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Report number:	202508054
Prepared for:	Kāpiti Coast District Council
Issue date:	24 September 2025
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KCDC PROPOSED PRIVATE PLAN CHANGE 4

65 and 73 Ratanui Road, Paraparaumu: Ecological Assessment Response

Dear Gina and Matt,

Please find a short report on the ecological suitability of proceeding with the Kāpiti Coast District Plan (**KCDP**) Private Plan Change 4 (**PPC4**), including consideration of concerns raised by submitters.

INTRODUCTION

Welhom Developments Ltd has submitted a request for a Private Plan Change (**PCC4**) to the Kāpiti Coast District for part of 65 and 73 Ratanui Road, Paraparaumu. This plan change seeks rezone the Site under the District Plan from its current Rural Lifestyle Zone to General Residential Zone with a Development Area and associated Structure Plan, provisions and rules, to enable the residential development of the Site, specifically a retirement village or otherwise an urban subdivision. A structure plan illustrating some of the key elements has been developed (**Figure 1**).

The Site comprises part of 65 and 73 Ratanui Road, which are two contiguous properties located in Paraparaumu, and has a combined area of 12.65 ha. The Site lies within the dune system that is part of the Foxton Ecological District and hence the topography is undulating with small natural inland wetlands[1] in some of the dune hollows.

[1] As identified in Keesing (2024) and as classified under the National Policy Statement for Freshwater Management 2020 (**NPS-FM**).

Figure 1 DEV3- Figure 1: Ratanui Development Area Structure Plan.
Source: Response to Further Information request 14 February 2025.

Figure 2 of the ecological report (Keesing 2024[2]) describes 14 small natural inland wetlands with a total area of 621 m^2 while the remaining six wetland areas are purported to fail to meet the criteria in the National Policy Statement for Freshwater Management (**NPS-FM**).

The wetlands are described as generally dominated by exotic plant species and surrounded by grazed pasture, and while technically dune hollows, they do not contain sufficient indigenous features to be considered naturally rare and threatened dune slacks. The wetlands are also not considered significant under the criteria of Policy 23 of the Greater Wellington Regional Council (**GWRC**) Regional Policy Statement (**RPS**) as they are considered to have low ecological value and function. Wetland 2 and Wetland 17 are described as constructed wetlands and hence not deemed to be natural inland wetlands (Keesing 2024).

A waterway flows east to west across the middle of the Site, which GWRC has classified as a highly modified stream[3] (**Figure 1** and **Figure 2**). Several dunes are shared with neighbouring properties, the most notable being the large dune on the northern boundary of the Site. Most of the vegetation and the bird fauna on the site comprises exotic species, but some common indigenous species do occur (Keesing 2024).

Figure 2 Potential wetland features found within the Site.
Blue colouration indicates areas identified as natural inland wetlands by Keesing (2024).
Source: Keesing 2024

[2] Keesing V. (2024) Proposed Plan Change: 65 and 73 Ratanui Road, Paraparaumu. Ecological Values, Constraints and Opportunities. Prepared by BlueGreen Ecology for Welhom Developments Limited. 28 November 2024. 34 pp

[3] GWRC Regional Highly Modified Streams online maps.

Proposed provisions, rules and standards

The applicant has drafted proposed provisions, rules and standards to be included in the KCDC PPC4. Those items relevant to ecological aspects are included below (RFI response dated 25 February 2025 v4).

DEV3-P1 - Retirement Villages

2. *creating a flood storage area in the general area indicated in the DEV3- Figure 1: Ratanui Development Area that provides for compensatory flood storage for events up to a 1% AEP event (including allowing for sea level rise and increased rainfall intensity) to mitigate the impacts of the development from removing existing floodplain storage on the Site;*
3. *creating large-centralised wetland areas in locations indicated in the DEV3- Figure 1: Ratanui Development Area Structure Plan to provide for stormwater management and for offsetting any loss of wetland habitat on the site. The wetland areas will:*
    a. *provide flood storage for events up to a 1% AEP event (including allowing for sea level rise and increased rainfall intensity) to mitigate the stormwater impacts of the development on the downstream catchment;*
    b. *provide stormwater treatment outcomes in accordance with Council's Land Development Minimum Requirements 2022;*
    c. *provide for the offsetting of wetland loss elsewhere on the site by creating offset wetlands within the centralised wetland area(s) where:*
        i. *the primary function of the offset areas is to create natural inland wetlands;*
        ii. *the secondary function of offset areas is to provide flood storage and stormwater treatment functions;*
        iii. *the offset areas are established and managed to ensure a net positive environmental gain;*
        iv. *the offset areas within the wetlands are clearly identified in plans and will exclude first flush areas designed to be cleaned out when sediment builds up;*
4. *ensure that development within the Site occurs in such a way that landscape and visual effects are managed, the development is sensitively integrated into the surrounding landscape, and an attractive and biodiverse planting structure is created for the Site including:*
    a. *appropriate street tree and amenity planting, including riparian planting along the highly modified stream;*
    b. *planting species and arrangements reflecting predominantly indigenous species which are typical of the coastal area, as well as appropriate exotic amenity plantings;*
    c. *vegetated buffers on the southern extent of the Site that reflect the more 'wooded' character of the rural residential properties along Ratanui Road;*
    d. *development platforms that are sensitively and effectively integrated into the existing terrain along the edges of the Site, particularly at the northern and eastern edges (retaining walls will be minimised in favour of natural batters where practicable); and*
    e. *providing an appropriate landscaped and/or vegetated buffer in areas indicated in the DEV3- Figure 1: Ratanui Development Area Structure Plan to soften the transition from a residential to rural lifestyle land use;*
5. *preparation of an Earthworks and Landscape Plan as part of any resource consent for the development of the site;*

DEV3-P2 - Residential Activities and associated subdivision

3. *creating a flood storage area in the general area indicated in the DEV3- Figure 1: Ratanui Development Area that provides for compensatory flood storage for events up to a 1% AEP event (including allowing for sea level rise and increased rainfall intensity) to mitigate the impacts of the development from removing existing floodplain storage on the Site;*
4. *creating large-centralised wetland areas in locations indicated in the DEV3- Figure 1: Ratanui Development Area Structure Plan to provide for stormwater management and for offsetting any loss of wetland habitat on the site. The wetland areas will:*

a. *provide flood storage for events up to a 1% AEP event (including allowing for sea level rise and increased rainfall intensity) to mitigate the stormwater impacts of the development on the downstream catchment;*

b. *provide stormwater treatment outcomes in accordance with Council's Land Development Minimum Requirements 2022;*

c. *provide for the offsetting of wetland loss elsewhere on the site by creating offset wetlands within the centralised wetland area(s) where:*

i. *the primary function of the offset areas is to create natural inland wetlands;*
ii. *the secondary function of offset areas is to provide flood storage and stormwater treatment functions;*
iii. *the offset areas are established and managed to ensure a net positive environmental gain;*
iv. *the offset areas within the wetland areas are clearly identified in plans and will exclude first flush areas designed to be cleaned out when sediment builds up;*

5. *ensure that development within the Site occurs in such a way that landscape and visual effects are managed, the development is sensitively integrated into the surrounding landscape, and an attractive and biodiverse planting structure is created for the Site including:*

a. *appropriate street tree and amenity planting, including riparian planting along the highly modified stream;*

b. *planting species and arrangements reflecting predominantly indigenous species which are typical of the coastal area, as well as appropriate exotic amenity plantings;*

c. *vegetated buffers on the southern extent of the Site that reflect the more 'wooded' character of the rural residential properties along Ratanui Road;*

d. *development platforms that are sensitively and effectively integrated into the existing terrain along the edges of the Site, particularly at the northern and eastern edges (retaining walls will be minimised in favour of natural batters where practicable); and*

e. *providing an appropriate landscaped and/or vegetated buffer in areas indicated in the DEV3-Figure 1: Ratanui Development Area Structure Plan to soften the transition from a residential to rural lifestyle land use;*

The RFI response dated 25 February 2025 v4 also includes some proposed rules that relate to the development of a Landscape and Earthworks Plan for a retirement village (DEV3-R1) or subdivision (DEV3-R2)

SCOPE

Produce a report to identify whether there are any ecological constraints on the site that cannot be managed by the existing District Plan provisions or the proposed PPC4 provisions including Structure Plan, and that would warrant either further bespoke provisions or make the rezoning inappropriate.

Undertake a review of submissions to KCDC PPC4 and evaluate any ecological concerns identified.

ECOLOGICAL ASSESSMENT

The description of the Site (Keesing 2024) is generally accurate except for Wetland 2 and Wetland 17 (**Figure 2**). The Ecological Assessment finds that the 'stormwater pond' (aka Wetland 2) and Wetland 17 are artificial ponds and are therefore not considered further.

However, these ponds are visible in aerial photographs dated from the 1940s onwards[4] and even the shapes are relatively unmodified. As can be seen from **Figure 3** all off the wetland features identified by Keesing (2024) were also visible in the aerial photograph from the 1940's. Thus, it seems more likely that these two ponds (2 and 17) are natural inland wetlands rather than constructed wetlands. It may well be that they have been further modified by human intervention, but they appear to be natural inland wetlands under the NPS-FM.

Further evidence needs to be provided by the applicant to support the assertion that these are 'constructed ponds'. The wetlands indicated on "DEV3- Figure 1: Ratanui Development Area Structure Plan" are indicative based on the information of potential wetland loss in the ecological assessment (Keesing 2024). The quantum of wetland offset area needs to be appropriate to the quantum of natural inland wetland lost (to adhere to matters set out in the NPS-FM and NES-F). If Wetland 2 and Wetland 17 are found to be a natural inland wetlands, rather than constructed, then the wetland offset area may need to be greater than currently indicated in **Figure 1**.

There are provisions in PPC4 (**DEV3-P1 3Ciii** and **DEV3-P2 4Ciii**) to ensure that the offset areas are established and managed to ensure a net positive environmental gain. Submitter 12 (GWRC) prefers the wording to ensure least a net gain in indigenous biodiversity outcomes. This wording better aligns with the NES-F requirements and it therefor an appropriate modification to PPC4.

[4] Including in the applicant's archaeological assessment; Ellen Cameron E. (2024). 65 and 73 Ratanui Road, Paraparaumu, Proposed Private Plan Change: archaeological assessment. Prepared by Clough and Associates for Welhom Developments Ltd. November 2024. 38 pp.

Figure 3 Site boundary (approximate) and wetland locations on historic 1940s aerial photography.
Visible wetlands are numbered as per the ecological assessment (Keesing 2024). Wetland A is on the neighbouring property 81 Ratanui Road (Submission 6). Not all 1940s wetlands have been retained to the present day.
Source: KCDC historic aerial GIS viewer and Keesing (2024).

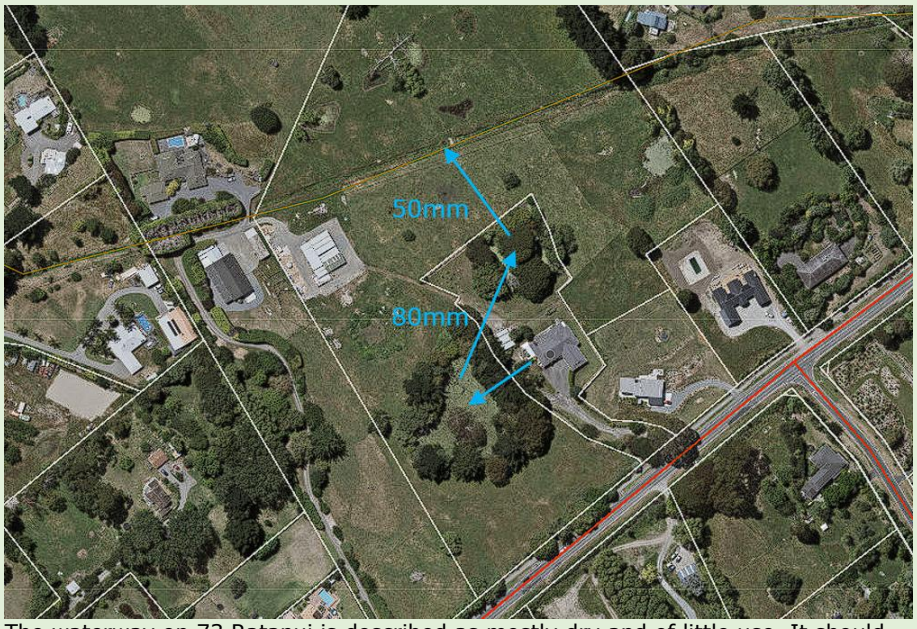
RELEVANT SUBMISSIONS

Only those submissions touching on ecological matters are included in **Table 1**

In summary the submissions relate to:

- changes to floodwater management and how that might affect hydrology and groundwater and hence potential effects on existing and proposed wetlands
- excavation activities and effects on dunes (and dune slumping)
- using indigenous plant species in the screening and landscape planting
- potential effects on indigenous fauna
- the need to control rabbits within the site (and potentially assist neighbouring landowners)
- and that the offset areas should provide for a net biodiversity gain rather than an environmental gain.

Table 1 Summary of potential ecological concerns from submission on PPC4.

Submission No. / Address	Concern
2	There are a shared creek and large pond with the site and the creek (which includes runoff from the nearby landfill) which may be affected by the development raising the level of the land or blocking the creek. This would leave the submitter's site as the lowest point in heavy rain events and subject to flooding. Many large trees on the boundary and concerns that these would be flooded or drowned by raising the level of the land.
4	There should / will be ZERO exemption for wavers on the storm water retention policy as set by the current KCDC District plan [presumably concerns about their property being affected by flooding]
6/ 81 Ratanui Road	Fencing and retaining wall requirements (dune slumping) to ensure 81 Ratanui Road is not adversely affected. Seek confirmation that no trees or plantings within the boundary of 81 Ratanui Road will be damaged during earthworks and construction (including roots) and confirming what the remediation/reparation process is if damage occurs. What protection from water runoff or drainage will be put in place to protect 81 Ratanui Road and clarification on the existing stormwater arrangement for 81 Ratanui Road which relies on infrastructure located on 73 Ratanui Road. The submitter's property was created via a previous subdivision of 73 Ratanui Road in 2014, however despite the resource consent requiring a drainage plan and the creation of easements, the drainage plan shows only grey water. No stormwater plan is shown. Therefore, the current stormwater from the submitter's property is disposed via a pipe to a pond on 73 Ratanui Road and is reliant on 73 Ratanui Road for stormwater disposal. Current storm water drainage from 81 Ratanui Road drains into the pond on 73 Ratanui Road adjacent to the submitter's southern boundary. It then drains into the pond on 81 Ratanui Road (NW corner) via an 8mm diameter pipe and then across the paddock (via a 50mm diameter pipe) to the open drain on 73 Ratanui Road. Indications are that the pond on our southern boundary will be filled in for dwellings which adversely affects our storm water. Notes an intent to create a wetland area to act as a storm water retention area. Given the reliance of our stormwater disposal on the waterway outlined above on 73 Ratanui, and the encroachment of the drain from our pond across to this waterway, will it be possible to connect that drain to the intended wet land drainage area noted in the Plan. A lack of drainage from our pond will create a stagnant body of water that will create an unsightly and unhealthy water feature.  The waterway on 73 Ratanui is described as mostly dry and of little use. It should

Submission No. / Address	Concern
	be noted that during winter/spring, the stream floods, as does the pond on 81 Ratanui Road due to the volume of water. Will this waterway/stream be replaced by an alternate facility? Seek confirmation that the removal of stumps of large pine and gum trees adjacent to the southern boundary of the submitter's property will not cause damage to the fencing, driveway and newly planted trees.
7 81 Ratanui Road	Investment has been made to establish native planting to encourage native birds, skinks and other wildlife. Use only native shrubs and trees that are endemic to the Kāpiti region (note that Karo as mentioned in the 'Ecological Assessment' document is considered a weed in the Kāpiti region. Plant 3 established plants (not seedlings) per square metre, at the outset of earthworks commencing, for all vegetation buffers as shown in the 'Landscape Effects Assessment' document plus the yellow boundaries outlined in the image on page 3 of the submission (see submission for details); Ensure vegetation buffers are irrigated for the first two years after planting to ensure successful establishment. Maintain native trees to have a maximum height of 6 metres to ensure access to sun is maintained. Ensure appropriate mitigation of stormwater spilling to neighbouring properties during and after the construction of the retirement village. Ensure no changes are made to the contours of the submitter's shared boundary to mitigate potential flooding or ponding on the submitter's section.
8/ 91 Ratanui Road	The land around the submitter's property — and particularly the areas near numbers 65 and 73 — includes established mature trees that are home to a wide range of native birds, including kererū, tūī, ruru (morepork), quail, and fantails. These birds are an everyday part of life for their children, and their habitats are at risk of being lost or irreparably damaged by large-scale earthworks and construction. That privacy planting of ideally 2 metres, maximum of 6 metres in height be installed by the developer along affected boundaries — at their cost — prior to construction, to soften visual impacts and maintain the semi-rural feel. Any higher than 6m affect the long-lasting sun on the submitter's property.
10	The trees on the boundary with the submitter's property belong to 65 Ratanui Road, have never been cared for and have been allowed to grow in an uncontrolled manner and have posed a danger to the submitter for many years. The removal of the trees has potential to affect the aforementioned ponding issue, which the submitter expects Council to ensure is prevented. Require the developer to fund rabbit control/ eradication on the submitter's and the applicant's property prior to and during and following the earthworks and construction processes. The stormwater drainage, including the overflow, for the proposed development is proposed to feed into the stream that flows through the submitter's property. That the Council ensures that the volume of this flow will be managed so that it does not increase the current manageable levels. If this is not done, there could be impact on the submitter's property, including an impact on their insurance premiums and levels.
11/ 54 Wood Leigh, Paraparaumu Beach	That the large sand dune which straddles the northern boundary of the Site, and which wraps around the submitter's property boundary on the eastern side of the Site, is not removed, undercut, scraped, or otherwise developed so as to remove any sand whatsoever from the dune and that it is planted out with indigenous species that are typical of this coastal area.
12/ Greater Wellington Regional Council	Retain DEV3-P1(c)(a), DEV3-P1(c)(c)(i) and DEV3-P1(c)(c)(ii), DEV3-P2(4)(a), DEV3-P2(4)(c)(i) and DEV3-P2(4)(c)(ii). Amend DEV3-P1(c)(c)(iii) and DEV3-P2(4)(c)(iii) as follows: "offset areas are established and managed to ensure at <u>least</u> a net <u>gain in indigenous biodiversity outcomes</u> ~~positive environmental gain~~"
14/ 64 Killalea Place	The area downstream of the proposed development is tidal with a low gradient stream that is prone to flooding in large rainfall events. While attenuation systems may be appropriate for infill developments a large-scale intensive development as

Submission No. / Address	Concern
	proposed will only offset a peak flow from the event and likely prolong the flooding or intensify it due to increased runoff which cannot be mitigated through attenuation systems. As such on site storage and offset with controlled flows is likely a more appropriate solution.
15/	Part 2 RMA • Section 6(a) (protecting natural character of wetlands and streams) and Section 7(c) (maintenance of amenity values) are not "provided for" because wetland loss, stream modification, and amenity degradation are inevitable.
16/ 16,18,20 Otaihanga Road	The Mazengarb Stream has in recent years become tidal through the submitter's joint properties. Downstream effects of additional storm water flows into an already under capacity drainage channel.

Submitter 12 (GWRC) prefers the wording to ensure least a net gain in indigenous biodiversity outcomes. This wording aligns with the NES-F requirements and it therefor an appropriate modification to PPC4.

None of the other matters raised by submitters are of sufficient ecological concern to decline the plan change or require a change to proposed PPC4. However, these matters will need to be addressed through the resource consent process.

Should PPC4 be approved and proceed to a resource consent then the following matters need to be considered in more detail in the resource consent application (not an exhaustive list):

- Changes to floodwater management and hydrology and potential effects on existing and proposed wetlands will be a matter for GWRC to address during the Resource Consent process under the NPS-FM and NES-F.
- Excavation activities and effects on dunes and using indigenous plant species within the planting design are more a landscape matter than an ecological concern given the paucity of indigenous plant species that occur at the site. However, should dune elements be retained and planted then it would be useful to look at plant distribution within Nga Manu Nature Reserve to help select species for dune tops and for dune hollows.
- To address the potential effects on indigenous fauna as well as the need to control rabbits within the site, it is recommended that, as part of the resource consent process, a vegetation management plan be prepared. This plan could be a component of the overall Landscape Plan and should include the following elements:
    a) Use of appropriate indigenous plant species – the plan should specify the use of eco-sourced indigenous plant species for screening and landscape planting, as well as for all mitigation or offset planting efforts.
    b) Provision of food sources and habitat – inclusion of plant species that provide food sources or habitat for indigenous fauna to support local biodiversity.
    c) Pest animal and plant control – detail strategies for the control of pest animals, particularly rabbits, and invasive plant species within the site.
    d) Management timetable – describing when and which vegetation management actions—such as planting, plant release, plant replacement—and pest control activities will be undertaken. The expected outcomes should be specified for each action as well as defined timeframes.

CONCLUSIONS

The ecological values within the Site are generally low other than the dune hollow wetlands. The applicant has included clauses within the Private Plan Change (PPC4) provisions to create wetland offset areas which are to be established and managed to ensure a net positive environmental gain. The wording of this should be changed to "ensure least a net gain in indigenous biodiversity outcomes" to align with the wording within the NES-F.

There are no other ecological matters that would result in needing to decline or modify the PCC4.

Noho ora mai,

Dr. Astrid Dijkgraaf
Principal Ecologist and Director
Astrid.Ecology@protonmail.com
+315 928 152 638 (based in Portugal)

QUALIFICATIONS AND EXPERIENCE

1 I hold the following tertiary degrees:

1.1 Bachelor of Science;

1.2 Master of Science with Honours (Environmental Science and Botany); and

1.3 Doctor of Philosophy (Ecology, Plant Animal Interaction) from the University of Auckland.

2 My doctoral-level research focussed on the interactions between native birds, mainly the kererū, with large fruited indigenous tree species and introduced mammals such as possums and rats in forest remnants in the Auckland region.

3 My masters-level research investigated methods to propagate pūriri (*Vitex lucens*) and the potential of this species as a timber tree.

4 I have 27 years of professional ecological experience.

5 I am currently self-employed as an independent ecologist, which commenced as of 17 January 2022.

6 I have also been:

6.1 Principal Scientist and Ecology Team Leader, NZ Environmental Management (NZEM) from 1 November 2024 to 27 June 2025.

6.2 Team Leader, Terrestrial Ecology at Cardno (NZ) (**Cardno**) (a global infrastructure, environmental and social development company) from 24 March 2020 to 14 January 2021;

6.3 Senior Ecologist and Wellington Office Manager for Wildland Consultants Ltd (a private ecological consultancy) (**Wildlands**) from 2007 to 20 March 2020;

6.4 National Services Manager with the Queen Elizabeth II National Trust from 2006 to 2007; and

6.5 Conservancy Advisory Scientist and Ecologist with the Department of Conservation in Wanganui from 1998 to 2006.

7 I was contracted to the Department of Conservation during 2013-2014 to develop a guideline for Biodiversity Offsetting, and have undertaken numerous assessments of

environmental effects, in which I proposed avoidance, and/or remediation, mitigation and/or biodiversity offsetting for potential ecological effects.

8 I am a member of the New Zealand Ornithological Society, the New Zealand Ecological Society, and the New Zealand Plant Conservation Network.

9 As part of my career, I have undertaken extensive field work throughout the North Island (Wellington, Whanganui, Horizons, Taranaki, Manawatu, Bay of Plenty, Waikato, Auckland and Northland) and parts of the South Island. I have worked on a wide range of projects from small private restoration projects to large corporate and government projects, such as wind farms, large subdivisions, and roading infrastructure. My work has included:

9.1 Ecological Effects Assessments for large scale projects such as the State Highway 1 realignment around the Basin Reserve and assessment of potential effects on wetlands for realignment of SH1 through Kapiti Coast, upgrade of SH58 between upper Hutt and Porirua, options for the realignment of SH29, Kapiti Coast District Water Supply options, biodiversity offsetting for the Mokihinui Hydro, Escarpment mine appeal, and Hauāuru mā raki windfarm projects. Windfarm development projects include Turitea and Te Rere Hau (Horizons) Long Gully (Wellington), Castle Hill (Wairarapa), Puketoi (Northern Wairarapa), Mt Cass (Canterbury) and preliminary ecological assessments for three other potential windfarm sites.

9.2 Smaller scale project included landfill and quarry sites, placement of sewage treatment holding tanks, Wi Neera to Onepoto Shared Pathway (Porirua) and subdivisions at Adventure Drive, Plimmerton Farm, Kenepuru, Cleat Street, Grays Road, Muri Road, 47 Jones Deviation (Porirua), Maymorn, Fairview, Akatarawa, Katherine Mansfield Drive (Upper Hutt), Ruthven Rd, Wise Street (Wainuiomata), Waipounamu, 70 Maungaraki Road, and Major Drive (Lower Hutt), Napier Road (Palmerston North). And a range of other projects such as Colonial Knob cycleway Porirua, relocation of Riding for the Disabled to Battle Hill Farm Park, Karaka Bay Jetty repairs, Mapara Structure Plan, input on the Titahi Bay Management Plan, Kaimai Tauranga Ecosystem services assessment, WCC biodiversity survey of the Outer Green Belt, identification of Protected Natural Areas in Northland, assessment of land-based sewage disposal locations for the Ruakaka Sewerage Plant.

9.3 Identification and assessment of Significant Natural Areas (**SNA**); areas that meet s 6 of the Resource Management Act 1991 (**RMA**) as set out in relevant regional policy statements (Greater Wellington Regional Council and Waikato Regional Council), or District Plans (Kapiti Coast District, Upper Hutt City, Hutt City and Wellington City and Porirua City);

9.4 Identification of ecologically important aspects of the Waiohine River (Wairarapa), Waikanae River and Otaki River floodplains and diversion of part of the Kāeo River (Northland). Wetland creation and restoration plans for the Rimutaka Prison, Poplar wetland in QEII Park, Wharemauku Stream, Lake Rotokawau, and Kohangatera Wetland. Wetland identification and assessment including Plimmerton Farm, Grays Road, Brookfield Lane, Paraparaumu airport, Kapiti Coast, Ebdentown wetland, Westwood stream and wetland, Mt Climie Transmission wetlands, Kawakawa wastewater treatment plant, as well as for many of the already named projects above.

9.5 Restoration and management plans include Makara Peak Management Plan, management plans for 10 different GWRC Key Native Ecosystem sites, Castlepoint (Wairarapa), Te Rahui o Rangituhi (Porirua), Belmont, Wainuiomata & Baring Head Regional Parks and Hihitahi Forest Park;

9.6 Forest Stewardship Council (FSC) assessments for Norsewood Estate, Glenburn, Dunnolly, Ruakokoputuna, Lands End, Pakowhai, Craigie Lea, and four Southland forests.

9.7 All projects included plant and animal surveys, vegetation description and where required wetland delineation, pest plant and/or animal control and hygiene plans.

10 I have produced numerous reports on various ecological aspects whilst working for the Department of Conservation, Wildlands, Cardno, NZEM and as an independent consultant. The projects described above and were undertaken in forest, pasture, scrub and shrubland of various ages, in the coastal environment, along rivers, and in wetlands. I have also presented aspects of my research and work at national and international scientific conferences and other forums.

11 I am familiar with the regulatory and policy framework which applies to the Wellington Region and the territorial and regional authorities within it, in particular the Regional

Policy Statement (the **RPS**) and the Natural Resources Plan for the Wellington Region (the **NRP**).

12 I have experience in the identification of wetlands in the Wellington Region and have undertaken assessments of wetlands with reference to criteria in Policy 23 of the RPS, the NRP, and more recently the National Policy Statement – Freshwater Management (**NPS-FM**) and the National Environmental Standards – Freshwater (**NES-F**). This has included both desktop assessments and field assessments of sites. I therefore have a good overview of ecologically significant sites and wetlands in the Wellington region.

CODE OF CONDUCT

13 I have read the Code of Conduct for Expert Witnesses set out in the Environment Court's Practice Note 2023[5]. I have complied with the Code of Conduct in preparing my evidence and will continue to comply with it while giving oral evidence before the Environment Court. My qualifications as an expert are set out above. Except where I state I rely on the evidence of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.

[5] https://environmentcourt.govt.nz/assets/Practice-Note-2023-.pdf