25 July 2019

Watercare Services Limited
73 Remuera Road
Remuera
AUCKLAND 1050

Attention: Paul Jones

Dear Paul

Request for further information under section 92 of the Resource Management Act 1991

Application number(s):	BUN60339273 (Bundle reference number) LUC60339274 (Land use) LUS60339442 (Streamworks) WAT60339409 (Water permit) DIS60339275 (Contaminated land discharge) DIS60339441 (Diversion and discharge of stormwater)
Applicant:	Watercare Services Limited
Proposed activity(s):	New water treatment plant - enabling works, including regional earthworks and vegetation removal; streamworks including reclamation, diversion and erosion protection; groundwater diversion and dewatering; disturbance of contaminated soil and contaminated land discharge; diversion and discharge of stormwater runoff from impervious areas.
Site address:	Woodlands Park Road / Manuka Road, Waima (Titirangi) • Designated site located south of Woodlands Park Road and east of Manuka Road (where replacement WTP to be located) • Designated site located north of Woodlands Park Road (where Reservoir 1 is to be located) • Designated site located south of Woodlands Park Road and west of Manuka Road (existing Huia WTP, and where Reservoir 2 is to be located)

Following a review of your application by planning and other techncial experts on behalf of the Council, further information is required to enable a better understanding of the proposal and its environmental effects, pursuant to section 92 of the Resource Management Act 1991 (RMA).

The matters for which further information is sought are set out below.

1. Regional Stormwater

1.1 Water quality treatment

The options analysis for water quality treatment requires more detail, particularly in terms of rejecting biofiltration or permeable paving as options for stormwater quality management vs. proprietary filtration. Please provide a more detailed analysis of alternative options particularly with reference to the Best Practicable Option criteria outlined within the RMA and referenced through relevant AUP objectives and policies.

1.2 Hydrology Mitigation

Please provide the following information that the proposal to achieve retention by means of infiltration to ground, through the base of the dry ponds/dam:

(a) Preliminary calculations indicating that the base of the ponds can achieve retention for the intended catchment.
(b) Potential infiltration rates for the base of both of the ponds needs to be identified.
(c) Confirm that WSL are comfortable with infiltration through the base of the dry pond/dam (in terms of increased risk relative to geotechnical stability).

1.3 Green Roofs

(a) Please provide a summary of the key design features of the existing dry pond, with reference to the appropriateness of the pond's use as a hydrology mitigation device for the replacement WTP.

(b) Drawings for the new dry pond and preliminary supporting calculations. It is understood that calculations for inlet/outlet orifice and spillway specifically will be finalised at detail designed stage as these are subject to change and are reliant of final impervious area of plant. However, please provide preliminary pond design calculations to validate the concept design and footprint.

1.4 Outfall

A new outfall is proposed to the Yorke Gully Stream and the proposed design is a standard engineered wingwall structure. Please provide a supporting ecological impact assessment regarding the new outfall and include an investigation of alternative design solutions.

2. Streamworks and Earthworks

2.1 Streamworks

(a) The current SEV calculations indicate that 71% of the stream loss will be addressed via the diversion channel. The Armstrong_Manuka stream contains a piped section. It is understood that a feasibility study of daylighting this section of stream is being undertaken. An estimated ECR calculation has been provided for daylighting a section of the Armstrong_Manuka stream which shows that this could potentially address the remaining 29% of the stream impacts. If daylighting is to be pursued, please include this in the ecological report along with accompanying SEV data, and anticipated timeframes for when the daylighting would occur in relation to when the stream impact is to occur. If there is a large time lag between impact and restoration activities, how will this be accounted for?

(b) While specific design details of the stream diversion are yet to be decided, the SEV assumptions need to be included in the final design. Please provide a draft condition under the *Augier* principle for the stream diversion channel design.

(c) SEVm-P score for Vlining is still a natural channel with no modification. While the constructed stream channel will be as natural as possible there will still be some sections of rip rap similar to as shown in the engineering drawings.

(d) Please provide all updated SEV spreadsheets.

2.2 Earthworks

While SRP1 has an odd shape, it could operate efficiently provided the baffles are installed correctly to increase the retention time. These baffles would need to be the full height of the pond (up to the primary spillway level). Please provide an enlarged plan view of SRP1 showing the baffles positioned appropriately to increase the retention time.

3. Geotechnical and Groundwater

3.1 Mechanical settlement due to excavations

(a) Please confirm the expected extent of any mechanical settlement, and the magnitude of any settlement in the vicinity of third party assets (e.g. Woodlands Park Road, Manuka Road and / or the 375 mm stormwater line in Manuka Road). In the absence of any quantitative assessment beyond the site boundary, the total settlement limits in the consent conditions will be based on consolidation settlement only.

(b) Please confirm the total cumulative settlement in the vicinity of third party assets (e.g. Woodlands Park Road, Manuka Road, and / or the 375 mm stormwater line in Manuka Road). Please confirm the expected effect of the calculated levels of settlement in terms of risk of damage.

3.2 Monitoring Plan

Please provide an updated plan which includes unique identifiers for each instrument, and, provide recommended trigger levels based on the assessment of effects presented here.[1]

4. Terrestrial Ecology

4.1 The indicative construction methodology mentions the use of stockpiles during earthworks. Please provide locations for potential stockpiles to confirm that no further vegetation clearance will be required than is already documented and mapped in the application documents.

4.2 There are a number of mature trees in close proximity to the proposed works (WTP and Reservoirs 1 and 2) that may need specific methodologies to work around in order to retain these trees. In addition, new bush margins will be exposed and tree roots potentially affected. Please provide an arborist's assessment of the effects on trees and bush areas remaining in the surrounds of the proposed works, and provide protection methodologies to minimise accidental damage.

4.3 The kauri knoll that is now being retained adjacent to Reservoir 1 will be subject to potential draining of groundwater, and the long term survival of these trees under the altered soil-water regime and removal of their surrounding vegetation needs to be addressed. Mature trees under stress become susceptible to pathogens such as kauri dieback. Please provide an arborist's assessment of these matters together with mitigation measures.

[1] Please note that further amendments to the monitoring plan may be recommended subject to the close of out mechanical settlement effects (if any).

4.4 Mitigation for the removal of 0.03ha of riparian vegetation, including a mature kahikatea from the Armstrong Gully stream, and removal of 0.07ha of riparian vegetation from the Armstrong_Manuka stream, is stated to be "riparian planting". Please provide details on appropriate mitigation for this loss of riparian vegetation function as well as bank profiles, a planting plan and planting schedule for where this mitigation planting will be located. If not in situ, please advise how will it benefit the affected stream reaches, and whether other mitigation beneficial for the stream is proposed (e.g. removal of barriers to fish passage, enhancement of in-stream habitat), or are there stream reaches that are devoid of riparian vegetation and require planting?

5. Kauri Dieback

5.1 Section 6.2.4: Spread of Kauri Dieback Disease

The application does not go into sufficient detail in relation to hygiene measures required for activities within areas where kauri trees are present. As with other large construction works, it is requested that a Kauri Dieback Management Plan is developed for all activities related to the construction works to be approved by the Senior Advisor – Kauri Dieback.

5.2 Section 7.3: Mitigation

The 'Erosion and Sediment Control' section is silent in relation to the potential for *Phytophthora Agathidicida* to be transported via sediment entering streams/water courses and information describing how it is proposed to mitigate against this potentially occurring is required.

5.3 Section 7.4: Management of Significant Residual Effects

(a) The 'Project Goals and Objectives' section discusses the establishment of an accountable administrative structure that coordinates and implements conservation work on public and private land by way of a charitable trust for the Little Muddy Creek catchment (see item 7 below also). Such a trust would need to align closely with the Council's priorities for this catchment area. Although the development of such a trust does discuss employing administrative functions, there is no discussion on other resources being employed to assist in undertaking works which leaves the reader to assume that the trust would be reliable on volunteer and Council resources to undertake any works.

(b) Additionally, the proposal is already setting out targets for its first initial two years of operation. There is no discussion as to what occurs should the trust be unable to meet these commitments. Would the onus fall back on the Council if any commitments were not met?

(c) In relation to the specific remediation for kauri dieback, it is suggested that a 'kauri rescue' be initiated whereby Little Muddy Creek catchment residents would receive tree health assessment, installation of protective matting around kauri roots and phosphite treatment with ongoing monitoring and reporting on ongoing effectiveness. A few points of note:

(i) 'Kauri Rescue' is an organisation with whom the Council has a close working relationship. The Council is currently providing funding for the organisation to assist in supporting its ratepayers. Was the intent to support the organisation or was it just coincidence that the term 'kauri rescue' was used?

(ii) Tree health assessments are a service that the Council offers free of charge to all ratepayers and involves taking soil samples from around the base of kauri trees. This initiative would not add value to either the ratepayers or the Council.

(iii) The Council would not support protective matting for ratepayers' kauri trees as this would, long-term, have an adverse impact on tree health through interference with trees' natural processes.

(iv) Footnote #19 references a specific dosing regime for the application of phosphite. Please note that phosphite treatment is still being trialled and there is no one-dose regime applicable for all trees.

6. Ecology (Mitigation)

6.1 The effects assessment and draft Trust Deed make repeated reference to a Waima Biodiversity Management Plan ("Waima BMP"). Both documents state a number of broad objectives, however no details of targets, methods, strategy or contingency should targets not be met are provided in either document. It is not possible to assess the potential effectiveness of the proposed Waima Biodiversity Management Area ("Waima BMA") programme without review of a Waima BMP - even if in outline only – that provides a greater level of detail. Please provide an outline or draft version of the Waima BMP that provides the detail referred to above.

6.2 The loss of 3.5 ha of native forest and shrubland within the project development area is assumed to be permanent, or for at least as long as the design life of the infrastructure proposed. Please explain whether and how the proposed compensation programme as administered by the Trust Deed will provide for enhancements to biodiversity that last at least as long as the residual impacts of the development.

6.3 The compensation package is set at a sum of $5M. To properly assess the appropriateness of this sum at providing the biodiversity enhancements anticipated by the applicant, information is required as to how this sum is intended to be apportioned between all of the anticipated costs of developing and implementing the programme, including for example (but not limited to) administration, Trust costs, monitoring and reporting, and in particular the portion anticipated to be spent on activities that will

directly result in action on the ground (pest animal and weed control). Please provide this information.

Further matters of interest in respect of the above are as follows:

- The apportionment of costs on an annual basis for possum and rodent control compared to all other aspects of control on the ground; and
- The portion of estimated costs that may be spent on undertaking control of weed or animal pests where that control is already assumed to be undertaken by others on private or public land (for example, RPMP weeds), but which is being volunteered by the applicant as part of the Waima BMP programme.

6.4 The Applicant notes that one vulnerability of the proposed Waima BMA programme is that it relies upon community engagement. Please provide a copy of the "Community willingness to participate" survey.

6.5 The success of the programme relies in part on achieving pest control targets. These are not provided by the Applicant, however are central to our assessment of the validity and achievability of the proposed biodiversity management programme. Please provide the targets that will be set for animal and plant pest control.

6.6 The Waima BMA programme includes a range of activities. Some of these activities may already be funded, under way or included in future works programmes by the Council. Please provide a breakdown of the range of activities proposed by the Waima BMA programme, an indicative cost or percentage of the overall $5M Deed funding and whether the applicant regards each of those activities as being additional to work already undertaken by others.

6.7 What is the contingency should the work of the proposed Trust fail to meet the minimum participation threshold or minimum pest control targets (as requested in query 6.5 above)? How will effective outcomes for biodiversity be provided for in such a case?

6.8 The draft Trust Deed states that the Trust will operate for a minimum of 10 years, however the Deed does not appear to commit the Trust to action on the ground over that period. Please explain how the intention to undertake effective pest weed and animal control work will be provided for over a minimum 10 year period given the Trust Deed does not necessarily support this.

6.9 The Trust Deed would seem to allow funds in the Trust to be directed to a purpose other than for environmental management that is the focus of the Trust objective (Clause 19.2.2. and Clause 20.4.2). Please explain how this will be prevented.

7. Transportation

The adequacy of route widths to carry significantly increased volumes of heavy vehicles does not appear to be adequately addressed in Section 4.1.1. For example, page 36 notes that on both Titirangi Road and Atkinson Road South "*interaction of construction vehicles with adjacent land use activities will need to be managed*", but no detail is given of the type of management required or its local impacts. Page 12 of the CTMP suggests that some temporary prohibition of on-street parking may be necessary. This would potentially have a significant impact on parking supply for adjacent land uses, e.g. Titirangi village. The necessary traffic management measures at pinch points on construction truck routes should be identified so that they can be assessed and mitigated if necessary.

8. Contamination

8.1 Clarification of the comments in Section 3.5 of the Preliminary Site Investigation ("PSI") regarding unauthorised fill is requested. The PSI stated "*there were reports of unauthorised fill which appears to be related to an area of land in the Nihotupu catchment and not associated with the project site (and reported by AC in error)".* It also stated that "*the HAIL information request did not identify the location of the fill, however based in aerial photography it is inferred that this is on the replacement WTP site, as identified in the Archaeological Report and in the Google Street View images"*. Please confirm whether the 'fill' mentioned above referred to the same matter.

8.2 Please clarify the location of the 'Nihotupu catchment'. If the fill is within the replacement WTP site, please justify the reason that the PSI did not identify the fill as a potential HAIL and subsequently the SMP did not address it in the proposed pre-works sampling plan.

8.3 The PSI presumed that the maintenance workshop and chemical storage were associated with the current Huia WTP. However, the PSI did not consider it as a potential HAIL activity. Please justify this.

8.4 Please confirm whether the existing WTP on the site will be demolished. If so, please confirm whether there is any risk of asbestos containing material within the onsite buildings and structures and the control measures to prevent soil contamination during demolishment works.

8.5 Please update the PSI and SMP to address the above if required.

You are required to provide this information within 15 working days. If you are unable meet this timeframe, then please advise when you can provide the information by so that an alternative timeframe can be mutually agreed.

The information requested will be needed to prepare the hearing recommendation reports why a response to this request in full will be expected before a hearing can be scheduled.

If you have any queries, please contact me.

Yours sincerely,

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Resource Consents

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