the north and south (with much of the retaining wall being less than 1m in height). The intent of planting along the retaining wall (climbers / vine / shrub) is to 'break-up' the continual expanse and scale of the wall, and provide a layering of vegetation in combination with tree and shrub planting to the east of the plant room. Planting along the retaining wall should be focussed on those parts of the wall that are greater than 1.5m in height. Parts of the wall which are lower in 1.5m in height (and are of a more pedestrian scale) will be mitigated by the planting to the east and south of the lower terrace area.

Proposed re-aligned path (similar to existing) to the east of the lower terrace area.

The intent of tree planting to the south of the lower terrace Project area is to visually integrate the plant room and Curran Street retaining wall into the landscape when viewed from the south (including properties along Sarsfield Street). Planting is not intended to entirely screen views of the Project, and is to give consideration to potential conflicts with underground infrastructure. Tree planting to the south of the lower terrace should provide an entranceway into the park.

NOTES: Planting is indicative only. The purpose of this drawing is to outline the intent of planting to assist in mitigating effects and successfully integrating the Project into the park and landscape setting. The park reinstatement plan will be developed during a co-design process with key stakeholders, with planting (location, species, grade) subject to change, whilst being consistent with the intent of planting indicated on these plans.



Plant room design to be developed during co-design process with stakeholders.

The eastern edge of the lower terrace area is to be designed during the co-design process with stakeholders. The design for this area will either result in a low retaining wall (<1m, with the opportunity to provide integrated seating, but limited opportunity for planting) or a planted reinforced embankment. Where possible, shrub planting in this area should be provided to contribute to the layering of vegetation when the project is viewed from the east, to assist in the successful integration of the Project into the landscape and park setting.

Existing trees with consent sought for removal; however, specimens will be retained where possible (where they are not being removed due to poor health).

The intent of tree planting to the east of the lower terrace Project area is to visually integrate the plant room and retaining wall(s) into the park setting. Planting is not intended to entirely screen the Plant Room and retaining wall(s), but should contribute to a 'layering' of vegetation in the forefront of these elements when viewed from the east.

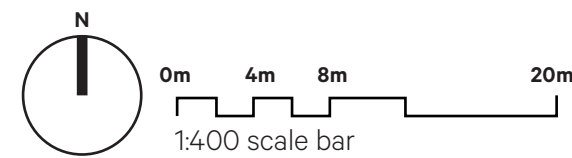
Replacement planting for the two Pōhutukawa trees should occur in a comparable location to the original specimens - subject to detailed design and site layout constraints. Should replacement Pōhutukawa not be able to occur in the same location (eg, due to proximity with underground infrastructure and water demands), replacement planting should occur as close as practicably possible.

Indicatively shown removable bollards at both entrance and exit of the site from Sarsfield Street and Curran Street. Specification and location to be confirmed during detailed design stage.



# Planting Intent - Upper Terrace.

Drawing base: Jacobs sketch



LEGEND

Indicative proposed tree planting

Indicative hardstand

Indicative venting arrangement

Proposed works in this area have been planned to ensure the retention of existing vegetation, with the vent stack positioned against the existing tree-line. Proposed planting should be provided to reinforce the edge of the open space, and assist in further integrating the venting arrangement into the enclosing tree-line.

Architectural design of the venting arrangement is to be developed through the co-design process with stakeholders. Two primary options will be explored including one vent stack, or two smaller vent stacks (that equate to the same vent area as the one stack option).

Opportunity to include additional amenities (eg, seating) to be explored through the co-design process with stakeholders.

Central Interceptor shaft location for the extraction of the tunnel boring machine. The shaft will be capped and grassed, with only a manhole cover visible on the surface.

Flow diversion pipeline (below ground)

Central Interceptor pipeline (below ground)

NOTES: Planting is indicative only. The purpose of this drawing is to outline the intent of planting to assist in mitigating effects and successfully integrating the Project into the park and landscape setting. The park reinstatement plan will be developed during a co-design process with key stakeholders, with planting (location, species, grade) subject to change, whilst being consistent with the intent of planting indicated on these plans.

