KAMOMARSH
LANDSCAPE ARCHITECTS

Appendix B: Planting Palette

RFI – 12 November 2021

This planting palette has been undertaken in collaboration with Dawn Palmer – Ecologist and Environmental Consultant, to identify suitable species and to improve the biodiversity values of the site.

The following plant list includes 5 categories which responds to the planting zones on *Baxter Design Attachment F 3020-SK55 Proposed Planting Zones*. These zones include:

- Tall Privacy Indigenous Planting (areas wider than 3m) = approx. 2020m^2
- Tall Privacy Indigenous Planting (areas narrower than 3m) = approx. 800m^2
- Low Level Indigenous Planting = approx. 2000m^2
- Extensive Green Roof Planting = approx. 1910m^2
- Edibles = planted as required

Each zone is to use a variety of species as shown in the table below, with a minimum of 30% of species from each sub category (this does not apply to the 'edibles' planting zone). The sub categories include:

- Trees (25L or as available) and Shrubs (PB5)
- Grasses, Sedges and Rushes and Ferns (PB2)
- Groundcover (PB2)
- Climbers (PB2)
- Herbs (PB2)

In addition, Mountain Beech (26) and Red Beach (3) trees are to be planted in locations shown on Baxter Design Attachment F 3020-SK55 Proposed Planting Zones. All Mountain Beech and Red Beech trees shown are to all be planted at 45L and at a height between approximately 2-3m.

Note: *Not all subcategories are used in each zone.*

Grade size is a recommendation only, appropriate grade to be determined on nursery availability and application to site.

Smaller grades (PB2/5 as shown above) are considered to be more suitable for quicker establishment.

The following table include the additional notes:

**Species not commercially available – would require translocation or propagation*

***Not found locally within the Bobs Cove Recreation Reserve or the Lakes Ecological Region, to be planted centrally within the previously approved development area only (refer to RM130174).*

Tall Privacy Indigenous Planting - areas wider than 3m (total = approx. 2020m²)		
Botanical Name	Common Name	Spacing (m)
Trees		
Carpodetus serratus	Putaputaweta	2.5
Cordyline australis	Cabbage Tree	2
Fuchsia excorticata	Tree Fuchsia	2
Hoheria glabrata	Mountain lacebark	2.5
Melicytus ramiflorus	Mahoe	1.5
Olearia arborescens	Glossy Tree Daisy	1
Pennantia corymbosa	Kaikomako	1.5
Podocarpus laetus	Mountain totara	3
Prumnopitys taxifolia	Matai	5
Pseudopanax crassifolius	Lancewood	1.5
Pseudopanax ferox	Fierce Lancewood	1.5
Sophora microphylla	Kowhai	2
Shrubs		1
Aristotelia fruticosa	Shruby Wineberry	
Aristotelia serrata	Wineberry	2.5
Coprosma lucida	Shining Karamu	1.5
Dracophyllum longifolium	Inaka	1
Griselinia littoralis	Broadleaf	2.5
Leptospermum scoparium	Manuka	1
Lophomyrtus obcordata	Rohutu, New Zealand myrtle	1.5
Myrsine australis	Red Matipo	2.5
Neomyrtus pedunculata	Rohutu	1
Olearia avicenniifolia	Mountain Akeake	1.5
Olearia fragrantissima	Fragrant Tree Daisy	2
Pittosporum tenuifolium	Kōhūhū	2
Pseudopanax colensoi var colensoi	Five finger	2
Pseudopanax colensoi var ternatus	Three finger	2
Pseudowintera colorata	Red Horopito	1
Veronica salicifolia	Koromiko	1.25
Climbers		
Clematis paniculata	White Clematis	
Muehlenbeckia axillaris	Creeping Pohuehue	0.5
Parsonsia heterophylla	Native Jasmine	3
Herbs		

*Acaena anserinifolia**	Bidibid	0.75
*Anaphalioides bellidioides**	Hells Bells Daisy	0.5
Leptinella squalida (mediana)		0.5
Raoulia tenuicaulis	Canberra Grass	0.5
Scleranthus biflorus	Tutahuna, Mat Daisy	1.0

Tall Privacy Indigenous Planting - areas narrower than 3m (total = approx. 800m²)		
Botanical Name	Common Name	Spacing (m)
Shrubs		
Coprosma crassifolia	Coprosma	1
Coprosma dumosa	Coprosma	1
Coprosma rugosa	Coprosma	1
Corokia cotoneaster	Corokia	1
Dracophyllum longifolium	Inaka	1
Gaultheria antipoda	Bush Snow berry, Fool's Beech	1
Pittosporum tenuifolium	Kohuhu	1.5
Climbers		
Clematis paniculata	White clematis	na
Muehlenbeckia axillaris	Creeping pohuehue	0.5
Parsonsia heterophylla	Native jasmine	3
Groundcovers		
*Lycopodium fastigiatum**	Alpine clubmoss, Mountain Clubmoss	na
*Lycopodium scariosum**	Creeping Clubmoss	na
*Lycopodium volubile**	Climbing Clubmoss, Waewaekoukou	na
Grasses, Sedges, Rushes and Ferns		
Poa imbecilla	Weak poa	oversow
Herbs:.		
*Anaphalioides bellidioides**	Hells Bells Daisy	0.5
Leptinella squalida (mediana)		0.5
Phormium tenax	NZ Flax	1.75
Scleranthus biflorus	Canberra grass	0.5
Raoulia tenuicaulis	Tutahuna, mat daisy	1

Low level Indigenous Planting (total = approx 1700m²)		
Botanical Name	Common Name	Spacing (m)
Tree		
Olearia arborescens	Glossy Tree Daisy	1
Podocarpus nivalis	Mountain Totara	1
Shrubs		
Dracophyllum longifolium	Inaka	1
Leptecophylla juniperina subsp. juniperina	Prickly Mingimingi	1
*Leucopogon fraseri**	Patotara, Dwarf Mingimingi	0.5
Ozothamnus vauvillersii	Mountain Tauhinu	1
Pittosporum tenuifolium	Kohuhu	1.5
Veronica cupressoides	Cypress Hebe	2
Veronica odora	Hebe	1
Veronica salicifolia	Koromiko	1.25
Climbers		
Clematis paniculata	White Clematis	
Muehlenbeckia axillaris	Creeping Pohuehue	0.5
Parsonsia heterophylla	Native Jasmine	3
Groundcovers		
*Lycopodium fastigiatum**	Alpine Clubmoss, Mountain Clubmoss	
*Lycopodium scariosum**	Creeping Clubmoss	
*Lycopodium volubile**	Climbing Clubmoss, Waewaekoukou	
Grasses, Sedges, Rushes and Ferns		
Austroblechnum penna-marina	Little Hard fern, Alpine Hard Fern	0.5
Carex buchananii	Buchanans Sedge	0.5
Carex secta	Purei	1
Chionochloa conspicua	snow grass	1
Chionochloa flavicans	snow tussock	0.5
Chionochloa rigida	Narrow-leaved snow tussock	1
*Festuca glauca/ trachyphylla** **	Hard fescue	0.5
Juncus edgariae	Wiwi, Edgars Rush	1
Lomaria discolor	Crown Fern	0.5
*Notogrammitis billardierei**	Common Strap Fern	1
Parablechnum minus	Swamp Kiokio	1
Parablechnum montanum	Mountain Kiokio	1
Parablechnum novae-zelandiae	Kiokio, Horokio, Palm Leaf Fern	1
Polystichum neozelandicum subsp. zerophyllum	Shield Fern	1

Zealandia pustulata	Hounds Tongue, Kowaowao	1
Herbs:		
*Acaena anserinifolia**	Bidibid	0.75
*Anaphalioides bellidioides**	Hells Bells Daisy	0.5
*Astelia nervosa 'Westland'***	Mountain Astelia / Kakaha	1
Leptinella squalida (mediana)		0.5
Phormium cookianum	Mountain Flax	1.5
Phormium tenax	NZ Flax	1.75
Raoulia tenuicaulis	Tutahuna, Mat Daisy	1
Scleranthus biflorus	Canberra Grass	0.5

Extensive Green Roof (total = approx 1910m²)

Note:

- *The species identified are appropriate for an extensive green roof system which is to include a minimum 150mm growing medium depth.*
- *Poa imbecilla will be hydroseeded or over sown to provide full coverage over the roof. The lianas, ferns, grasses, sedges and herbs will then be planted throughout.*
- *Refer green roof supplier and **Appendix C** for landscape maintenance and management plan.*

Botanical Name	Common Name	Spacing (m)
Climbers	-	-
Muehlenbeckia axillaris	Creeping Pohuehue	0.5
Ferns		
Austroblechnum penna-marina	Little Hard Fern, Alpine Hard Fern	0.5
Cranfillia fluviatilis	Kiwakiwa	0.5
Notogrammitis billardierei	Common Strap Fern	1
Zealandia pustulata	Hounds Tongue, Kowaowao	1
Grasses and Sedges		
*Carex breviculmis**	Grassland Sedge	0.25
*Festuca glauca/ trachyphylla** **	Hard Fescue	1
Poa colensoi	Blue Tussock	0.5
Poa imbecilla	Weak Poa	oversow
Herbs:		
*Acaena anserinifolia**	Bidibid	0.75
*Anaphalioides bellidioides**	Hells Bells Daisy	0.5
Leptinella squalida (mediana)		0.5

Scleranthus biflorus	Canberra Grass	0.5

Edibles **Below lists edible native plants identified on site – these may be used and augmented with vegetables/herbs of the owners' choice.**		
Botanical Name	Common Name	Spacing (m)
Shrubs		
Fuchsia excorticata	Tree Fuchsia	2
Leptecophylla juniperina subsp. juniperina	Prickly Mingimingi	1
Leptospermum scoparium	Manuka	1
Climbers		
Muehlenbeckia axillaris	Creeping Pohuehue	0.5
Clubmosses		
Lycopodium fastigiatum	Alpine Clubmoss, Mountain Clubmoss	
Lycopodium scariosum	Creeping Clubmoss	
Lycopodium volubile	Climbing Clubmoss, Waewaekoukou	
Ferns		
Parablechnum minus	Swamp Kiokio	1
Parablechnum montanum	Mountain Kiokio	1
Parablechnum novae-zelandiae	Kiokio, Horokio, Palm Leaf Fern	1
Polystichum neozelandicum subsp. zerophyllum	Shield Fern	1
Orchirds		
*Microtis unifolia**	Onion Orchid	
Regular Garden / Orchard – suggestions only		
Thymus vulgaris	Thyme	
Juniper horizontalis	Juniper	
Coriandrum sativum	Corriander	
Angelica	Wild Celery	
Prunus domestica	Flowering Almond	
Gevuina avellana	Chilean Hazelnut	
Cyanococcus	Blueberries	
	Pear	
	Applie	
	Plum	
	Greengages	

Addendum RFI Report

To:	Hayley Mahon – John Edmonds & Associates
CC:	John Edmonds
From:	Dawn Palmer – Principal Ecologist – Natural Solutions for Nature Ltd
Date:	12 November 2021
Subject:	**Request For further Information – Waimarino, Bobs Cove - RM210618**

John Edmonds & Associates (JEA) commissioned Natural Solutions for Nature Ltd (NSN) to provide an ecological assessment in relation to a proposed development by Waimarino in Bobs Cove. While the assessment considered the site's ecological values in general, the report was primarily focused on the proposal's effects on trees protected under RM130174 and the gully habitat along the site's northern boundary.

Ms Teele of e3Scientific (e3S), the Ecologist commissioned by Queenstown Lakes District Council (QLDC) to review NSN's ecological report has requested additional information.

A joint site visit was undertaken by Ms Teele and Ms Palmer on 26th October 2021 to discuss and clarify matters requiring additional information. Ms Teele also sought clarification regarding the ranking of ecological values, magnitude and level of effects and how measures for managing effects both positive and negative would balance the overall effects of the proposal.

This report provides a response to the Request for Further Information (RFI).

<u>Matters raised by the e3S RFI</u>

Ecological Value scores, Magnitude of Effects, Level of Effects

1) Ms Teele requested the provision of an assessment of the ecological values, and the magnitude and level of effects, using the matrices outlined by Roper-Lindsay et al., 2018.

2) Ms Teele opined that the NSN assessment of 'moderately low level' overall ecological value within the area affected by the proposal and the overall level of effect for 'certain activities' as 'less than minor' were insufficiently justified by the assessment provided by NSN.

3) Further information was requested regarding whether the measures proposed to manage effects, such as those included in the Landscape Maintenance and Management Plan are sufficient to achieve a low level of effect by avoidance, mitigation or remedy of the likely and or potential adverse effects of the proposal such that the overall level of effect will be less than minor.

Additional matters to be assessed as part of the site's overall ecological value

4) Matters of significance and 'other matters'
   a) Beech forest (representativeness),
   b) Shrubland (species diversity: more than 3 species)
   c) Buffer to adjoining protected natural areas
   d) Nationally threatened species: long-tailed bats (unconfirmed potential local sighting);
   e) At-Risk species: falcon, long-tailed cuckoo, *Leptospermum scoparium* (manuka)
   f) Presence of lizards
   g) Freshwater issues relating to the gully habitat
   h) Environmental Management Plan* [sediment & stormwater control plan]
   i) Potential for an increase in bird strike* [from glass windows]
   j) Light pollution*
   k) Points of clarification, amendments and additional information requests other than in Ms Teele's review.
   l) Pest control

5) Level of effects on values:
   i) path through the beech forest gully
   ii) clarification regarding the ecological assessment's inclusion of values on the land exchanged with the Department of Conservation where the owner's residence is proposed

Matters indicated with an asterisk (*) are referred to other consultants, and or architects and are only briefly addressed in this response and can be managed as conditions of consent; they are addressed only briefly in the following RFI response.

Structure of Response

A. Additional information regarding the Matters listed in 4) a) to l) above
B. Further analysis of ecological value score and the magnitude and level of effects applying the matrices of Roper-Lindsay (2018)[1]
C. A summary of the overall level of effects likely to occur following the implementation of the proposed measures to manage any adverse or positive effects.
D. Management of the effects of impacts on ecological values

This report should be read as an addendum and update to the primary ecological report prepared by NSN dated 4 July 2021. Appendices, tables and photograph numbering follows on from those in the primary ecological report to avoid confusion. Where the assessment findings differ from those provided in the primary ecological report, the RFI report should take precedence.

Where this report relies on third party information that information is cited. NSN assumes no responsibility for the accuracy of information provided by third parties.

[1] https://www.eianz.org/document/item/4447

Updated plans assessed and relied upon for this RFI response include:

- KamoMarsh Landscape Architects: Attachments B to I dated 3 November 2021.
- JE&A Earthworks Plans: Sheet 1 to 4 dated 4 November 2021
- KamoMarsh Landscape Architects: Appendix B – Planting Palette - RFI 3 November 2021
- NZ Tree Care: Assessment of setbacks for protecting trees, Waimarino, Bobs Cove; 4/11/21

NSN notes the following changes that have been made to the Waimarino proposal; these have been considered in the RFI's further the ecological assessment. They are:

- The formation of a trail through the dry gully along the northern margin of the development has been withdrawn from the proposal avoiding the associated effects [impacts],

- The retention of 35 mature beech trees previously protected under RM130174.

- The built structures have been repositioned to enable the avoidance of trees to be protected.

- Mr David Finlin, arborist of New Zealand Tree Care has identified appropriate setbacks surrounding the trees and earthworks within the setbacks to avoid or minimise adverse effects on trees;

- Mr Finlin will guide construction and the placement of pile footings for any structures that impinge on the margins of the setback to ensure the potential for damage is avoided or minimised.

- NSN will defer to the expertise of Mr Finlin regarding the potential impact of construction on the root systems of indigenous trees and notable vegetation able to be retained within the site.

- Where possible and practical disturbance to notable vegetation including mature lancewoods will be avoided.

- JE &A confirm that an Environmental and Sediment Management Plan (EMP) will be prepared as a condition of consent prior to the commencement of works in order to avoid sedimentation of the gully environment. The plan will address the measures required to manage or attenuate stormwater discharges from within the site and any that may flow from the Glen Tui subdivision to the east.

- NSN has been commissioned to provide advice regarding an appropriate predator control program that will support the local community predator control efforts and support the potential for improved biodiversity outcomes accruing from the ecological modifications and improvements on the site following its development and the implementation of the measures outlined in Section D of this report. Details of this plan will be confirmed as a condition of consent.

Executive Summary of Overall Effects

The key ecological impacts of the proposal under RM210618 have been described within the primary ecological report and the further information provided in this RFI Response.

The impacts can be summarised as: the removal of mature beech trees and the associated fragments of regenerating shrubland/ beech forest community within the footprint of the development; the localised impact this may have on populations of manuka, avifauna both common and At-Risk whether actually, potentially and or seasonally present, along with potential direct impacts on lizard fauna that are considered unlikely to be, but potentially present. Disturbance to soil and the mycorrhizal fungi community associated with the vegetation assemblages. The removal of vegetation may also have very localised and small-scale impacts on the foraging habitat of long-tailed bats which are unconfirmed but potentially present in the area.

NSN having considered the matters raised by Ms Teele stands by the recommendations made in the primary ecological report and has made further recommendations which if implemented will result in an overall ecological impact [effect] of **minor** or **less than minor**; subject to a lizard survey that is able to confirm with a high level of confidence, that threatened or at-risk species are not present, and or the undertaking of any management recommendations arising from that survey required to avoid adverse effects on lizards, prior to the commencement of any physical site works.

The fully implemented proposal, includes the positive effects accruing from planting set out in the landscape management plan implementation, the protection of trees protected by RM130174, the retention of vegetation within the northern gully and its margins, the protection of the roots of trees to be retained, surveillance for myrtle rust, the removal of invasive weeds, the effective implementation of an EMP and predator control; these measures combined will result in a net gain in the ecological condition of the site that will benefit the surrounding environment following the establishment of site and its plantings.

A. Additional Information – Matters of Significance and Other Matters

a) Beech forest (representative vegetation) and b) shrubland diversity

1. Sections 3.1, 3.2.1 and 3.2.4 of the primary ecological report discussed the beech forest and shrubland communities while Section 4.1 provided an assessment of the representativeness of the vegetation communities present, and Section 4.3 discussed their ecological diversity and patterns. Appendix 1 described the soil mycorrhizal (fungi) diversity of the site. The soil mycorrhizal diversity supports species known to be associated with beech, eucalyptus and manuka communities. Table 4 of the primary ecological report lists the species recorded in the forest (regenerating and more mature) and shrubland communities.

2. While the Waimarino site has been partially cleared, areas identified as "notable vegetation" have been identified in Figures 2, 3 and 4 of the primary Ecological Report along with beech trees. Mature trees protected by the conditions of RM130174 will be protected under the current application in response to planning feedback on the application submitted. This matter will be addressed in Section C below. Refer also to Photo 8 below and the supplementary Attachment K prepared by KamoMarsh.

Land Exchange site – Location of Owner's Residence

3. The land to be developed for the owner's residence and residential/ accommodation units, following subdivision from the Bobs Cove Recreation Reserve and the execution of a land exchange with DOC, was included in the general description of the site's vegetation.

4. For clarity, the vegetation of this area has an open canopy of Eucalyptus, with emergent red and mountain beech. The subcanopy is dominated by manuka (*Leptospermum scoparium*) and *Pittosporum tenuifolium* with and understory of three finger (*Pseudopanax colensoi* var. *colensoi*), *Coprosma lucida, Coprosma propinqua, Coprosma dumosa, Gaultheria antipoda,* bracken, prickly mingimingi (*Leptecophylla juniperina* subsp. *juniperina*) and exotic broom. The site has been partially cleared but it contains indigenous regenerating forest more than 3 metres high (PDP Chapter 33.5.3 b)); diverse shrubland containing *Corokia cotoneaster* and emergent indigenous trees more than 3 metres tall (PDP Chpt 33.5.3 c), e) and f)).

5. The area of the owner's residence supports species that are also present and secure within the adjacent Recreation Reserve. Attachment F of the KamoMarsh Landscape Architect Plans (SK55) identifies that the southern (buffer) margin will be planted with a mixture of mountain beech, 'tall privacy indigenous planting' – refer to the Planting Palette : Appendix B (KamoMarsh LA Plans). This will maintain and enhance indigenous species diversity on the boundary of the Reserve. These plantings will include *Podocarpus laetus, Podocarpus nivalis, Veronica [Hebe] cupressoides* (Nationally endangered), *Pseudopanax ferox, Coprosma crassifolia*, four (4) species of *Olearia* including *O. fragrantissima* (At-Risk: declining), matai, and kowhai. These species are of notable value and their presence is recognised in the PDP as being indicative of diverse communities worthy of protection – Chapter 33.5.3 f).

6. NSN notes that the private land to be exchanged, transferred and annexed to the to Bobs Cove PCL under DOC following the execution of the agreement with DOC has already been partially cleared and developed into a carpark providing access to the Bobs Cove Recreation Reserve. Refer to Photo 2 and 2A below.

Photo 2: Land Exchange Area – private land to be vested as PCL and administered by DOC
Source: Google Earth Pro: imagery date 10/5/2006; area to be exchanged that has been developed as a carpark prior to the final execution of the subdivision.

Photo 2A: Land Exchange Area – private land to be vested as PCL and administered by DOC
Source: Google Earth Pro: imagery date 2/9/2015; area to be exchanged that has been developed as a carpark prior to the final execution of the subdivision

c) Buffer to Adjoining Protected Natural Area

7. As noted in Section 3.1 of the primary ecological report the Waimarino site adjoins the Bobs Cove Recreation Reserve, a protected natural area which supports diverse, seral stage manuka shrubland regenerating into mountain and red beech forest. However, Eucalypts form a dominant component of the canopy the Recreation Reserve. The Reserve vegetation is generally more intact with the exception of the western boundary on the terrace east of Bobs Cove where a broom infestation straddles the property boundary infesting both the reserve and the Waimarino site and hawthorn is also present, refer to Photos 6 and 7 at the back of this RFI report.

8. To provide some context, the Bob's Cove Rural Residential and Punatapu (Bobs Cove and surrounds) zone area (c. 108 hectares)[2], is surrounded by about 3080 hectares of Recreation Reserve, Scenic Reserve, Conservation Area and Marginal Strip[3].

9. The Waimarino site is 1.46 ha, just over one (1) percent of the zone area.

10. The lineal boundary length of the interface between the Bobs Cove Rural Residential zone (including Punatapu) and protected natural area [public conservation land – PCL] is approximately 5.65 kilometres. The lineal boundary of the interface between the Waimarino site, including the annexure of the land exchange parcel is about 325 metres, about 5.7 percent of the zone boundary interface. Figure 1 (page 25) of the primary ecological report is copied below; it identifies the location of the zone in relation to the surrounding PCL.

11. The broader Bobs Cove Rural Residential Zone therefore forms a clearing within the surrounding beech forest northwest to northeast of the clearing and the successional, shrubland and regenerating forest spanning from east to west on the south side of the clearing and Queenstown-Glenorchy Road.

12. The developed and landscaped portions of the zone have been interplanted with a mixture of beech trees, *Pittosporum eugenioides, Pittosporum tenuifolium, Veronica* (hebes), toetoe, flax (*Phormium tenax* and *P. cookianum*), red tussocks and *Coprosma*. Hawthorn, a species invasive within the Reserve, has been retained as specimen trees, and as hedging along the Glenorchy – Queenstown Road, presumably for screening between residences. On the southern side of the zone the canopy of the Bobs Cove Recreation Reserve is dominated by Eucalyptus, particularly around the Punatapu outcrop. Hawthorn forms a locally dense subcanopy with an understory of broom very visible in flower (November 2021), refer Photos 3 to 5 at the back of this RFI report.

13. The 325m boundary of the Waimarino site has also been invaded by *Eucalyptus*, broom and hawthorn which straddle the reserve boundary from the site's western boundary, refer

[2] Estimated using the mapping tools on the QLDC spatial hub property maps.
[3] Otago Conservation Management Strategy land units: 2800591, 2800665, 2800666, 2800667, 2800724

Photos 6 and 7 below. However, the Waimarino site also supports diverse indigenous vegetation characteristic of and reasonably contiguous with the understory and emergent beech forest in the Bobs Cove Reserve to the south.

14. In the experience of NSN, the diversity provided by the juxtaposition of changes in density, diversity, maturity and form combined with built form at the developed interface provides for a mixture of habitat structure and attributes that can result in higher bird diversity than is found within the interior areas of forest and shrubland communities.

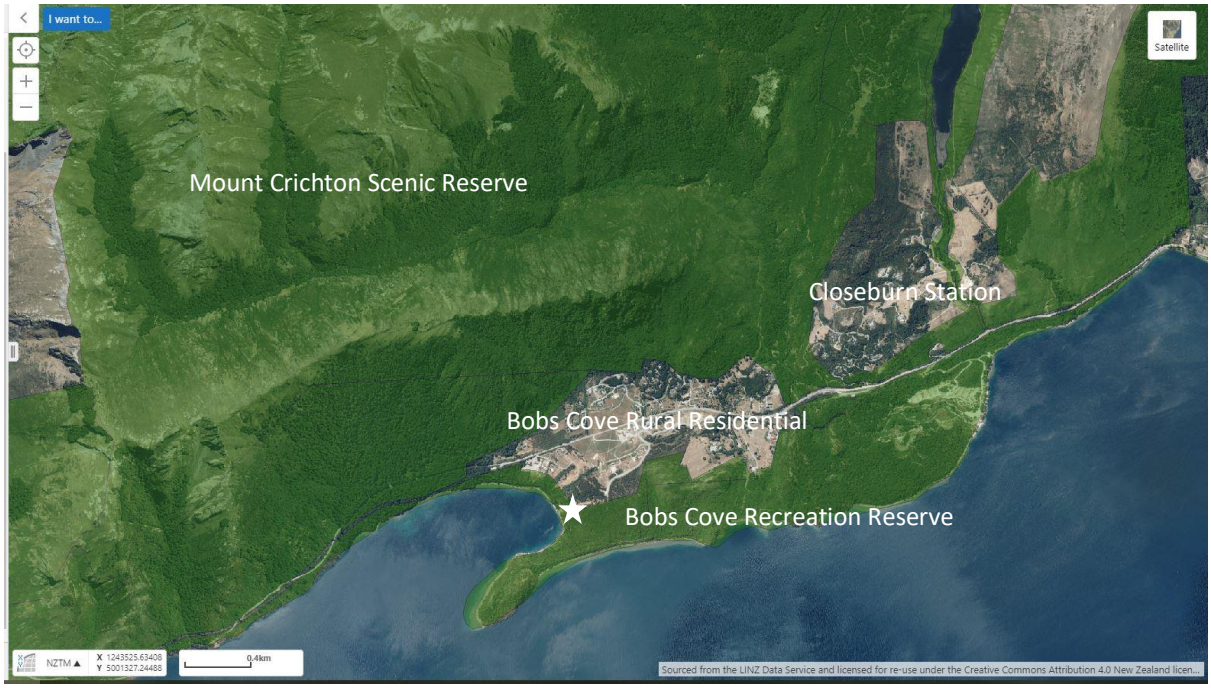
15. This does not negate the value of large, protected natural areas (PNAs) with high levels of naturalness which support the resilience of the ecosystems they protect. The buffer or margins of these areas, (more so with narrow/ linear or small PNAs) tend to be more vulnerable to disturbance and or invasion by exotic species. However, as noted they can also be more diverse as the edge or buffer environment provides release from the suppression of denser canopy cover for native species. In the presence of invasive weed seed sources, this can also be problematic.

16. Under the Waimarino proposal, the full range of species diversity present on site site and along the property boundary would be protected within the vegetation to be retained as part of the development proposal – refer KamoMarsh Landscape Architect plans SK55 (Attachment F) - RFI Amended – 4 November 2021. This includes:

    - Twenty-three (23) species of trees and shrubs, including one (1) At Risk species (manuka)
    - Three (3) endemic lianes (climbers)
    - Four (4) native clubmosses
    - Eight (8) native and or endemic ferns
    - Four (4) species of sedge and herbs
    - Twenty (20) species of fungi including nine (9) endemic, three (3) native and eight (8) introduced.

17. Additionally, the planting palette (Appendix B) identifies a selection of species that may be used and incorporated into landscape planting within the development footprint of the site that could add up to a further forty (40) species not currently recorded within the site but present in the surrounding Reserve and or local District's protected natural areas.

18. The proposed planting palette also includes eleven (11) species identified in Chapter 33.5.3 f) as important components of diverse and therefore valuable indigenous vegetation. The planting palette includes one At-Risk and one Nationally vulnerable species as noted in paragraph 5 above.



Source: https://maps.doc.govt.nz/externalmaps/index.html?viewer=docmaps

Figure 1: Bobs Cove Recreation Reserve immediately adjoining the site to the south and west – 330.63 hectares of forest and regenerating hardwood forest along the lake foreshore. Mount Crichton Scenic Reserve north of the Glenorchy- Queenstown Road – 2597.31 hectares of mountain and red beech forest, manuka shrubland and tussock grassland above the treeline. Combined, these Reserves constitute an entire altitudinal sequence of indigenous vegetation from lake foreshore (308 mals) to Mount Crichton at 1871 masl.

d) Potential Presence of Long-tailed Bats

19. A local resident of the Bobs Cove area has twice reported seeing bats in the Bobs Cove area to the Department of Conservation (DOC). Once in the early 2000s and again in late summer 2020/21. The sightings have not been followed up by DOC[4],[5]. Based on the known distribution of New Zealand's two bat species, it is most likely that the species would be long-tailed bats (*Chalinolobus tuberculatus*), a Threatened: Nationally Critical species. Long-tailed bats are known to forage widely along forest fringe habitats, unlike the short-tailed bats which prefer the forest interior hundreds of metres in from the forest edge[6].

20. Research into roost site selection within unmodified beech forest in Fiordland indicated that bats preferred tree cavities in live or dead tree trunks and large branches and used knot holes that were dry inside, high above the ground with little surrounding vegetation, they will also roost under bark [7],[8]. However, the location of roosts within suitable trees will vary

[4] Jeff Wilson of Silverbirch Drive, Bobs Cove; pers comm. 28/9/2021
[5] Lisa Thurlow, personal communication, 28/9/2021
[6] Colin O'Donnell, DOC Principal Science Advisor (Ecosystem and species); personal communication, 6/10/2021
[7] Colin O'Donnell, personal communication, 6/10/2021
[8] Sedgley and O'Donnell, (1999)

depending on the development of holes and loose bark[9]. A comparison of roost site selection in the unmanaged beech forest in Eglington Valley and a site near Hanging Rock, South Canterbury in a highly fragmented landscape revealed that long-tailed bats change roost sites almost daily and they tend to preferentially select the largest red beech with suitable dry holes and large willow trees with longitudinal cracks. Research has also shown that bats will change roost trees every few days, this is thought to be a means of controlling parasite loads within roosts[10].

21. Ms Teele and Ms Palmer agree that the Waimarino site does not support roost trees[11] as the site is relatively open, the trees do not appear to have knot holes or vertical slits with roosting cavities, nor do the beech trees carry sufficient loose bark to protect or shelter roosting bats. If bats are present in the broader area, it is more likely that roosts would be found in the mature red beech forests within the Public Conservation Land north of the site. Bats would if present forage across the forest margins and manuka shrubland between Bobs Cove and the Twelve Mile Delta, along the road through the forest and within the Twelve Mile catchment.

22. Planting long-lived tree species to support long term options for bat roosting – e.g. beech trees, totara, matai, and species that support invertebrates and are therefore associated with bat foraging habitats – e.g. flax, cabbage trees and manuka[12] would be beneficial. NSN notes thee species have been incorporated into the Planting Palette (Appendix B) and Landscape Maintenance and Management (Appendix C). NSN also notes these species have also been incorporated into the Landscape Planting of the Glen Tui subdivision and the developed areas north of the Glenorchy-Queenstown Road.

23. While there may be short to medium term localised disturbance within the Waimarino site, the diversity of vegetation will be improved over the medium (5 to 10 years) and long term and will maintain support invertebrate fauna which will in turn support foraging habitat for any bats, birds and lizards that may be present in the area.

[9] Ben Paris, Senior Conservation Advisor, Auckland Council https://www.linkedin.com/in/ben-paris-05785630/?originalSubdomain=nz; predator free nz webinar 4/11/2021

[10] Ben Paris, predator free nz webinar 4/11/2021; referring to the research of Colin O'Donnell in the Eglington Valley, Fiordland

[11] Observations and discussion between Ms Teele and Ms Palmer during the site visit on 26/10/2021

[12] Ben Paris, predator free nz webinar 4/11/2021

e) Ecological Values – Potential Presence of At-Risk or Threatened Species including Lizards

Vegetation

1. *Leptospermum scoparium* (Manuka)

24. Ms Teele correctly states that manuka has been classified as At-Risk: declining (de Lange et al., 2018). However, it is helpful to understand that manuka has a very large population of more than 100,000 plants with an estimated low to moderate level of decline in the range of 10 to 70 percent (C1), assessed over 10 years or 3 generations, whichever is longer. The classification is qualified as a "data poor" (DP) "designation" (De) based on the uncertainty of the potential impact of myrtle rust (*Austropuccinia psidii)*.

25. Myrtle rust affects members of Myrtaceae (myrtle family)[13], this includes manuka. It is a serious fungal disease spread by microscopic spores dispersed large distances by wind, insects, birds, people or machinery. First found in Australia in 2010, it is believed that wind carried spores across the Tasman to New Zealand. Ash which dispersed from Australian fires to New Zealand in January 2020 provided an illustration of how infestations like these could occur.

26. Myrtle rust has spread rapidly in New Zealand from the initial sites of detection in 2017. It is now widespread in the North Island and has spread to the northern part of the South Island with one possible outlier recorded on i-naturalist in the Puerua Valley in southeast Otago. The New Zealand management response (MPI and DOC) has therefore moved to a science-based approach aimed managing and minimising commercial and ecosystem impacts over the long term. Resources are available to support citizen science monitoring of its detection and spread, https://myrtlerust.org.nz/how-you-can-help/.

27. If a myrtle rust infestation is suspected MPI instructions are:
    - Do not touch it
    - Take a clear – in focus – photograph
    - Submit the record to i-naturalist.

28. Removal of a small, localised area of manuka and its re-incorporation into landscape planting will not adversely impact or diminish the local population, nor is it likely to render the population less resistant to the threat of myrtle rust should it arrive in the District due to the large number of potential vectors of spread. Any instance of myrtle rust infestation identified within the site or its immediate periphery will be notified following the advice and recommended protocols of the Ministry for Primary Industries and or DOC.

[13] This family includes two (2) genera in the planting palette (*Neomyrtus* and *Lophomyrtus*) as well as rata, kanuka (not Naturally present in the Whakatipu catchment) and introduced *Eucalyptus*.

Birds

29. Amended Table 3 and 3A records birds identified at the site during the site visits and are likely to be present at least seasonally in the surrounding areas.

30. Section 3.2.7 of the primary ecological report and Section A.i. (page 6 of this RFI report) describes the avifauna. Further consideration was requested in relation to the following species:

ii) New Zealand falcon – At Risk: recovering

31. The likely presence of falcon was recognised in Section 4.2 of the ecological report prepared by NSN. While the site is very likely to be within the territory of at least one pair of falcon, the site itself represents a very small portion of the territory which is extensively vegetated with shrubland, forest and tussock grassland as well as seral stage, regenerating beech forest within the public conservation land and surrounding pastoral lease hold land beyond and contains rock outcrops and large, dead spars[14] used for perching.

32. The presence of a range of gardens within the Zone's developed residential properties in the Bobs Cove and adjacent Closeburn Station areas adds to the diversity of nectar sources and bird life (introduced, native and endemic) that will support hunting falcons.

33. Planting proposed under the Landscape Management Plan prepared by Baxter Design/ KamoMarsh will also boost diversity that will support invertebrate fauna and therefore native bird life which will in turn cumulatively support the local falcon population.

iii) Long-tailed cuckoo – At Risk: naturally uncommon

24. Long-tailed cuckoo are a 'summer migrant' that arrives in New Zealand in spring. Adults disperse to breeding sites in summer and then in autumn, they migrate back to Pacific Island wintering areas distributed from Micronesia in the west to the Pitcairn Islands in the east with young of the year. They only breed in New Zealand and it is believed that they recruit back to where they were raised. This may make them vulnerable where they rely on At-Risk species such as mohua (At-Risk: recovering, but not present in the Bobs Cove area).

25. There is no estimate of the long-tailed cuckoo population or density available and therefore their classification as naturally uncommon is qualified as being "data poor".

26. They lay a single egg into the nests of mohua or brown creepers in the South Island and white heads in the North Island and are therefore mainly found in habitats of those species during the breeding season: native and exotic forests and scrub. Brown creepers are present in the forests of Bobs Cove (personal observations, 26/7/2020 and 7/11/2021). Long-tailed cuckoos feed on large invertebrates and may take lizards, eggs and nestlings[15].

[14] Standing dead trees
[15] Gill, B.J. (2013 [updated 2017]) in Miskelly, C.M. (ed) NZ Birds On Line. www.nzbirdsonline.org.nz

27. The proposed retention of mature vegetation and landscape planting will maintain and support invertebrate populations within and in the habitat surrounding the site.

f) Potential Presence of Lizards

28. Based on a combination of the author's general knowledge, research into the guidebooks and internet based herpetological resources cited in the References below as well as personal communication with Dr Mandy Tocher, herpetologist (LizardExpertNZ); the seven (7) lizard species (geckos and skinks) with a distributional range that includes the Bobs Cove area are summarised in Table 5 along with an indication of their potential likelihood of presence.

29. Dr Tocher advised that the glacial slopes immediately surrounding the Wakatipu Basin are not known for their lizard diversity. The skink species listed in Table 5 favour a range of open, rocky grassland sites with plentiful basking opportunities. Sites with more closed, dense canopies do not tend to be productive for the skink species listed. The lower elevation, absence of wetlands, damp herbfield or grassland habitats also render the site less suitable for some of the skink species listed. The skink species most likely to be present are McCanns skinks (not threatened) which are ubiquitous in dry grassland habitats; the Southern grass skink is less likely to be present; and it is considered to be only remotely possible that Lake Skink would be found at the site.[16]

30. Geckos with the greatest potential to be present include the kōrero and jewelled geckos (less likely). The kōrero gecko may be found under loose bark of beech trees, while the jewelled gecko has generally been lost from areas with a history of fires. There have been no recent records of jewelled geckos in the Bobs Cove area or broader Wakatipu Basin, however the application of conservative optimism requires that a survey be undertaken to confidently rule their presence out. The Takitimu gecko is usually found at higher altitudes and has only the remotest possibility of being found at the Bobs Cove site as it relies on rocky habitats which are not present.[17]

31. It is therefore recommended that a survey for lizards is undertaken prior to site development and in the unlikely event that any species were found, a management plan should be prepared by a herpetologist to protect or relocate them within the site and provide for their protection by:

    i. undertaking predator control to be determined following the results of the survey and as a condition of consent,
    ii. planting to maintain and increase species diversity that support invertebrates and provide fruit that would support lizard fauna if present,

[16] Dr Mandy Tocher, personal communication, 1/11/2021
[17] Dr Mandy Tocher, personal communication, 1/11/2021

iii. these measures would support any population that may currently be so sparsely present that they avoid detection.

g) Freshwater assessment of gully system

32. Ms Teele and Ms Palmer agree that the gully system is a dry system within a limited catchment, therefore a freshwater analysis is not required, refer to Plates 1 – 3, 6, 7, 11 – 14 and 18 in the primary ecological report. Photo 1A on page 8 of the primary ecological assessment provides an illustration of the limited nature of the catchment.

h) Environmental Management Plan* [sediment & stormwater control plan]

33. Ms Teele and Ms Palmer agree that the matters relating to sediment management, erosion and stormwater management could be addressed through the preparation of a site Environmental Management Plan as a condition of consent.

34. The EMP should ensure no degradation of the values identified in the gully habitat occurs as a result of excavation, construction or subsequent stormwater management.

35. NSN notes the amended Earthworks Plan Sheet 1 of 4 prepared by JEA Drawing No.04.01 dated 04.11.21 identifies that earthwork will be confined to the portions of the site that have already been modified, except for the land to be subdivided from the PCL as part of a land exchange with the DOC which would require some excavation. This will minimise the potential adverse effects associated with disturbance to the soil mycorrhiza referred to in Section 3.2.5 and 5.1.1 of the primary ecological report and supports NSN recommendations 4 and 5 in Section 6 of the primary ecological report copied below:

> 4. *The excavation of soil should be minimised where possible and particularly under the canopy of beech an manuka dominate vegetation in order to retain the symbiotic relationships between fungal mycorrhizae and forest/ shrubland communities. Where proposed changes in ground level approximate existing ground levels, consideration should be given to avoiding disturbance.*
>
> 5. *Where excavation is required, the topsoil under beech forest and manuka shrubland should be removed to a depth of about 200 mm and retained separately. This soil should be reinstated over the finished levels, and or used in areas where these communities are going to be planted as part of the Landscape Design.*

i) Potential for an increase in bird strike* [from glass windows]

36. In order to address this matter, it is recommended that the Architect incorporate etched glass or other effective and appropriate means of reducing the potential for birds to fly into large windowpanes. Management of impacts associated with bird strikes should consider

how house/ building designs that allow birds a tunnelled view through the houses such that they may attempt to fly through; e.g. the restaurant shown on the submitted plans; can be modified to avoid or reduce this potential.

j) Light pollution*

37. The issue of light pollution is again a matter for the landscape architect and architect to address. NSN will defer to their expertise on this matter.

38. NSN is aware that the issue of bird strike arose when streetlights were initially introduced to the Bobs Cove Rural Residential Zone, however the traffic from Waimarino entering on to the Queenstown to Glenorchy Road will not be travelling at high speeds so the potential for birds attracted to the moths and insects near streetlights directly associated with the Waimarino development is low.

39. Use of downlights with low lux levels would assist with the management of light pollution and its associated risk to birds.

k) Clarification, Amendments and Additional Information

Age of Trees - Amendment

40. Table 1 and 2 of the primary ecological report the measured diameters at breast height (Table 2) and provided a scale of reference based on Hurst et al., 2007; to estimate the age of the trees. The reliance on Hurst et al. (2007) acknowledged that the growth rates at the forest edge are different to growth rates experienced within unmanaged forests, so while the scale of tree ages provided in Table 1 may follow the findings of Hurst et al., (2007) NSN acknowledges that Table 1 may over-estimate the age of the trees on the Bobs Cove site.

41. The estimated age of the trees in the primary NSN report appeared on further consideration to be incongruent with the trees visible in the Retrolens photographs (Photo 1A to 1C on page 8 and 9) showing 62 years of regenerative progress at the site.
42. NSN therefore acknowledges and defers to the estimated tree ages provided in the report prepared by Mr Finlin of NZ Tree Care, dated 4th November 2021. In Section 2 of Mr Finlin's report he estimates the age of the trees to be 40 to 60 years old. This is more consistent with the evidence provided by the Retrolens Photographs in the NSN report although Hurst et al., 2007 suggests they may be older, this can not be definitively determined without taking core samples or cutting them down to count the growth rings.

l) Predator Control and Pest Management

43. The preparation of a Predator Control Plan is proposed and will be developed as a condition of consent. Waimarino has consulted with the Whakatipu Wildlife Trust and the Bobs Cove

predator control group to determine their needs and measures to support and enhance predator control in the Bobs Cove area.

44. A range of options for predator control have been considered with the Trust and local Predator Control group ranging from a localised effort to infill gaps in the Bobs Cove_Closeburn Station trap network to broader support for the local trapping effort.

45. Implementation of a predator control plan at either of these scales will support the protection of local fauna and flora including the species addressed in the primary ecological assessment and this RFI report.

46. Plant pests would be managed under the Landscape Maintenance and Management Plan prepared by Baxter Design/ KamoMarsh Landscape Architects.

B. Analysis of Ecological Value, Magnitude and Level of Effects

a) Species Values

i) Presence of Nationally Threatened Species

National critical species

Long-tailed bat

- Refer to the information provided in Section A. d) of this RFI report.
- Unconfirmed bat sightings have been reported to DOC twice over the past 20 years. These sightings have not been followed up.
- The Waimarino site does not appear to have trees with cavities that could support roosting bats.
- The Waimarino site is contiguous with a band of shrubland and emergent beech forest habitat that would, contribute to the foraging habitat likely to be used by bats, if present.

Value Score

Very High to High

47. If confirmed present, the species score would be very high; unconfirmed sightings suggest there is potential for a local population to be present: a conservative approach would therefore require a high score.

Nationally Vulnerable

Takitimu gecko

- Refer to Section A. f) and Table 5 at the back of this RFI report.
- While the site is within the distributional range of this species, there is a very remote potential for this species to be presence in the Bobs Cove area and Waimarino site[18].

[18] Dr Mandy Tocher, pers. Comm; 1/11/2021

- Takitimu geckos are found at higher elevations in rocky habitats but have also been found in beech forests. The disturbed nature of the Waimarino site, its low elevation and the presence of a full predator guild make it highly unlikely that this species would be found on the site.

Value Score
Very High to Low/ Moderate

48. The confirmed presence of this species would result in a very high species score; however, it is considered highly unlikely for these species to be present on this site. If a survey confirmed with a high level of confidence that these species are not present the species value score would moderate to low or even negligible.

Lakes Skink

- Refer to Section A. f) and Table 5 at the back of this RFI report.
- This species is very unlikely to be present and considered to have only a remotely possible chance of being present in the Bobs Cove area.[19]
- The presence of a full predator guild, dry site conditions, the lack of rocky or damp herbaceous habitats renders the site poorly suited to this species.

Value Score
Very high to Low

49. The confirmed presence of this species would result in very high species value score; however confirmation with a high level of confidence that this species is not present would moderate this score to low/ negligible.

ii. Presence of At- Risk Species

Declining

Manuka - Leptospermum scoparium

- Refer to Section A. e) i) of this RFI report.
- The risk to manuka posed by the spread of myrtle rust is unknown but is out of the control of the Waimarino development proponent except for the ability to monitor and report any infestations that may be detected.
- Localised and small-scale clearance will be balanced by the retention and protection of manuka as an existing component of the northern gully vegetation and its incorporation into the landscape planting within the site and around the margins of the development.
- Manuka planting will support the buffering boundary to the reserve however, given the many vectors of spread, buffer or boundary planting is unlikely to offer reliable protection from an infestation.

[19] Dr Mandy Tocher, pers. Comm; 1/11/2021

- Manuka on site and within the surrounding Reserve is already affected by sooty mould; Section 3.2.3 of the primary ecological report provides information regarding this.

Value Score
Moderate

50. The species value score has been moderated from high to moderate because it is locally abundant, and the proposal will retain and protect the species within the existing vegetation along the northern portion of the site and incorporate it into landscape and boundary planting using local sources free from myrtle rust.

Kōrero gecko, Jewelled gecko, Southern grass skink, Cryptic skink

- Refer to Section A. f) and Table 5 at the back of this RFI report.
- The site is located within the known distributional range of these four (4) species. However, the species considered most likely to be present are McCanns skink (**not threatened**), the kōrero gecko (possible) and the southern grass skink (less likely).
- The site may not be open enough to support McCanns skink and a survey would be needed to confirm the presence or absence of the kōrero gecko and southern grass skink with a high level of confidence.
- Jewelled geckos have not been found in the Basin in many decades and are considered to have been lost from habitats that have a history of fires.[20]
- The cryptic skink requires basking habitats and is usually associated with flushes and wetland habitats; habitats not present within the Waimarino site.

Value Score
High

51. The confirmed presence of any one of these species would result in high species value score. The presence of more than one of these At-Risk species would result in a very high score. However, confirmation with a high level of confidence that these species are not present would reduce this score to moderate as the adjoining Reserve may harbour lizards that are so sparsely present such that they are currently undetectable. A survey should include a 20 metre buffer into the adjacent Reserve on the southern and western boundary of the Waimarino site.

52. Predator control would help protect any lizard species within the site and improve the coverage of the surrounding trap network. The preparation of a predator control plan is therefore again recommended as a condition of consent.

Naturally Uncommon

Long-tailed cuckoo

- Refer to Section A. e) iii) of this RFI report.
- This species lays eggs in brown creeper nests. Brown creepers have been detected by the author in the more mature red beech forest of the Recreation Reserve

[20] Dr Tocher, pers. comm. 1/11/2021

however, they will forage and nest in shrubland communities such as those in the gully along the northern boundary of the site and Reserve to the south.

Value Score
High

53. The species is a seasonal migrant of unknown abundance and density. It only breeds in New Zealand and could reasonably be expected to be present in the area.

54. Long-tailed cuckoo would be supported by the proposed planting and an expansion or infilling of the predator control network in the vicinity of the site.

Recovering
Falcon

- Refer to discussion in Section A. e) ii) of this RFI report and in Section 3.2.7 of the primary ecological report.

Value Score
Moderate

55. Falcon are reasonably well dispersed across the Lakes Ecological Region.

56. Falcon would be supported by the proposed planting and an expansion or infilling of the predator control network in the vicinity of the site.

b) Site Ecological Value

i. Representativeness

- Refer to Section 3 and 4.1 of the primary ecological report and Section A. a) to c) the this RFI report above.

- The site vegetation although modified, partially cleared and somewhat weed invaded, provides an example of regenerating beech forest emerging through mature manuka shrubland. Eucalypts, hawthorn, broom and lupins are the dominate weeds on the site, these are also present in the surrounding Reserve. However, the site's vegetation supports the structure and species diversity characteristic of the beech forest assemblages found in the surrounding Reserves and associated with Q2.2b land environments.

Value Score
High

c) Rarity/ Distinctiveness

- Refer to Section A. e) and f) and Tables 3, 3A and 5 in the RFI report as well as Table 4 and Section 4.2 of the primary ecological report.

- The site supports manuka, it provides foraging habitat or habitat that supports the nesting requirements for falcon and long-tailed cuckoo (unconfirmed but likely) at least on a seasonal basis. The site is potentially used for foraging by long-tailed bats (unconfirmed), kōrero geckos and other reptile (lizard) species (unconfirmed but possible). The presence of bats and lizards are unconfirmed; surveys would be needed to assess the potential for lizard populations to be present on site, while a broader survey of the surrounding PCL would be required to determine bat presence in the mature forests.

Value Score

Very High to Moderate

(Revised from "not met" in the primary ecological report)

57. The At-Risk classification of manuka was overlooked in the primary report.

58. The moderate score is based on the confirmed presence of manuka and the low risk posed to that species by the proposal, and the high score is based on likely presence of falcon and long-tailed cuckoo. The presence of long-tailed bats (conservatively optimistic potential) or any of the threatened lizards (very unlikely) would result in a very high score. The presence of more than one of the At-Risk species would also result in a High Score.

iii. Diversity/ Pattern

- Refer Section 4.3 of the primary ecological report and the discussion in Section A. c) above which also addresses buffer values; Table 3 and supplementary Table 3A in this RFI report and Table 4 of the primary ecological report.

- The site contains well in excess of three species (ref PDP Chapter 33: 33.5.3 e).

Value Score

High

59. The site contains speciose and structural diversity associated with good examples of regenerating (seral stage) manuka shrubland/ beech forest and beech forest communities, including mycorrhizal diversity.

iv. Ecological Context

- Refer to Section 4.5 of the primary ecological report and Section A. c) above.

- The Waimarino site is 1.46 ha, just over one (1) percent of the c. 108 ha zone area.

- The c. 325 m Waimarino boundary represents about 5.7 percent of the zone boundary with the surrounding PCL.

- The site therefore acts as a small clearing with a diversely vegetated margin of the zone which is itself a larger clearing within the surrounding PCL, refer to Figure 1 copied from the primary ecological report.

Value Score
Moderate to High
(Revised from "low" in the primary ecological report)

60. The presence of a diverse manuka shrubland supporting regenerating beech forest with beech trees that have achieved the canopy in terms of their maturity along the boundary of the Recreation Reserve necessitates a revised and elevated consideration of value.

61. The vegetation within dry northern gully and its margins provide the most significant buffering value and this was recognised along with the diverse soil mycorrhiza in the primary ecological report; this area is consider to have high value.

62. Vegetation bordering the western boundary of the Waimarino site is more disturbed, carries a higher proportion of invasive weeds and has been cleared to the boundary. The DOC land to be annexed to the freehold following a land exchange supports indigenous species and a diverse community comparable to that of the adjoining reserve land although it also carries a weed burden this area is considered to have a moderate to high value as it includes manuka and *Corokia cotoneaster* the later noted in Chapter 33.5.3 f) of the Operative District Plan.

63. The low value previously assessed acknowledged the small proportional contribution of the site within the context of the zone and this continues to be a moderating element when the ecological context's value score is considered in the overall assessment of site value.

c) Combined Species and Ecological Value

Based on:

- The representativeness of the vegetation present,
- The adoption of a conservative approach to the potential presence of threatened and at-risk species in decline (not confirmed),
- The unconfirmed but likely presence of naturally uncommon and recovering species,
- The high level of diversity and the buffering value of the vegetation along the margins of the Waimarino clearing within the wider zone clearing including manuka (At-Risk) and the presence of *Corokia cotoneaster* (ref: 33.5.3 f).

Value Score
Very high (mid) to Moderately High
(Revised from "moderately low" in the primary ecological report)

64. The strict and literal application of the criteria would result in a high value score, however as many of the values rely on unconfirmed and in some cases unlikely presence of threatened or at-risk species.

65. The application of the Roper-Lindsay (2018) matrices for assessment also requires ecologists to apply their knowledge and experience against the criteria.

66. The ecological value scores are dependent on a range of unconfirmed species elements and a range in their likely presence.

67. The site's existing indigenous vegetation (c. 7,265 m^2), represents about 70 percent of the Waimarino site (this site cover includes areas with a higher weed burden); the Waimarino vegetation represents about 7 percent of the total zone area. There would be a net gain of 5075m^2 following the development and implementation of the LMP.

d) Assessment of Magnitude of Effects

68. The Waimarino site supports mature emergent beech trees and a diverse soil mycorrhizal community, particularly within and along the northern gully margin. This area has been substantially protected by the proposal through identification and retention of the gully and gully margin vegetation. Some of this vegetation was also protected under an existing Resource Consent, RM130174.

69. In order to clarify the comparative impacts of the permitted baseline and the RM210618 proposal, NSN remeasured the beech trees at the request of JE&A to determine the number of trees outside the footprint of the RM130174 consented development area that had a DBH (diameter at breast height – 1.4m) of 200 mm or more and were taller than 6 metres.

70. Where the boundary of the RM130174 development area was unclear to NSN while on site, the trees fitting the criteria of > 200 mm DBH were measured. These have been mapped by JEA and identified in the KamoMarsh Plan provided as supplementary Attachment K. The tree measurement data and locations duplicate to some extent the information provided by NSN in Table 2 of the primary ecological report and illustrated in the Baxter Design/ KamoMarsh D.

71. The new measurement data and tree locations recorded using a GPS have been provided to JE&A and is provided in the supplementary Table 2A at the back of this RFI response. The accuracy of the handheld GPS may frustrate the process of precisely locating the trees on plans where a difference of a few metres is crucial.

72. From the updated measurements taken by NSN on 5 November 2021, NSN estimates there are total of 72 trees with a DBH of more than 200 mm and a height of 6 m or taller south of or on the boundary of the area where existing vegetation is to be retained:

    34 trees are **outside** the RM130174 footprint and south of the vegetation to be retained
    23 of these would be removed (orange) under the RM210618
    11 would be retained (green)

38 are identified **within** the footprint of RM130174
35 of these are identified for removal by RM210618 (red)
3 would be retained by RM210618 (green)

58 would be removed under RM210618

73. Refer to Photo 8 at the back of this report for the distribution of trees protected, removed, lay within RM130174 and outside the RM130174 footprint with a DBH of at least 200 mm, all those measured were taller than 6m tall.

74. In total, about 49 trees would be removed under the RM210618 proposal, 18 more than permitted by RM130174.

75. However, the amended KamoMarsh Landscape Architect (KMLAP) Plans SK55 and SK54 (Attachments E and F) identify 3 proposed red beech trees and 26 new mountain beech trees to be planted within the development area. This would result in a net gain of 11 trees compared to RM130174.

76. KMLAP Plan SK53 (Attachment I) identifies c.4730m^2 of existing indigenous vegetation to be retained; 880m^2 notable vegetation to be retained within the development footprint; 1655m^2 to be removed within the footprint of the RM210618 development;

77. KMLAP Plan SK55 (Attachment F) identifies the area to be planted around and between the proposed units with a total of 6730m^2 of new planting from Appendix B: the Planting Palette prepared by KMLA.

78. The proposed landscape treatments would therefore provide a net gain in indigenous vegetation of 5075m^2. This will include species found in the adjacent Reserves and up to 40 more species including one (1) Nationally endangered species (*Veronica cupressoides*) and one (1) At-Risk species (*Olearia fragrantissima*) and so will support the diversity of the Reserve margins, boost the seed sources available for the adjacent reserve, include species known to support invertebrates (pollinators) and birds (fruit and nectar).

79. The proposed green roof designs (1910m^2) are included in the 6730m^2 and the Landscape Maintenance Plan.

80. Environmental Management Plans will be prepared to ensure that soil mycorrhizal diversity is protected and earthworks that may impact on these will be minimised.

Magnitude of Effects

Low to Moderate

81. The magnitude of impacts [effects] of the proposed development are assessed as low based on the criteria described by Lindsay-Roper (2018; page 83, Table 8), provided as Table 6 of this RFI Report and adjusted based on the knowledge and experience of NSN (Ms Palmer).

82. NSN assesses that after the implementation of the landscape management plan which forms an integral part of the whole proposal, there will be a shift away from existing baseline conditions with the installation of built form. Change arising from the alteration will be discernible, but underlying character, composition and attributes of the existing vegetation will be similar to pre-development circumstances or patterns albeit reconfigured around the built form of the units as opposed to the remanent fragments within a partially cleared and weed invaded site.. Development of the site will result in the loss of mature trees within the footprint of the RM210618 development, but this loss will be similar to the loss that would occur under RM130174. There will be a balancing net gain in the number of beech trees on the site following implementation of the landscape plans.

83. There will also be a net gain in indigenous vegetation (5075m^2) and an improvement in diversity with the addition of up to 40 species not recorded during initial and subsequent site inspections but known to occur within the adjacent Reserve and the Shotover or Richardson Ecological Districts that may be incorporated into the landscape treatments.

84. No species currently present on the site would be lost as a result of the development.

85. The protection, retention and incorporation of a diverse array of vegetation into the landscape planting will maintain and improved nectar sources, maintain and improve invertebrate populations which will help pollinate and therefore maintain and improve the availability of native fruit. This will support insectivorous and frugivorous birds as well and lizard and bat populations if present.

86. The weed burden on the property will be removed.

87. Predator control will reduce threats for birds, lizards and bats (if the latter two are present), and possum control will also reduce foliar browse and grazing on fruit and nectar sources otherwise available for indigenous fauna.

C. Overall Level and Extent of Effects

a) Overall Level of Effects

- The overall level of effects has been assessed using the criteria set out by Roper-Lindsay (2018; Table 10).
- Species value scores range from potentially very high to low and are conservatively applied based and dependent upon the potential likelihood of presence.
- The ecological value of the site has been scored as very high (mid-range) to moderate, again this score is based on values that are potentially not present and so are conservatively applied to account for the possibility that they are present.
- However, the magnitude of proposed and likely impacts on the values present and potentially present has been assessed as low to moderate after the implementation of the LMP, the preparation and implementation of an EMP, guidance of Mr Finlin to protect tree roots and the preparation of a predator control plan.

Level of Effects

Low to Moderate

88. NSN stands by the original assessmsent that the overall level of effects continues to be assessed by NSN to be low to moderate.

89. The effects are assessed to be low if a lizard survey confirms with a high level of confidence that threatened and at-risk species are not present or had only the most remote potential to be present. In the unlikely event that threatened or at-risk lizards were found on the property the level of effects would increase and a lizard management plan would be required to determine whether and or how the effects could be managed to avoid or minimise adverse effects.

90. The proposal will result in a net gain in biodiversity and site coverage by indigenous vegetation following the implementation of the landscape management plan and the adoption of the recommendations provided below which include improvements to local predator control network and operations.

91. An enhanced predator control effort to be prepared as a condition of consent will provide substantial support to endemic and native fauna (actually and potentially present) and vegetation within the site and the broader Bobs Cove Recreation Reserve including support for the recovery of species that may currently be so sparsely present in the area so as to be currently undetectable.

ii. Extent of Effects

- The extent of actual or potential adverse ecological effects likely to be caused by the implementation of the Waimarino proposal have been assessed against the guideline criteria of Roper-Lindsay (2018; Table 11).

Extent of Effects

Minor or Less than Minor

92. The effects [impacts] of the fully implemented proposal, including the positive effects accruing from landscape management plan implementation, predator control, the protection of trees protected by RM130174, the retention of vegetation within the northern gully and its margins, the protection of the roots of trees to be retained and the effective implementation of an EMP are assessed as less than minor if threatened or at-risk lizards, after a survey and with a reasonable level of confidence, cannot be confirmed to be present.

93. In the unlikely event that threatened lizard species were to be found within the site, then the effects of the proposal would be assessed at a higher-level requiring management to be advised by a herpetologist. A herpetological plan would be required to ascertain the appropriate level of management, this plan would need the approval of the Department of Conservation if it involved the relocation of lizards.

94. If at-risk lizards were found, the adverse effects of the proposal would be assessed as more than minor and would be subject to the implementation of a plan that avoids or appropriately minimises impacts on the lizard populations; including their protection through the proposed predator control plan. The plan would need the approval of the Department of Conservation if it involved the relocation of lizards.

95. In the event that bats were confirmed to be present in the surrounding PCL, the implementation of the proposed planting, retention of vegetation and preparation of a predator control plan that expands and supports the local predator control efforts would likely be sufficient to support this population and avoid adverse effects on it.

96. Note that no trees suited for roosting were noted to be present on the site.

97. Included in the NSN assessment of the Extent of Effects is the view that the implementation of the landscape management and maintenance plan would result in less than minor and even positive effects on the buffering boundary with the Recreation Reserve accruing through the removal of invasive weeds.

D. Measures to Manage Impacts

98. The following information provides a description of measures sufficient to achieve a low level of effect by avoidance, mitigation or remedy of the likely and or potential adverse effects of the proposal such that the overall level of effect will be less than minor or no more than minor.

99. Measures to manage (avoid, moderate and minimise) the key impacts of the proposal have been repetitiously described throughout the RFI response.

100. The key ecological impacts of the proposal have also been well described throughout the document. They are essentially the removal of mature beech trees and the associated fragments of regenerating shrubland/ beech forest community within the footprint of the development and the impact this may have on local populations of manuka, avifauna both common and At-Risk whether actually or potentially and or seasonally present, along with potential direct impacts on lizard fauna that are considered unlikely to be but potentially present. Removal of vegetation may also create impacts on the foraging habitat of long-tailed bats which are unconfirmed but potentially present in the area, a situation the Department of Conservation has been aware of for twenty years but has not responded to.

101. Appendix C: The Baxter Design Landscape Maintenance and Management Plan ("the Landscape Management Plan" LMP – Section C. outlines measures to remove exotic vegetation from the site (Section 1), protect the existing vegetation within the gully (Section 2), protect areas of indigenous vegetation (Section 3) and plant indigenous vegetation as part of the landscape management of the development (Section 4 and 5). These are effective measures to balance the removal of indigenous vegetation from the footprint of the development. The vegetation removed is being further balanced by a net increase in

area and diversity albeit configured around the built form of the development and the along the margins of the site where it adjoins the Recreation Reserve.

102. The proposal will also protect trees previously identified for protection under RM130174.

103. Planting of indigenous species guided by the LMP will result in a net gain of 5075 m^2. The species included in the planting will support invertebrate fauna, produce an addition to the local sources of nectar and fruit which will in turn support bird, lizard and bat foraging outcomes (if the latter two are present).

104. The gully habitat supports a diverse array of soil mycorrhiza which will also be retained within the gully and its margins.

105. A plan that facilitates the extension and support for local predator control will also support the protection of indigenous fauna of the Waimarino site and surrounding area by strengthening the control near a narrow and more constricted area of the Reserve. This could more effectively reduce predator access to the rocky promontory of Bobs Cove where lizard fauna is more likely to occur.

106. The changes to the proposal made in response to feedback from Council and their specialist consultants were summarised on page 3 of this RFI. These measures combine to avoid, moderate or minimise the actual and potential adverse impacts of the proposal.

107. NSN stands by the recommendations made in the primary ecological report and having considered and addressed the matters raised by Ms Teele, the following further recommendations are made which when implemented will result in an overall ecological impact [effect] of **minor** or **less than minor**; subject to the outcomes of a lizard survey prior to the implementation of any physical site works and the outcomes and recommendations of that survey.

Further Recommendations

1. Appendix C: The Baxter Design Landscape Maintenance and Management Plan identifies the selective removal of woody weeds in the gully and their replacement with indigenous species; NSN strongly recommends that this be undertaken gradually such that:
   a) The shade of the canopy is maintained and
   b) the nesting habitat for indigenous birds such as kereru found nesting in a hawthorn in the gully can be maintained.

3. A systematic survey following best practice for determining bat presence is recommended to confirm whether there is a population of long-tailed bats on Public Conservation Land in the Bobs Cove area. This is an undertaking that is best undertaken by the Department of Conservation following the standard methods for such monitoring (e.g., between the Mount Aspiring National Park and the outskirts of Glenorchy) as the presence of bats will not be determined or affected by

the Waimarino proposal. While confirmation of a bat population in the Bobs Cove area would be an important ecological event, the recommended management in response would be:

a) The retention of roost trees (none are present)
b) Maintain and plant vegetation assemblages that support invertebrate fauna (proposed as part of the Waimarino application)
c) Undertake predator control or support local predator control efforts to reduce the potential for predation in roost trees (proposed as part of the Waimarino application).

The latter two are proposed as part of the application and make important contributes to the impact management that moderates the effects of the proposal.

These measures provide the appropriate response to any detected populations and therefore negate the need for a comprehensive survey as a condition of consent for the RM210618 application.

4. It is recommended that a lizard survey extending 20 metres into the adjoining Reserve, or such distance as is considered sufficient in the opinion of a herpetologist to intersect the home range of a species that may be present along the boundary of the Waimarino site, this should be undertaken prior to site development.

5. If any At-Risk or Threatened lizard species were found, a management plan should be prepared by a herpetologist to avoid, mitigate or appropriately offset the impacts on the population including any measures required to protect or relocate them within the site, subject to the approval of DOC, and provide for their protection by:
    - undertaking predator control
    - planting to maintain the existing and increase species that support invertebrates and provide fruit would also support lizard fauna if present.

6. These recommendations are consistent with those relating to management of the impacts of the proposal on both bats and birds.

7. Environmental Management Plan (EMP) prepared as a condition of consent should ensure no degradation of the values identified in the gully habitat occurs as a result of excavation, construction or subsequent stormwater management during construction and ongoing use and occupation of the site. The plan should acknowledge the cumulative stormwater impacts associated with development of the catchment uphill (east) of the site. It should also incorporate the outcomes sought through recommendations 4 and 5 in Section 6 of the primary ecological report copied in Section A. g) above.

8. That the Architect incorporate proven and effective means of reducing the potential for birds to fly into large windowpanes. This may include integration with the landscape treatments of the site.

9. The development of a predator control plan that improves the trap coverage of the area and the efficacy of the local predator control efforts should be prepared as a condition of consent.

10. Where possible and practical to do so, co-ordinate the removal of woody weeds from the boundary with the Recreation Reserve with DOC in order to reduce the potential for reinvasion of the Waimarino site and the potential for further spread within the Reserve.

11. The services of an arborist and or where necessary an ecologist will be retained in order to brief and liaise with contractors to avoid or reduce disturbance or damage to vegetation and to respond to any discoveries of ecological importance once development gets underway.

12. Any manuka incorporated into the landscape plantings should come from eco-sourced stock produced in local nurseries that are free from infection with myrtle rust.

13. Vigilance rather than formal monitoring for myrtle rust infestations will be incorporated into the implementation measures for the LMP. Grounds staff and contractors must be informed such that they are able to recognise and report any infestations and understand the protocol to reduce spread (i.e., don't touch it, photograph, report).

Dawn Palmer
Principal Ecologist
Natural Solutions for Nature Ltd
12/11/2021

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Table 2A - Supplemental Tree Measurement Data

Trees with a DBH greater than 200mm and taller than 6 m high AND outside the Area to be retained/protected
Protected/Retained OR Removed (proposed – by either RM210618 or RM130174 "in")
MB - Mountain beech; RB - Red beech

Tree species	Protected	RM130174	ID	DBH (mm)	Description	Alt	Lat	Long	Tree number
MB	retained		2MBX2	295	2 trees close together		-45.072	168.5173	1
MB	removed	in	3MB	262	3 stems, largest measured		-45.07206	168.5173	2
MB	retained		4MB	508	marked		-45.07199	168.5171	3
MB	retained		5MB	295	marked		-45.07195	168.517	4
MB	retained		6MB	312	marked		-45.07202	168.5168	5
MB	retained		7MB	277	marked		-45.07196	168.5169	6
MB	retained		8MB	260			-45.07196	168.5168	7
MB	removed		9MBX3	223	3 trees close together		-45.07198	168.5167	8
MB	removed		9MBX3	210	3 trees close together		-45.07198	168.5167	9
MB	removed		9MBX3	268	3 trees close together		-45.07198	168.5167	10
MB	retained		10MB	274			-45.0719	168.5166	11
MB	removed		11MB	313			-45.07205	168.5168	12
MB	removed		12MB	292			-45.07214	168.5168	13
MB	removed		13MB	252			-45.07207	168.5167	14
MB	removed	in	14MB	201	5 in cluster but only 1 > 20cm DBH @ 20.1		-45.07204	168.5167	15
RB	retained	in	15RB	238			-45.07197	168.5166	16
MB	removed	in	16MB	410			-45.07208	168.5167	17
MB	retained		17MB	346	marked; adj 2A		-45.07219	168.5166	18
MB	removed		18MB	451	marked; 15.1 cm DBH lancewood S of pole		-45.07194	168.5166	19
MB	retained		19MB	266	marked adj 2A		-45.0719	168.5165	20
MB	removed	in	20MB	235			-45.07201	168.5165	21
MB	removed	in	21MB	327			-45.07197	168.5164	22
MB	removed	in	22MB	354	split in trunk- no cavity - photo taken		-45.07202	168.5164	23

MB	removed	in	23MB	211			-45.07206	168.5164	24
MB	removed	in	24MB	216			-45.07208	168.5163	25
MB	removed	in	25MB	294			-45.07206	168.5162	26
MB	removed	in	26MB	380			-45.0721	168.5162	27
RB	removed	in	27RB	254	small knot crevice, no cavity		-45.07203	168.5161	28
MB	removed	in	28MB	304			-45.07209	168.5162	29
MB	removed	in	29MB	294			-45.072	168.5161	30
RB	removed	in	30RBX2	288	2 stems, largest measured; marked		-45.07203	168.5161	31
RB	removed	in	30RBX2	225	4 stems, largest measured		-45.07203	168.5161	32
MB	removed	in	31MBX2	249			-45.07206	168.5161	33
MB	removed	in	31MBX2	207			-45.07206	168.5161	34
MB	removed	in	32MB	383			-45.07206	168.516	35
MB	removed		33MB	316	2 stems, largest measured		-45.07204	168.5159	36
MB	removed		34MB	375	2 stems, largest measured; marked		-45.0721	168.5158	37
MB	removed		35MB	211			-45.0721	168.5158	38
MB	removed		36MBX3	214	4 in cluster but 1 < 20cm DBH (18.3)		-45.07203	168.5158	39
MB	removed		36MBX3	230	4 in cluster but 1 < 20cm DBH (18.3)		-45.07203	168.5158	40
MB	removed		36MBX3	226	4 in cluster but 1 < 20cm DBH (18.3)		-45.07203	168.5158	41
MB	removed		37MB	291	marked		-45.07203	168.5158	42
MB	removed		38MB	247			-45.07203	168.5158	43
MB	removed		39MB	286			-45.07203	168.5158	44
MB	retained		40MB	164	3 stems, 16.1, 16.4, 12.3 - large tree counted as > 200 mm DBH		-45.07197	168.5158	45
MB	retained		41MB	262	2 stems, largest measured		-45.07197	168.5157	46
MB	removed		42MB	246			-45.07209	168.5158	47
MB	removed		43MB	225			-45.07212	168.5157	48
MB	removed	in	44MB	250			-45.07208	168.5156	49
MB	removed	in	45MB	404	marked		-45.07205	168.5155	50
MB	retained		46MBX4	230	4 in close cluster; 3 in the retained area		-45.07199	168.5155	52
MB	retained		47MB	300	3 stems, largest measured		-45.072	168.5155	55

MB	removed	in	48MB	349			-45.07217	168.5154	56
MB	removed		50MB	275	DOC land exchange		-45.07257	168.5154	58
MB	removed		51MB	405	DOC land exchange area; limbed; marked		-45.07264	168.5158	59
MB	removed	in	52MB	239			-45.07216	168.5158	60
MB	removed	in	53MB	260	no waypoint				61
MB	removed	in	54MB	324			-45.07227	168.5161	62
MB	removed	in	55MB	354			-45.07232	168.516	63
MB	removed	in	56MB	226	marked		-45.07234	168.5161	64
MB	removed	in	57MBX2	308	2 trees close together		-45.07237	168.5163	65
MB	removed	in	57MBX2	272	2 trees close together		-45.07237	168.5163	66
MB	removed	in	58MB	236	multi stem, largest measured; large lancewood between 58 and 59		-45.07228	168.5163	67
MB	removed	in	59MB	317	multi stem, largest measured; large lancewood between 58 and 59		-45.07221	168.5163	68
MB	removed		60MB	358			-45.07233	168.5165	69
RB	removed		61RB	300			-45.07237	168.5165	70
MB	removed	in	62MB	310			-45.07217	168.5165	71
MB	retained		63MB	354	marked		-45.07218	168.5168	72
MB	removed	in	64MB	392	2 trees close together		-45.07226	168.5169	73
MB	removed		64MB	376	2 trees close together		-45.07226	168.5169	74
MB	removed	in	65MB	248	2 trees close together; dying		-45.07227	168.517	75
MB	removed	in	65MB	319	2 trees close together; dying; split stem, rotting but no cavity		-45.07227	168.517	76
Total			**Count**	**72**					
			RM130174	**35**					
			Retained	**15**					
			Removed	**57**					
			Ave	**290**					

Table 3 – Waimarino - Bird Species present during the site inspections (copied from the primary NSN Ecological Report and UPDATED by subsequent surveys)

Scientific name	Common name	Bio Status	Threat Classification
Acanthis cabaret	Lesser redpoll	introduced	Naturalised
Anthornis melanura	Korimako/ Bellbird	endemic	Not Threatened
Callipepla californica	California Quail	introduced	Naturalised
Chrysococcyx lucidus	shining cuckoo	native	NT
Cyanoramphus auriceps	Kakariki/ Yellow-crowned parakeet	endemic	Not Threatened
Fringilla coelebs	Chaffinch	introduced	Not Threatened
Gerygone igata	Riroriro/ Grey Warbler	endemic	Not Threatened
*Hemiphaga novaeseelandiae**	Kereru/ NZ Pigeon	endemic	NT
Petroica macrocephala	Ngiru-ngiru/ Yellow-breasted Tomtit	endemic	Not Threatened
Prosthemadera novaeseelandiae	Tui	endemic	Not Threatened
Rhipidura fuliginosa	Piwakawaka/ Fantail	native	Not Threatened
Turdus merula	Eurasian blackbird	introduced	Naturalised
Turdus philomelos	Song Thrush	introduced	Not Threatened
Zosterops lateralis	Tauhou/ Silvereye	native	NT

Table 3A Additional species potentially or known to be present in the area

Scientific name	Common name	Bio Status	Threat Classification
Carduelis carduelis	Goldfinch	introduced	Naturalised
Carduelis chloris	European Greenfinch	introduced	Naturalised
Circus approximans	Kahu/ Australasian Harrier	native	NT
Emberiza citrinella	Yellowhammer	introduced	Naturalised
Eudynamys taitensis	long-tailed cuckoo	endemic	At Risk - naturally uncommon
*Falco novaeseelandiae****	Karearea/ NZ Falcon	endemic	At Risk - recovering
Gymnorhina gallus	Magpie - white backed	introduced	Naturalised
Hirundo neoxena	Welcome swallow	introduced	NT

Mohoua novaeseelandiae	Pipipi/ Brown creeper	endemic	NT
Ninox novaeseelandiae	Ruru/ Morepork	native	NT
Passer domesticus	House sparrow	introduced	Naturalised
Prunella modularis	Dunnock	introduced	Naturalised
Sturnus vulgaris	Starling	introduced	Naturalised
Tadorna variegata	Putangitangi/ Paradise Shelduck	endemic	NT; *unlikely to inhabit the site*
Todiramphus sanctus vagans	Totare/ Sacred/ New Zealand Kingfisher	native	NT
Vanellus miles novaehollandiae	Spur winged plovers	native	NT; *highly unlikely to inhabit the site*

* Kereru - A nest was found in a hawthorn within the gully of Waimarino 26/10/2021

** Ruru - At-Risk: declining B(1/1) – A large population and low to moderate ongoing or predicted decline with 20,000 – 100,000 mature individuals, and predicted decline of 10 – 50% over 10 years of 3 generations, whichever is the longer (Robertson, et al., 2017).

*** Shags - presence unlikely and if present more likely to be drawn to the lake margin vegetation, the habitat on the site are not considered important to those species.

**** Falcon - Between 1000 – 5000 Adults with an increasing trend of 10% predicted over 10 years of 3 generations whichever is longer; estimated to occupy less than 100 ha.

Waterfowl may also be found on the lake and its margins beyond the site but the habitat on the site are not considered important to those species.

Table 5 – Lizard Species with a distributional range that includes the Bobs Cove area and lake margin habitat present in that area

Skinks and geckos are independently listed in order of the likelihood of their potential.

Species	Common Name	Threat Classification (2021)	Preferred Habitat	Likelihood of Presence
GECKOS				
Woodworthia "Otago-Southland large" ["south-western"]	Kōrero gecko	At-Risk: declining Taxonomically unresolved; Criteria C(1); very large population and low to high ongoing or predicted decline; >100 000 mature individuals, predicted decline 10–70% Qualifier PD; New split from W. "Otago-Southland large" No change in threat classification	terrestrial/arboreal and inhabit beech forest, podocarp/hardwood forests, rocky grasslands, and rocky alpine areas up to 1300 m; primarily insectivorous, will eat fruit and nectar	Potentially present: It is recommended that a search of beech trees and loose bark is undertaken prior to disturbance. If found, an appropriate management plan should be prepared by a suitably qualified herpetologist.
Naultinus gemmeus	Jewelled gecko	At-Risk: declining Criteria: C(2) very large population and low to high ongoing or predicted decline; Total area of occupancy >10 000 ha (100 km2), predicted decline 10–70% Qualifiers: CI, PD, PF No change in threat classification	Primary habitats include beech forest, podocarp forest, tussock grassland, and structurally-complex shrublands and vinelands (particularly manuka, kanuka, small leaved *Coprosma* sp., *Muehlenbeckia* spp. totara, and matagouri).	Potentially but unlikely; No known recent confirmed records from this area but due to the area's substantial recovery from historical fires, there may be some potential for presence. It is recommended that a search of shrubland vegetation is undertaken prior to disturbance. If found, an appropriate management plan should be prepared by a suitably qualified herpetologist.
Mokopirirakau cryptozoicus	Takitimu gecko	Nationally Vulnerable Taxonomically Determinate; Criteria: C(2) moderate population with a declining trend; ≤15 subpopulations, ≤500 mature individuals in the largest subpopulation, predicted decline 10–50% Qualifiers: CI, DPS, DPT, Sp No change in threat classification	highly saxicolous; strongly associated with Scree, rock outcrops and creviced bluffs in the alpine zone, and has also been found in beech forest/ podocarp forest; found 600 – 1450 masl	Very remote potential to be present: Found in Southland and western Otago beech forests including Rees Valley and northern Richardson Mountains; this Bobs Cove site is about 320 masl; on a high lakeshore terrace; the absence of scree, rock outcrops or bluffs within the site suggest it would be highly unlikely to find this species within the open Eucalyptus/ beech forest manuka dominated shrubland of the site.

SKINKS				
Oligosoma maccanni	McCann's skink	Not threatened Taxonomically determinate No change in threat classification	dry rocky environments from the lowlands up into subalpine regions. They readily inhabit rock tor systems, boulderfields, tallus, scree, rocky herbfield, exotic grasses, herbfield, and tussockland.	Potentially present in open areas but unlikely given disturbance of open areas: The site vegetation is dominated by a mixture of native and exotic shrubland and forest communities and while it has some open grassed areas, these are highly disturbed and isolated from other open grassy, edge and rocky habitats more likely to be inhabited by this species.
Oligosoma aff. polychroma Clade 5	Southern grass skink	At-Risk: declining Taxonomically unresolved Criteria: C(2) C(2) very large population and low to high ongoing or predicted decline; Total area of occupancy >10 000 ha (100 km2), predicted decline 10–70% Qualifier: DPT	inhabit a range of habitats including coastal dune habitat, wetlands, grassland, shrublands, rocky shrubland/herbfield, screes, tussock, stony riverbeds and city habitats Diet: invertebrate, fruit/ sugar sources	Potentially but unlikely: A very widespread [South Island] species of grass skink; found in Otago and at a variety of elevations from lowland coastal areas, right up into the mountains.
Oligosoma inconspicuum	Cryptic skink	At-Risk: declining Taxonomically determinate Criteria: C(2) very large population and low to high ongoing or predicted decline; Total area of occupancy >10 000 ha (100 km2), predicted decline 10–70% Qualifier: CI No change in threat classification	terrestrial (occasionally semi-arboreal climbing into tall shrubs); may bask in dense vegetation; found in tussocklands, grasslands, scrublands, herbfields, wetlands, and rocky areas (e.g. rocky beaches, shrubland, screes, tallus, vertical rock walls)(van Winkel et al. 2018)	Very Unlikely: Found in the lowlands around Lake Wakatipu, Eyre Mountains, Thompson Mountains, Livingstone Mountains, Southland, Raratoka and Pig Islands in Foveaux Strait. Needs rocky habitats with basking opportunities and is associated with flushes/ wetlands and indigenous herbfields
Oligosoma aff. chloronoton "Western Otago"	Lakes skink	Nationally Vulnerable & Taxonomically unresolved; Criteria: C(2) moderate population with a declining trend; ≤15 subpopulations, ≤500 mature individuals in the largest subpopulation, predicted decline 10–50% Qualifiers: CI, DPS, DPT, PF, Sp No change in threat classification	terrestrial/ saxicolous, often associated with very damp basins and gullies; they typically inhabit lowland or alpine tussock grassland, riverine debris (eroded stone), and screes/talus with woody vegetation	Very Unlikely/ only remotely possible: The presence of a full predator guild, The somewhat dry conditions, lack wetlands and or damp herbfield vegetation and absence of rocky habitats at the Bobs Cove site renders it less suited to this species. The species is usually found at higher elevations and not in areas with high predator loadings. The site is dominated by a mixture of native and exotic shrubland and forest communities and while it has some open grassed areas, these are highly disturbed and isolated from other open and rocky habitats more likely to be inhabited by this species.

Sources:
https://www.reptiles.org.nz/herpetofauna
personal communication, Dr Mandy Tocher, herpetologist, LizardExpertNZ; 1/11/2021
Jewell, T. (2008): A photographic guide to Reptiles and Amphibians of New Zealand. New Holland Publishers (NZ) Ltd, Auckland, NZ
van Winkel, D., Baling, M., Hitchmough, R. (2018). *Reptiles and amphibians of New Zealand – a field guide*. Auckland university press, Auckland New Zealand.

Definition of Qualifiers:
CI - Climate Impact [new criteria added to threat classification to reflect the pressure of changing environments, long term trends and the potential impacts of extreme weather events
DPR - Data Poor Recognition [low confidence in threat classification due to taxa status as determinate or unresolved/ indeterminate]
DPS - Data Poor Size [low confidence in threat classification due to lack of data on size of population]
DPT - Data Poor Trend [low confidence in threat classification due to lack of data on population trends, locally/ Nationally]
PD - Partial Decline
PF - Population Fragmentation
Sp - Sparse

Table 6 Criteria for describing magnitude of effects – copied from Roper-Lindsay, 2018

Table 8. Criteria for describing magnitude of effect (Adapted from Regini (2000) and Boffa Miskell (2011))

Magnitude	Description
Very high	Total loss of, or very major alteration to, key elements/features/ of the existing baseline conditions, such that the post-development character, composition and/or attributes will be fundamentally changed and may be lost from the site altogether; AND/OR Loss of a very high proportion of the known population or range of the element/feature
High	Major loss or major alteration to key elements/features of the existing baseline conditions such that the post-development character, composition and/or attributes will be fundamentally changed; AND/OR Loss of a high proportion of the known population or range of the element/feature
Moderate	Loss or alteration to one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; AND/OR Loss of a moderate proportion of the known population or range of the element/feature
Low	Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to pre-development circumstances or patterns; AND/OR Having a minor effect on the known population or range of the element/feature
Negligible	Very slight change from the existing baseline condition. Change barely distinguishable, approximating to the 'no change' situation; AND/OR Having negligible effect on the known population or range of the element/feature

Photo 3: View of Bobs Cove Recreation Reserve South of Glen Tui; Eucalyptus canopy with emergent beech trees, white flowering hawthorn, yellow flowering broom in the Reserve.

Photo 4: View north from Peregrine Falcon Road, Glen Tui towards the broadleaf fan at the toe of the beech clad slope of the Mount Crichton Scenic Reserve. Plantings between residences will mature to increase the foraging opportunities for bird and bats (if present) through the zone.

Photo 5: Eucalypt canopy of the Recreation Reserve (reddish coloured canopy), white flowering hawthorn and yellow flowering broom with manuka and indigenous shrubland understory. Street plantings include red tussock, *Pittosporum eugenioides, Veronica salicifolia* and other *Veronica* species along with toetoe and *Coprosma* species.

Photo 6: View southwest from Waimarino boundary into the Bobs Cove Recreation Reserve; Eucalyptus canopy (red-brown in colour) with emergent beech trees, white flowering hawthorn, yellow flowering broom in the Reserve.

Photo 7: View from the Boundary of the Waimarino site with the Bobs Cove Recreation Reserve, poles of the proposed yoga studio visible in the background. The site is dominated by introduced and invasive broom. Eucalypt canopy with emergent beech trees in the background.

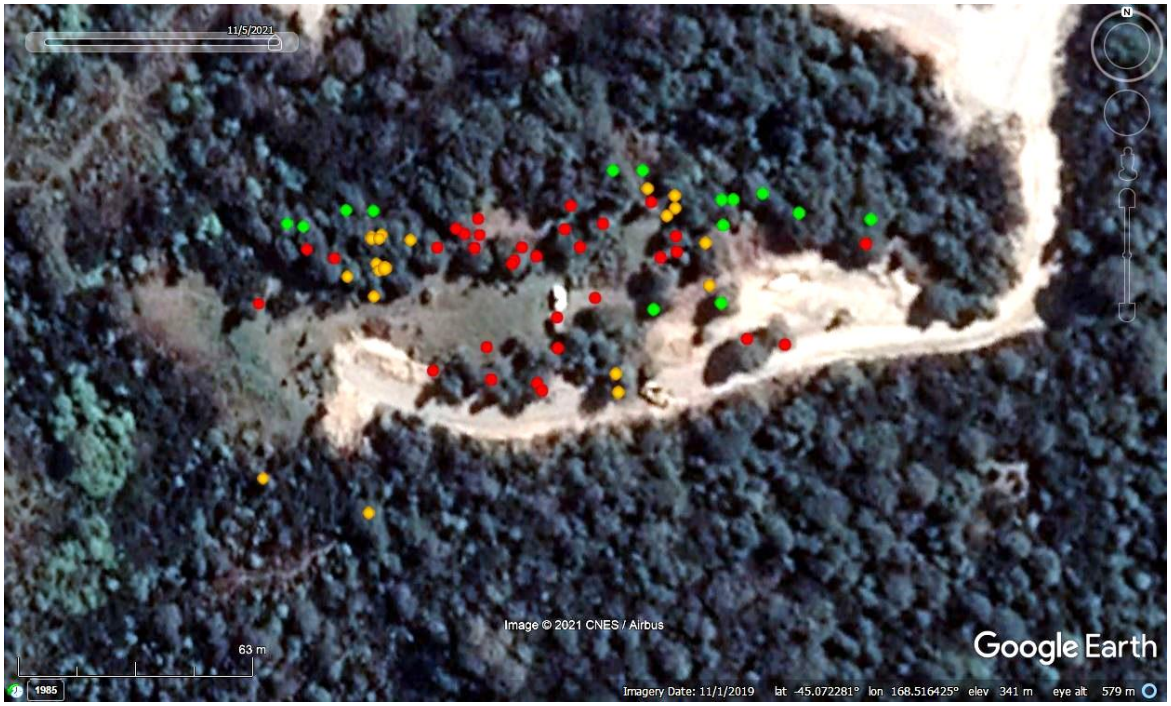


Photo 8: Trees affected by RM130174 and RM210618; green trees (14) would be retained along the boundary of the existing vegetation to be retained and protected trees shown in Attachment I of the KamoMarsh Landscape Architects plans; orange trees (23) would be removed under RM210618 and are outside the RM130174 development area; red trees would be removed by both RM130174 and RM210618 (35); 3 trees would be retained by RM210618 but are within the development area of RM130174.

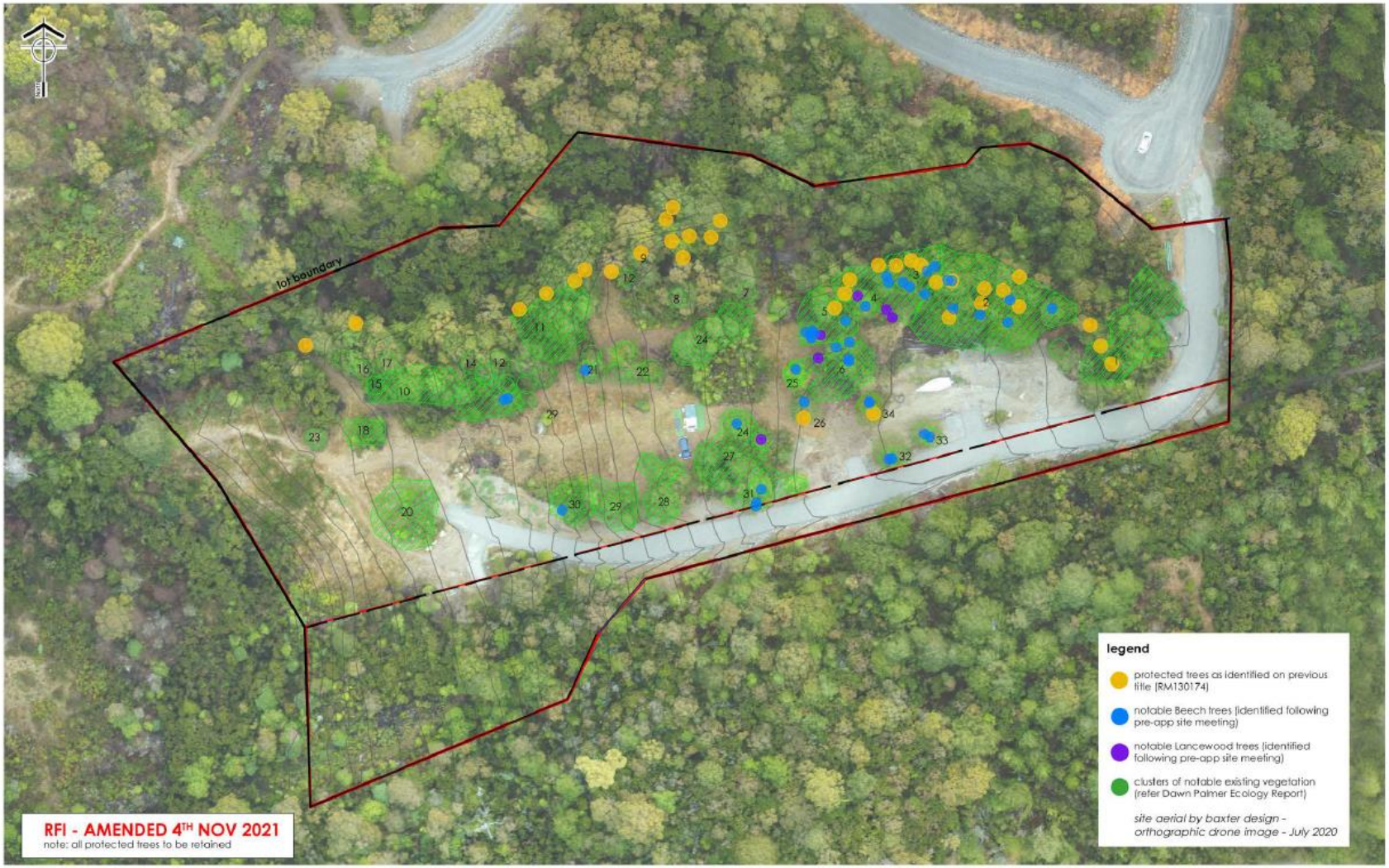

Photo 9 and 9A: Kereru nest in the gully north of the proposed Distillery and Restaurant within vegetation to be retained. The nest was located high in the canopy of a hawthorn. Photos D Palmer 26/10/2021

KAMOMARSH
LANDSCAPE ARCHITECTS

REFERENCE : 3020-SK43 - SCALE = 1:2000 AT A3 - 4 NOV 2021
DRAFT - NOT A WORKING DRAWING - NOT FOR CONSTRUCTION

ATTACHMENT C

BOBS COVE - WAIMARINO
APPROVED DEVELOPMENT AREAS (RM130174)



KAMOMARSH
LANDSCAPE ARCHITECTS

REFERENCE : 3020-SK51 - SCALE = 1:750 AT A3 - 4 NOV 2021
DRAFT - NOT A WORKING DRAWING - NOT FOR CONSTRUCTION

ATTACHMENT D

BOBS COVE - WAIMARINO
EXISTING SITE VEGETATION

KAMOMARSH
LANDSCAPE ARCHITECTS

REFERENCE : 3020-SK54 - SCALE = 1:750 AT A3 - 4 NOV 2021
DRAFT - NOT A WORKING DRAWING - NOT FOR CONSTRUCTION

ATTACHMENT E

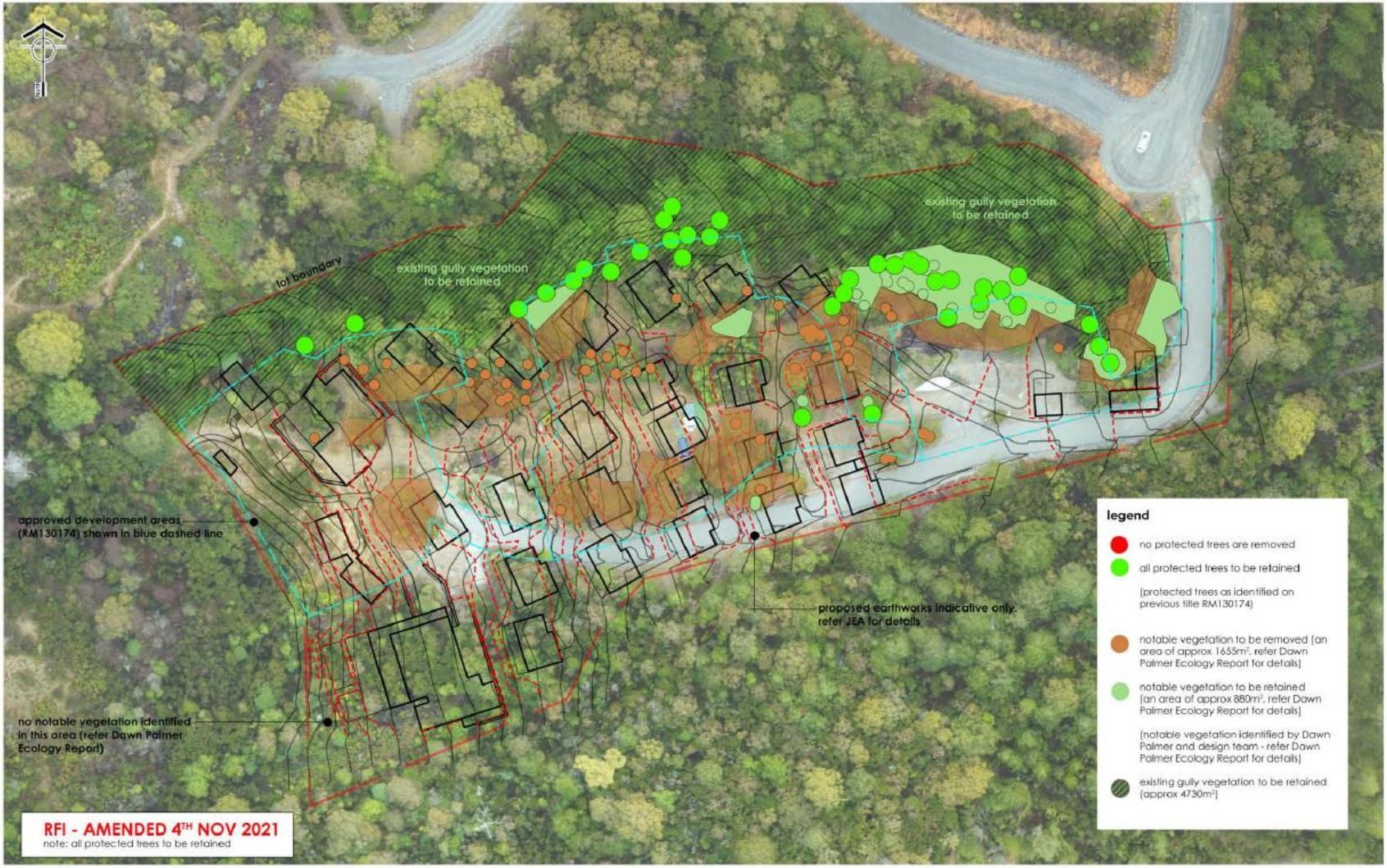
BOBS COVE - WAIMARINO
SITE MASTERPLAN

KAMOMARSH
LANDSCAPE ARCHITECTS

REFERENCE : 3020-SK55 - SCALE = 1:750 AT A3 - 4 NOV 2021
DRAFT - NOT A WORKING DRAWING - NOT FOR CONSTRUCTION

ATTACHMENT F

BOBS COVE - WAIMARINO
PROPOSED PLANTING ZONES

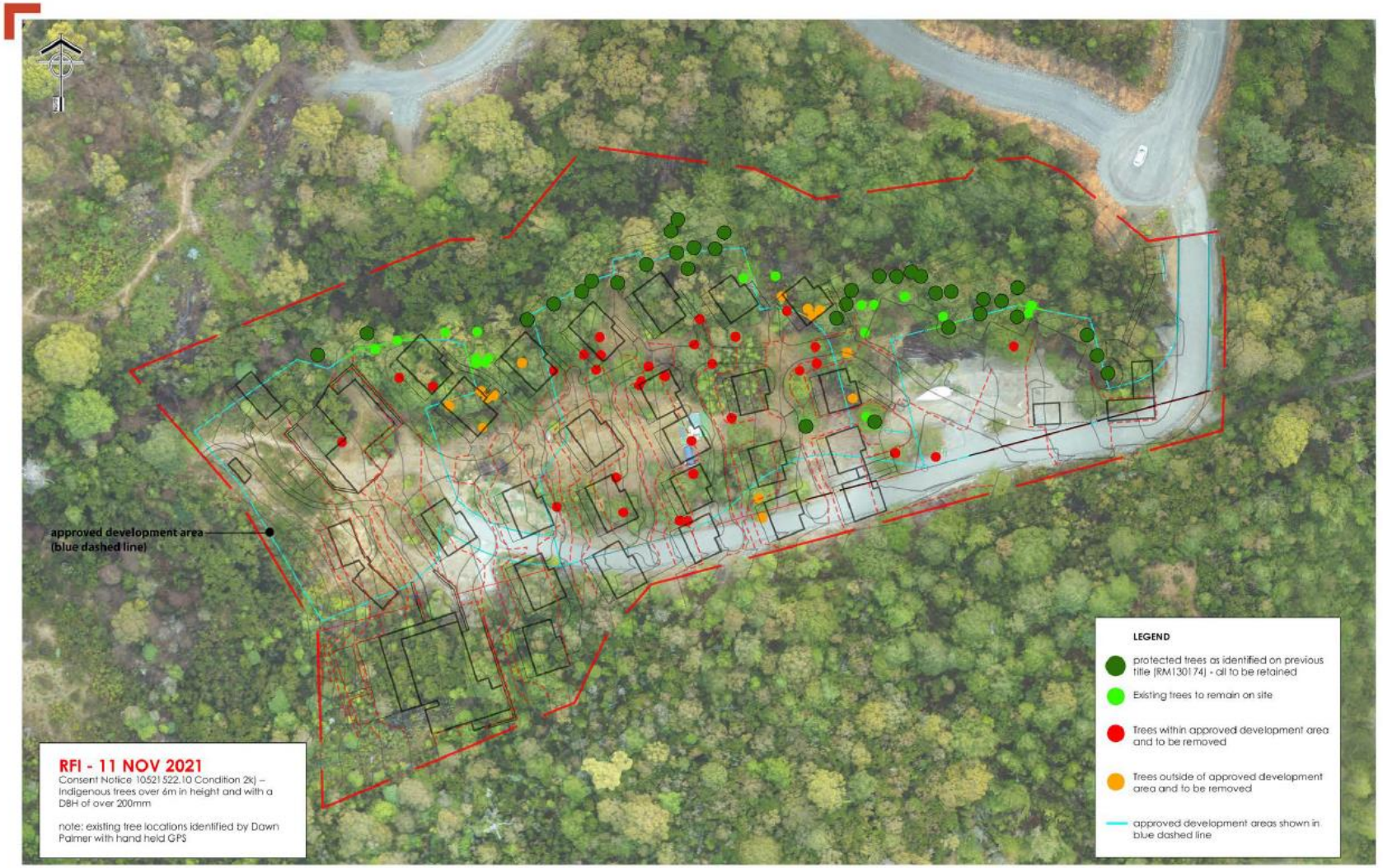


KAMOMARSH
LANDSCAPE ARCHITECTS

REFERENCE : 3020-SK53 - SCALE = 1:750 AT A3 - 4 NOV 2021
DRAFT - NOT A WORKING DRAWING - NOT FOR CONSTRUCTION

ATTACHMENT I

BOBS COVE - WAIMARINO
EXISTING VEGETATION TO BE REMOVED AND RETAINED



KAMOMARSH
LANDSCAPE ARCHITECTS

REFERENCE : 3020-SK60 - SCALE = 1:750 AT A3 - 11 NOV 2021
DRAFT - NOT A WORKING DRAWING - NOT FOR CONSTRUCTION

ATTACHMENT K

BOBS COVE - WAIMARINO
CONSENT NOTICE 10521522.10 CONDITION 2K

P.O. Box 2353
Wakatipu 9349
Queenstown.

Ph: 03-441-8998
M: 0274-334-845
info@nztreecare.co.nz

Assessment of setbacks for protecting trees
Waimarino
Bobs Cove.

Date: 4th November 2021

Attention:	Haley Mahon John Edmonds & Associates
Property Address	Tui Drive Glentui Bobs Cove.
Postal Address:	P.O. Box 95 Queenstown 9300
Dated:	4th Nov. 2021
Prepared by:	New Zealand Tree Care Ltd P.O. Box 2353 Wakatipu 9349
Consultant:	David Finlin Tel: 0274-334-845
Status	Filed
Our Ref:	Bobs Cove (Waimarino) R21.11

1.0 Introduction/Brief

The development at Tui Drive, Bobs Cove is located within an area of regenerative Mountain Beech trees.

The proposal is to retain as many of the establish trees as practical and incorporate these existing trees within the proposed landscape.

To facilitate this, the design has considered the appropriate tree protection setbacks around specific trees necessary to protect them during the development stages.

Outline below is a summary of the proposed setbacks and recommendation for tree protection measures prior, during and post the construction phase of the development.

2.0 Tree Details

The predominantly canopy tree species identified for protection are Mountain Beech (*Fuscospora cliffortioides*)

The trees are of a relatively even age (based on stump annual growth ring counts) estimated to be around 40 – 60 years.

The trees are generally showing a satisfactory level of health and vigour when compared to other Beech trees within the surrounding area.

It is noted that some trees near Tui Drive, where there has been a degree of root disturbance to facilitate roading and services there is an obvious decline in tree health and some tree canopies are showing a marked reduction in canopy density.

3.0 Tree Assessment

Some 6 trees within the site have been identified as being located within close proximity to infrastructure and building, these trees have been assessed to provide a tree protection area or setback Tree protection Zone (TPZ) to protect the tree and associated root system during the construction stage of the development.

The Australian Standard *AS 4970-2009 - Protection of trees on development sites* has been used to calculate the appropriate Tree Protection Zones (TPZ).
This method provides a TPZ that addresses both tree stability and growth requirements.

The calculation can also provide a measurement as to level of encroachment with the (TPZ) that can generally be tolerated by trees provided appropriate arboricultural guidance is sort to confirm the variances associated with trees and the site.
This information is detailed: -Appendix 6.1 Individual Tree assessment
-Appendix 6.5 Tree Protection Zone (TPZ) & Structural Root Zone (SRZ)

4.0 Summary of the Tree Protection Zone (TPZ)

Tree No.	Species	DBH (mm)	TPZ (radius)mm
1	Mtn Beech	340	4100
2	Mtn Beech	350	4200
3	Mtn Beech	230	2800
4	Mtn Beech	330	4000
5	Mtn Beech	510	6100
6	Mtn Beech	295	3500

4.1 Tree roots and root protection.

A significant portion of a tree's root system is generally located within the vicinity of the trees canopy spread (dripline) however, root systems can take up approximately 2 - 3 times more land area than the above ground parts of the tree.

Tree roots unlike their branches above do not necessarily develop in a symmetrical way and are limited by factors such as the soil type, availability of water, oxygen, and physical barriers within the soil profile.

The smallest most vulnerable roots are found in the upper topsoil as this area provides the easiest access to air and moisture. It is also in this area that most microbial activity takes place.

The successful incorporation of existing mature trees into any new development is achieved by making sure that the tree's roots system is carefully protected.

Ensuring that trees and construction activities are kept separate is the easiest and most cost-effective method of preventing damage or injury occurring to trees.

Trees are very long-lived organisms but are vulnerable to construction damage both directly and indirectly. Most damage inflicted on trees, during construction, happens underground where it is out of sight and goes unseen until it is too late.

Trees can be damaged by direct action; for example, being struck by the boom of an excavator or having roots removed during excavation to set foundations. Additionally, damage can be done to a tree by indirect actions, for example changes to soil depth, soil pH or reduction of oxygen.

Very often the trees do not appear to be suffering immediately after construction, but they have started on a "mortality spiral" *(Metheny and Clarke 1998).* This spiral is the gradual decline and death of the tree and usually takes around ten years to complete. When the symptoms become visible the tree is nearing the end of its life and there is often no way to reverse the effects.

The establishment of a Tree Protection Zone **(TRZ)** is an effective method of affording the necessary protection.

5.0 Summary of proposed design element.

As detailed in the site plan (refer appendix 6.2).

The development has incorporated design elements to maximise the space around the trees and their associated roots system to mitigate the potential impact that developing the site may have on the trees.

Boardwalk/access

Additionally, where access has to cross a section of the (TPZ) an above ground level, permeable boardwalks are proposed this will enable rainfall pass to through and continue to provide for further tree root expansion.

Carparking/driveway area

The carparking and driveway areas are to be constructed using a compacted chip this will also allow for rainwater to continue to disperse within the site and adjacent tree protection zones (TPZ).

Landscaping

The Landscaping proposed to include mulching and trees and additional native shrubbery plants.

6.0 Appendices

6.1 - Individual Tree Assessment

6.2 - Site Plan (Tree protection Zones) 1-6.

6.3 - Tree Protection Measures

6.3 - Data Collection Description and Definitions

6.4 - Tree Protection Zone (TPZ) & Structural Root Zone (SRZ).

Yours sincerely,

David Finlin (Director)
New Zealand Tree Care Ltd.

Appendix 6.1 Individual Tree Assessment

Tree Assessment
Waimarino Bobs Cove

Tree: 001
Botanical Name: *Fuscospora cliffortioides*
Common Name: Mountain Beech

DBH (cm): 340mm

Age class: Semi Mature
Health: Good
Structure: Fair
ULE: 20 to 40 years

Comments: Native tree.

No Photo

AS4970-2009 Protection of trees on development sites. (Australian Standard)

Calculation Tree protection Zones

Stem Diameter (DBH)	34.0cm
TPZ radius	4.1m
TPZ area (m2)	52.3m2

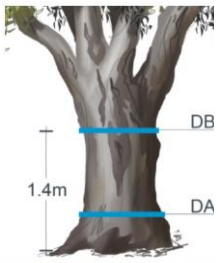
Calculation for Encroachment

Distance tree centre to edge of works: n/a

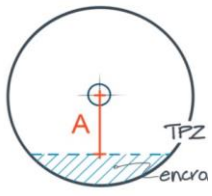
Distance for minor encroachment (10%):

TPZ radius (m)	4.1m
SRZ radius (m)	n/a
TPZ area (m2)	52.3m2

Encroachment (m2)
Encroachment (%)

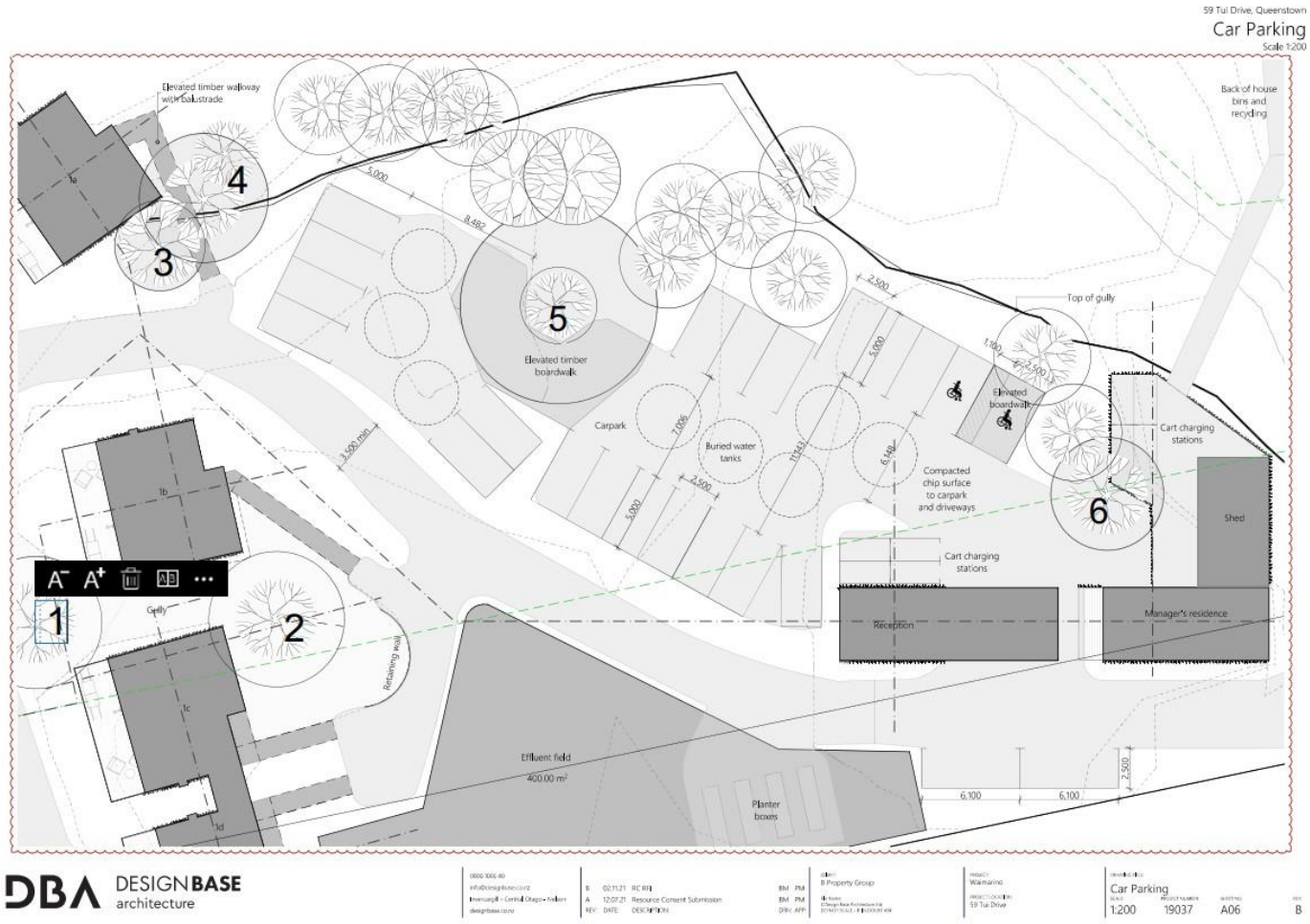


Measuring DBH/DAB for a single stem/trunk



Encroachment Type A: Works intersecting

6.2 - Site Plan (Tree Protection Zones) 1-6.



Appendix 6.3 - Tree Protection Measures

Recommended Tree Protection Measures:

1.1 Supervision

Work within the identified Tree Protection Zone (TPZ) of a tree identified for retention shall be conducted under the supervision and or direction of a suitably qualified and experienced Arborist.
The appointed works arborist is experienced in tree protection systems and construction methodologies and will coordinate site works to ensure that the tree protection methodology
is correctly implemented.

1.2 Pre/Post Work Procedures

Prior to works in the vicinity of Tree Protection Zone commencing, the appointed site manager will arrange a pre-start meeting with the site foreman, contractors, and the appointed works arborist.
At the meeting, the foreman shall agree with the works arborist:

- The methodology and timing of the works
- Site access and areas for manoeuvring vehicles and machinery
- Areas for storing and/or stockpiling materials, spoil and equipment
- The care needed when working around trees
- The conditions of the resource consent.

This meeting is to be recorded and the minutes circulated to all relevant persons.

The works arborist shall provide a brief account of the project to the council arborist (if necessary, with photos). The account of works shall include, but not be limited to:

- The effects of the works on the subject tree
- Any remedial work which may be necessary.

It shall be the appointed site managers responsibility to ensure that all persons engaged or otherwise to work on the site are made aware of the Tree protection measures, and that those conditions are always adhered to.

No work shall take place within the root zone and/or drip line of the identified trees without prior approval from the works arborist.
Any amendments to the tree's protection methodology shall require prior approval.

1.3 Fencing

Prior to physical works commencing in the vicinity of Tree Protection Zones, and where practicable to do so, a robust barrier, protective fence shall be erected around the tree. The exact location and nature of the protective fence shall first be agreed upon with the works arborist. For the duration of time the protective fence is in place, the area enclosed by the fence shall be regarded as sacrosanct, and no material is to be stored, emptied, or disposed of within the area enclosed by the protective fence. No person, vehicle or machinery may enter the area enclosed by the protective fence unless otherwise authorised to do so by the works arborist.

If for any reason it becomes necessary to move the protective fencing, the appointed works arborist shall be consulted then for the duration of time that the protective fence is not in place, the area which was previously enclosed by the fence shall be regarded in the same manner as if the protective fence were still in place.

1.4 Storage, Access, and Operation

No material is to be stored, emptied, or disposed of in or around the root zone of the tree unless otherwise authorised to do so by the works arborist. Any material which is to be stored or temporarily placed in or around the root zone shall be stored carefully on an existing or temporary hard surface such as asphalt or plywood sheets.

If, during the works, machinery or vehicle access/manoeuvring is required in or around the root zone of the identified trees, then depending on the nature of the loading of the vehicle, it may be necessary to cover those areas with a protective overlay sufficient to protect the ground from being muddied, compacted, churned up or otherwise disturbed. This may involve the employment of 'Track mats', or a layer of mulch or sand/SAP7 overlaid, if necessary, with a raft of wire planks, plywood or similar.

If machinery/vehicles are to be operated or stored within the root zone area on an existing temporary load bearing surface, then the machinery/vehicle shall not cause any detrimental effect to the tree through compaction, physical damage, spillage of lubricants and fuels or discharge of waste emissions.

1.5 Excavations

Any soil excavation within the Tree Protection Zone of the trees shall utilise hand digging, air excavating or hydro excavating only, unless other methods are approved and overseen by the supervising arborist.

The cutting, breaking, and lifting of any concrete and/or asphalt around the root zone of the tree shall be done so in conjunction with the works arborist through a careful combination of machine and hand operated equipment. Ideally, the concrete/asphalt will first be cracked or broken with a steel bar or sledgehammer, and the sections of concrete carefully lifted out by hand. At the discretion of the works arborist, the cutting, cracking, lifting and removal of concrete/asphalt may proceed with machinery, such as a concrete cutter, and/or small excavator. All excavators and machinery shall sit on the existing concrete/asphalt surface and work slowly backwards away from the tree.

1.6 Tree Root Protection

Any roots which are encountered during any part of the process are to be retained where possible. Every effort shall be made to retain all roots 25mm in diameter or greater. The severance of any root less than 25mm shall be done so at the discretion of the works arborist. Where roots are to be severed, they shall be cut cleanly by the works arborist with a sharp hand saw or loppers, and the area around the root shall be backfilled with the original material.

When a root greater than 25mm in diameter is impeding the construction and all other alternatives to work around the root have been exhausted, the supervising works arborist shall only remove the root if he/she determines in writing that its removal will not be detrimental to the health and stability of the tree.

Where roots to be retained are encountered and there is need for these roots to remain exposed in order that works are not impeded, then those roots shall be covered with a suitable protective material (such as moist Hessian, or a wool mulch) to protect them from desiccation and/or mechanical damage, until such a time as the area around the root can be backfilled with the original material. The wrapping or covering of any roots shall be undertaken by the works arborist.

If during the works a large area of the tree's root zone is exposed, then it may be necessary to protect the exposed root zone with a protective overlay sufficient to protect the ground and roots from being disturbed, for example a layer of geotextile fabric laid over a 150mm thick layer of wood mulch.

Where concrete is to be poured into excavations containing exposed roots, then all exposed roots shall first be covered in a layer of polythene to prevent the concrete from contacting the exposed root.

If during the works, it become necessary to pour concrete and/or lay asphalt directly over exposed roots (for example during reinstatement, or footpath construction), then all exposed roots shall first be covered with a layer of find sand not less than 75mm thick and a layer of geotextile fabric shall be placed over the roots prior to pouring the concrete/asphalt.

Appendix 6.4 Data Collection Description and Definitions

1.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

1.2 Common Name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

1.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

1.4 DBH

Diameter of the trunk at breast height (measured at 1.4m above ground level). Used to calculate the Tree Protection Zone radius.

1.5 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some dead wood present in the crown. Some minor snow or wind damage may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.

1.6 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

1.7 Age Class

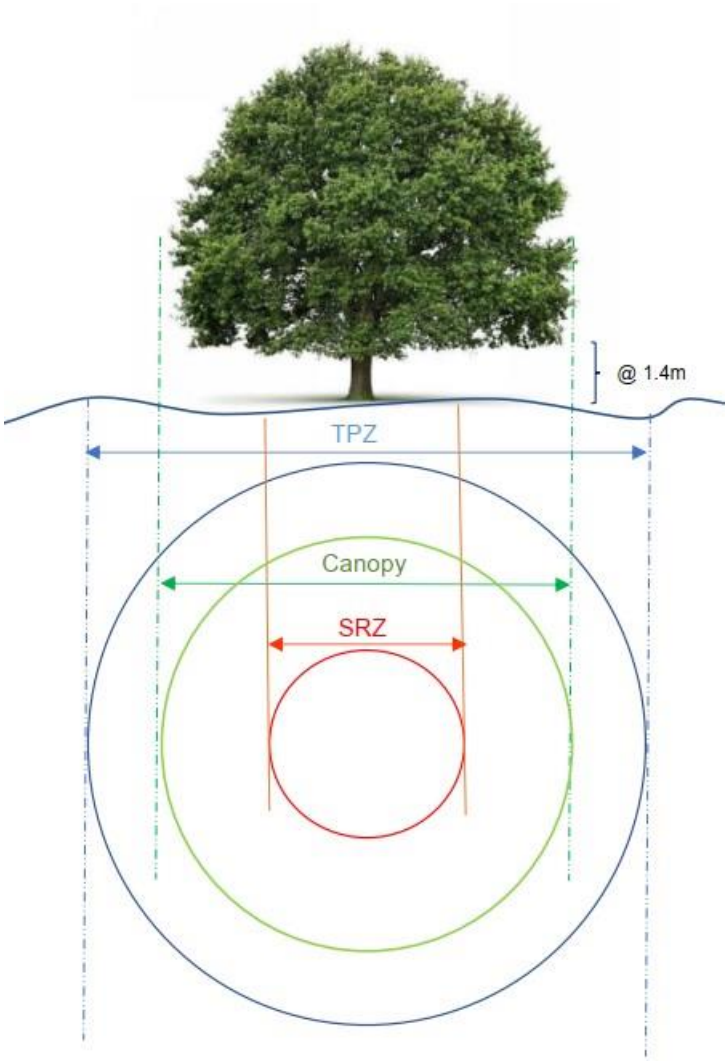
Category	Description
Mature	Tree has reached the expected size for the species at the site.
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

1.8 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition, or it is not a long-lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead or is considered hazardous in the location. Removal may be required.

Appendix 6.5 Tree Protection Zone (TPZ) & Structural Root Zone (SRZ).

The Australian Standard *AS 4970-2009 - Protection of trees on development sites* is used for the allocation of tree protection zones. This method provides a TPZ that addresses both tree stability and growth requirements. TPZ distances are measured as a radius from the centre of the trunk at ground level.



S4970-2009, s3: The radius of the TPZ is calculated for each tree by multiplying its Diameter @ Breast Height measured @ 1.4m from ground level (DBH × 12 = TPZ). (DBH = Trunk Girth @ 1.4m ÷ π).
To calculate the SRZ: Radius SRZ = **D**iameter **A**bove **R**oot **C**rown (**DRC** x 50) ^ 0.42 x 0.64. If the DRC is less than 0.15m the SRZ will be 1.5m.

Glossary

DBH
Diameter of the trunk at breast height (measured at 1.4m above ground level). Used to calculate the Tree Protection Zone radius.

TPZ
(Tree protection zone) An area set aside for the protection of a tree's roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development. Typically expressed as a radius in metres that defines a circle with the trunk/stem at its centre.

SRZ
(Structural root zone) An area around the base of a tree required for the tree's stability in the ground. Woody root growth and soil cohesion in this area are necessary to hold the tree upright. Typically expressed as a radius in metres that defines a circle with the trunk/stem at its centre.

Encroachment
Any work within the protection zone of a tree, including any excavation, compacted fill and machine trenching.

Work
Any physical activity in relation to landform and existing contour that has been proposed or specified to include any disturbance to the existing ground level.

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File Ref: AC21340 – 01 – R1

20 October 2021

B Property Group
C/- Mr J. Edmonds
John Edmonds and Associates
Level 2, 36 Shotover Street
Queenstown 9300

Email: john.edmonds@jea.co.nz

Dear John,

Re: Waimarino Lodge Bobs Cove, 59 Tui Drive, Mount Creighton, Queenstown, Preliminary acoustic review

As requested, we have reviewed the Resource Consent architectural drawings for the above development (titled *Waimarino Lodge, Bobs Cove, Queenstown*, as prepared by Design Base Architecture, and dated the 12th of July 2021) and undertaken a preliminary review of expected noise emissions. Please find our initial comments below.

Based on the layouts indicated in the architectural drawings, it is likely that use of the communal spaces will be able to comply with the District Plan noise limits in the daytime period with minimal controls required. However, during night-time there would need to be some managerial controls employed.

It is realistic that noise emissions from communal spaces could fully comply with the District Plan noise limits at all times if the following are adopted:

- Any outdoor speakers are limited to a background noise level, and disabled during the night-time period.
- If the following spaces are used during the night-time period, all external doors and windows will be closed except for the timely arrival and departure of guests:
    - Distillery, Sauna, Yoga Studio and Spa, Restaurant
- Outdoor seating areas of the Restaurant are not occupied during the night-time period.
- Mechanical plant systems are designed to have emissions that are a minimum of 5 dB below the relevant District Plan night-time noise limits.
- No gathering occurs in outdoor areas during the night-time period.

Kind Regards,

Gene Hopkins
BE Hons (ECE)
Acoustic Engineer
Acoustic Engineering Services Ltd

Hayley Mahon

From: Smalls, John <John.Smalls@fireandemergency.nz>
Sent: Monday, 18 October 2021 12:54 pm
To: peterm@designbase.co.nz
Cc: Hayley Mahon; Mawhinney, Mark
Subject: RE: Bob's Cove / Waimarino Lodge - 59 Tui Drive

Hi Peter,

Thank you for working with FENZ on this project. FENZ accepts sprinklers as the main firefighting and life safety provision at this site for life and building protection from fire. The access and hardstand you have outlined likewise are acceptable to FENZ.
Based on the information you have provided this email can be used to confirm FENZ acceptance of your design to meet the Firefighting Water Supplies Code of Practice NZS4509:2008.

Thank you again and good luck with the rest of your project.

Regards
John Smalls
Risk Reduction Advisor

John Smalls
Fire Risk Management Officer

Central/North Otago Area
Five Mile, Building 1
34 Grant Road, Frankton 9300

PO Box 2360, Wakatipu, Queenstown 9349

M: 027 223 4901
P: 03 441 4550
john.smalls@fireandemergency.nz
www.fireandemergency.nz

From: Peter Marment <peterm@designbase.co.nz>
Sent: Monday, 18 October 2021 12:05 PM
To: Smalls, John <John.Smalls@fireandemergency.nz>
Cc: Hayley Mahon <Hayley.Mahon@jea.co.nz>; Mawhinney, Mark <mark.mawhinney@fireandemergency.nz>
Subject: Re: Bob's Cove / Waimarino Lodge - 59 Tui Drive

Hi John,

As discussed last week, can you please provide us with your response regarding the access provided for a fire appliance? This is the last item we need for submitting back to council.
We've provided an outline in the description below.
As discussed, the development will have a drencher system plus an internal sprinkler system.

Mark has already provided his input regarding defensible space etc.

Feel free to call and discuss.

Kind Regards,
Peter

Peter Marment (NZIA, NZRAB reg. 5113)
Director / Architect

peterm@designbase.co.nz
03 545 9330 / 020 4064 3004

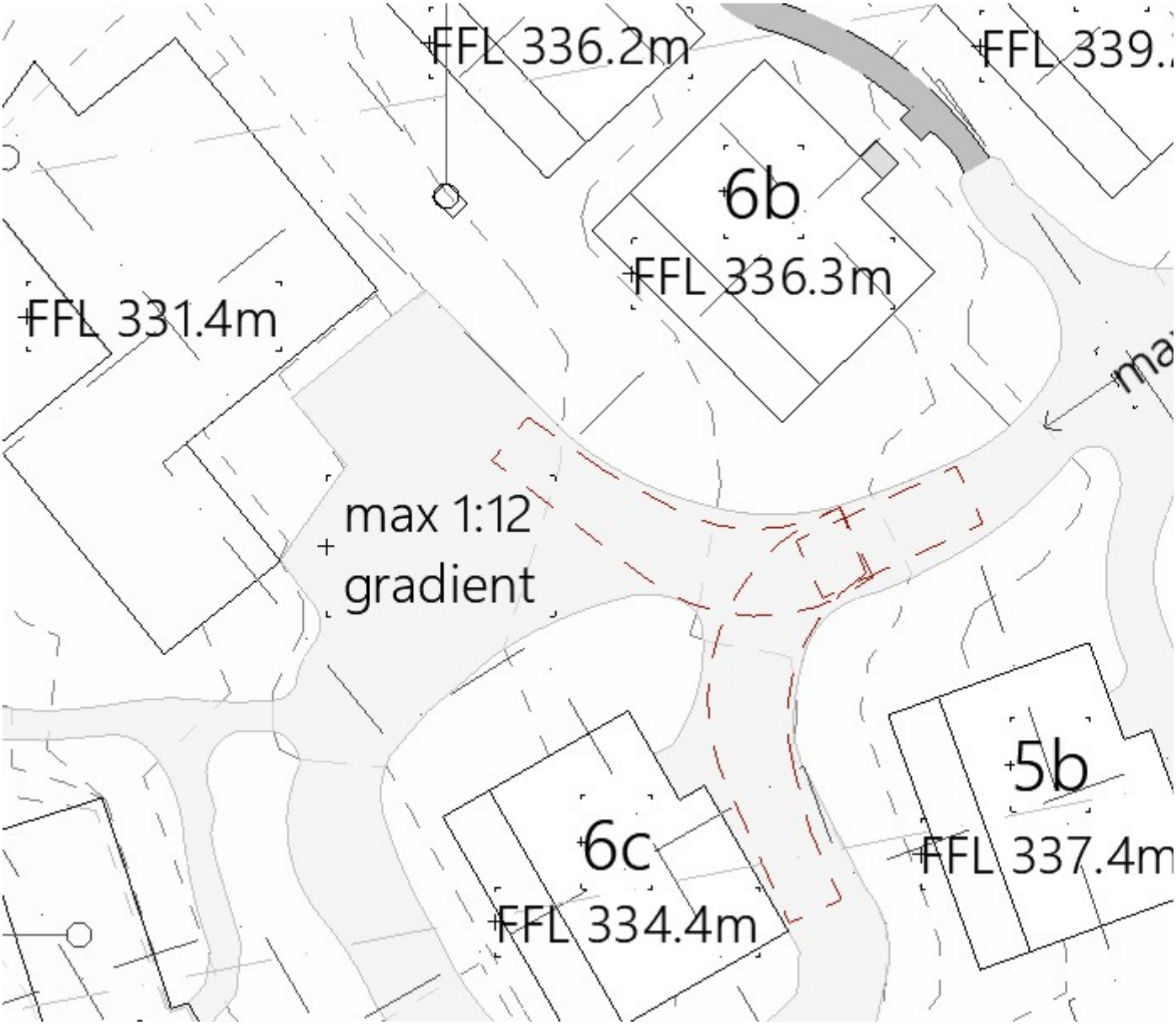
Design Base Architecture/ designbase.co.nz
Invercargill – Central Otago – Nelson
Unit 2, 164 Hardy Street / PO Box 214, 7010

From: Peter Marment <peterm@designbase.co.nz>
Date: Friday, 8 October 2021 at 1:38 PM
To: Mawhinney, Mark <mark.mawhinney@fireandemergency.nz>
Cc: Hayley Mahon <Hayley.Mahon@jea.co.nz>
Subject: Re: Bob's Cove / Waimarino Lodge - 59 Tui Drive

Hi Mark,

We've received a request for further information from council regarding FENZ requirements.

We've previously discussed the access for the fire appliance, but can you please confirm the below is acceptable?
The main access driveway will be 3.5m wide, with a fine compact chip surface. The maximum gradient will be 1:6, with a turning area located at the base of the driveway with a max 1:12 gradient.
See the below snap shot from our site plan.



Also, regarding the defensible space, can you please confirm that an adequately designed drencher system and careful management of the landscaped areas will address the risk associated with vegetation near the buildings? See council's query below.

"Please confirm how fire risk is considered in regard to the proposed planting, and provide FENZ confirmation to ensure that the planting proposed is acceptable from a fire risk perspective."

I'll give you a call on Monday morning to discuss.
I've attached the latest architectural plans for your reference.

Kind Regards,
Peter

Peter Marment (NZIA, NZRAB reg. 5113)
Director / Architect

peterm@designbase.co.nz
03 545 9330 / 020 4064 3004

Design Base Architecture/ designbase.co.nz
Invercargill – Central Otago – Nelson
Unit 2, 164 Hardy Street / PO Box 214, 7010

From: Mawhinney, Mark <mark.mawhinney@fireandemergency.nz>
Date: Friday, 2 July 2021 at 11:34 AM
To: Peter Marment <peterm@designbase.co.nz>
Subject: RE: Bob's Cove / Waimarino Lodge - 59 Tui Drive

Hi Paul. Apologies for the lateness of this reply.

The proposal you have shown me is challenging from a defendable space perspective. Much of our "Fire Smart" documentation that we use to make recommendations around vegetation fire safety requires defendable spaces being established. The building design with its concrete surround does provide good protection however large expanses of glass still mean a building could be compromised. Mitigating factors such as double or triple glazing will reduce this risk.
While the aspect, moderate slopes, and relatively short fire run from the lake edge reduce the consequences from a fire there is still enough vegetation to mean that should a fire spread through your building complex the survivability of the buildings and people will be uncertain.

Fire and Emergency recommends the following should be considered:

- Careful vegetation management is implemented, that would slow the spread and intensity of a fire travelling through the building complex. (less flammable vegetation is selected, greater spacing's between vegetation)
- External drenching systems capable of covering large areas of the vegetation as well as the buildings and at output rates capable of stopping fire spread. These systems need to be independent of external power and water supplies
- Evacuation/Emergency plans established for the residents.
- Early warning/Communication systems in place to notify residents of a fire.

Fire and emergency are available for ongoing discussion and are able to work with the developer to provide more tailored advice if this project is to be implemented.

Regards Mark

Mark Mawhinney
Otago, Acting Principal Rural Fire Officer

M: - (027) 530 4590
E: - mark.mawhinney@fireandemergency.nz

Te Kei Otako (Region 5 Otago)
We Are Better Together - *Whanaungatanga*

From: Peter Marment [mailto:peterm@designbase.co.nz]
Sent: Monday, 21 June 2021 12:28 PM
To: Smalls, John <John.Smalls@fireandemergency.nz>; Mawhinney, Mark <mark.mawhinney@fireandemergency.nz>
Subject: Re: Bob's Cove / Waimarino Lodge - 59 Tui Drive

Hi Mark,

As discuss the other week, are you able to provide a letter that states, in principle you don't have any opposition to the proposed Waimarino development?
Please see the latest plans attached.
We're aiming to lodge the resource consent application at the end of this week, if you can please look into this.

A few items to note:

- The development will be sprinklered.
- We can include a fire dampening system, in the event of a large fire on site or in the surrounding area an oversizes irrigation system will dampen the whole development.
  The detailed design of the sprinkler system and dampening system will be provided for your review at the time of building consent.
- Wood fires are proposed for the Villas, Restaurant, Sauna and owners residence. They will be houses in a concrete enclosure, with ember guards on the flues.
  As discussed, the fires can have stainless steel covers, to be installed when not in use.
  Again, the exact design will be subject to your comment at the building consent stage.

John, I believe we'll need a similar letter from yourself.

Please give me a call with any queries.

Kind regards,
Peter

Peter Marment (NZIA, NZRAB reg. 5113)
Director / Architect

DBA

peterm@designbase.co.nz
03 545 9330 / 020 4064 3004

Design Base Architecture/ designbase.co.nz
Invercargill – Central Otago – **Nelson**
Unit 2, 164 Hardy Street / PO Box 214, 7010

From: "Smalls, John" <John.Smalls@fireandemergency.nz>
Date: Tuesday, 16 February 2021 at 3:43 PM
To: Peter Marment <peterm@designbase.co.nz>
Cc: "Mawhinney, Mark" <mark.mawhinney@fireandemergency.nz>
Subject: RE: Bob's Cove / Waimarino Lodge - 59 Tui Drive

Hi Peter,

Is there anything to look onsite yet? I'd like to assess distance from the nearest fire appliance (which would be Queenstown) and the gradient of the hill. Before formally responding but in answer o your specific questions these are my first thoughts-

- If Sprinklers are required or just preferred? Depending on gradient of access and distance from nearest fire station a sprinkler is likely to be the best solution. Especially for the larger buildings such as distillery, restaurant and owners residence. This may be a requirement through fire engineering design at a later stage anyway.
- How much water storage is required for firefighting, with or without sprinklers. Residential buildings require 45,000l and commercial require 180,000l (minimum) You can use 1 one water source and pipework to other outlets to meet distance requirements etc. Each building does not require its own water supply. Bearing this in mind sprinklers may make much more financial as well as practical sense.
- Is the fire appliance access acceptable? TBC

A phone conversation is probably easier from here. You should also be aware of the Queenstown Red Zone that these buildings are being built in. The Red Zone is a an extreme environment for external fire risk and should not be under estimated. Cc'd into this is our Principle Rural Fire Officer who may wish to comment on that specific risk. The whole project should really be observed from an holistic viewpoint for fire risk reduction/ readiness rather than Council compliance for consent (though I acknowledge this is an urgent factor due to time delays and project cost etc.)

Regards

John Smalls
Fire Risk Management Officer

Central/North Otago Area
Five Mile, Building 1
34 Grant Road, Frankton 9300

PO Box 2360, Wakatipu, Queenstown 9349

M: 027 223 4901
P: 03 441 4550
john.smalls@fireandemergency.nz
www.fireandemergency.nz

From: Peter Marment <peterm@designbase.co.nz>
Sent: Tuesday, 16 February 2021 10:50 AM
To: Jillings, Martin <Marty.Jillings@fireandemergency.nz>
Cc: Smalls, John <John.Smalls@fireandemergency.nz>; Mawhinney, Mark <mark.mawhinney@fireandemergency.nz>
Subject: Re: Bob's Cove / Waimarino Lodge - 59 Tui Drive

Great, thanks Marty.

John, please feel free to call and discuss if you have any questions.

Kind regards,
Peter

Peter Marment (NZIA, NZRAB reg. 5113)
Director / Architect

peterm@designbase.co.nz
03 545 9330 / 020 4064 3004

Design Base Architecture/ designbase.co.nz
Invercargill – Central Otago – **Nelson**
Unit 2, 164 Hardy Street / PO Box 214, 7010

From: "Jillings, Martin" <Marty.Jillings@fireandemergency.nz>
Date: Tuesday, 16 February 2021 at 10:39 AM
To: Peter Marment <peterm@designbase.co.nz>
Cc: "Smalls, John" <John.Smalls@fireandemergency.nz>, "Mawhinney, Mark" <mark.mawhinney@fireandemergency.nz>
Subject: RE: Bob's Cove / Waimarino Lodge - 59 Tui Drive

Good morning Peter,

Due to my current workload in the Fire Investigation space, I have passed this project onto John Smalls. He has worked on the Red Zone project and will work with Mark Mawhinney in getting a response to you.

Best regards,

Marty Jillings
Fire Risk Management Officer – Specialist Fire Investigator
Central North Otago Area
Five Mile, Building 1
34 Grant Road, Frankton 9300
PO Box 2360, Wakatipu, Queenstown 9349

Mobile: 027 4333 816
Email: **Marty.Jillings@fireandemergency.nz**
www.fireandemergency.nz

From: Peter Marment <peterm@designbase.co.nz>
Sent: Monday, 25 January 2021 12:17 pm
To: Jillings, Martin <Marty.Jillings@fireandemergency.nz>
Subject: Bob's Cove / Waimarino Lodge - 59 Tui Drive

Hi Marty,

As discussed, please see the concept design for the proposed lodge at 59 Tui Drive, Bob's Cove.
The lodge consists of 24 accommodation units, owners residence, yoga studio, restaurant, reception and a managers flat.
All buildings are single level, except for the owners residence.

A bore is being developed in the coming weeks with the supply and flow rate tbc.

We expect we'll need buried water tanks near the top of the site, but we also have a small amount of space under the accommodation units for water storage if needed.

The client is open to sprinklers in the development, considering the sensitive environment it's in.

We'll have a 3.5m wide compacted chip driveway leading through the development, with smaller pedestrian paths off this.
A fire appliance will be able to access the base of the development and be located within 90m of all buildings.

Can you please confirm:

- If Sprinklers are required or just preferred?
- How much water storage is required for firefighting, with or without sprinklers.
- Is the fire appliance access acceptable?

We're in the process of preparing the resource consent application and require your review / approval.

Please feel free to call and discuss.

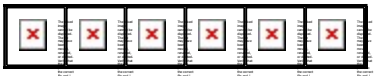
Kind regards,
Peter

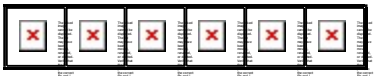
Peter Marment (NZIA, NZRAB reg. 5113)
Director / Architect

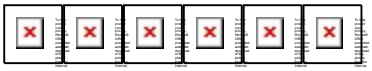
DBA

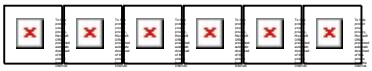
peterm@designbase.co.nz
03 545 9330 / 020 4064 3004

Design Base Architecture/ designbase.co.nz
Invercargill – Central Otago – **Nelson**
Unit 2, 164 Hardy Street / PO Box 214, 7010









Document Set ID: 7105788
Version: 1, Version Date: 20/12/2021

7 December 2021

B Property Group Limited

C/- John Edmonds & Associates
PO Box 95
Queenstown, 9348

Attention: Hayley Mahon

Dear Hayley,

B Property Limited (RM210618)

The purpose of this letter is to provide a response to the QLDC Request for Further Information.

1 Background

In their review QLDC have requested further information as follows:

> *Please provide comment from a suitably qualified traffic engineer to confirm that the proposed increase in vehicle movements and/or altered use of the Glen Tui road network and associated intersection with Queenstown-Glenorchy Road can be accommodated and will not result in any associated adverse safety effects. This should take into account both the current and maximum consented use of these roads and intersection.*

2 Site

The site, 59 Tui Drive (Lot 100 DP494333 & Part of Section 28 Block V Mid Wakatipu Survey District), is considered as a total of 4 possible rural residential dwellings. This is made up of 3 possible rural residential lots at Lot 100 DP494333 (refer RM130174) and 1 consented rural residential dwelling within Part of Section 28 Block V Mid Wakatipu Survey District (refer RM180302)

The site is accessed from Glenorchy-Queenstown Road via Tui Drive. Tui Drive and its intersection with Glenorchy-Queenstown Road have been formed under RM130174. Under this consent the access intersection was designed as per Austroads Guidance (refer Glentui Heights Access Intersection Design Statement[1]). The design of this intersection includes:

- A Basic Left Turn (BAL) treatment which is the seal widening provided on Glenorchy-Queenstown Road to the east of Tui Drive,
- A Basic Right Turn (BAR) treatment which is the seal widening provided on Glenorchy-Queenstown Road opposite Tui Drive, and
- A give way priority control on the Tui Drive approach.

The design of the intersection was based on 28 rural residential lots which did not include the site which was reserved as a potential future development lot (Lot 100). The overall peak

[1] Refer Glentui Heights Access Intersection Design Statement, Bartlett Consulting (January 2015).

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jason@bartlettconsulting.co.nz | 027 555 8824 | 03 442 3103

period traffic flow, at the time, on Glenorchy-Queenstown Road was 111 vehicles per hour (vph) and the overall intersection layout is akin to a QLDC Diagram 9 access type[2]. The current traffic count on this section of Glenorchy-Queenstown Road is 2004 vehicles per day (vpd), the peak period traffic flow is 231vph based on the pre Covid19 peak summertime traffic count[3] recorded during the mid-afternoon period (14:30).

Tui Drive has been formed as a local road with a sealed carriageway width of approximately 6.5m and generally meets the requirements of a Figure E3 road type from the QLDC Land Development and Subdivision Code of Practice[4]. Based on the Code of Practice this road type is appropriate to serve 150 dwelling units or approximately 1,000 vehicles per day (vpd).

It is noted that the original subdivision (RM130174) allows for a further 12 rural residential lots which have not been developed; Lots 4-10 from Bob Fortune Way and Lots 14-17 to the south of Tui Drive. A review of the current lots accessed via Haast Eagle Road (6+1) and Peregrine Falcon Road (5+12) suggests that there are already a further 13 rural residential lots than anticipated at the earlier design stage. In total Tui Drive appears to serve a potential 41 rural residential lots.

3 Proposed development

It is proposed to develop a hotel at the site which will include 24 visitor accommodation units, an owner's residence (which can be used as 4 additional visitor accommodation units) and a manager's residence with associated onsite guest facilities which will include a restaurant, spa, yoga studio, and distillery.

The proposed development will increase the traffic flow on Tui Drive and at the intersection with Glenorchy-Queenstown Road.

4 Tui Drive and Glentui Road Network

Tui Drive may provide access to 41 existing/potential rural residential dwelling units (average 8.5vpd/dwelling unit[5]) within Glentui Heights. Tui Drive will provide access to the proposed hotel with 28 possible units (design 6.4vpd/room) which will include staff related trips and other trips related to the overall hotel complex and facilities. This will increase the overall traffic flow on Tui Drive to 528vpd.

There are two intersections from Tui Drive; Peregrine Falcon Road and Haast Eagle Road. In addition, Bob Fortune Way will be formed as a shared access from the cul-de-sac turning head.

The intersections of Tui Drive with Peregrine Falcon Road and Haast Eagle Road are both simple T-intersections where Tui Drive is the major (through) road. The formation of these intersections are appropriate as low volume local road intersections.

The Tui Drive cul-de-sac turning area provides access to both Bob Fortune Way (7 potential lots) and the proposed Hotel. The hotel gateway at this location will identify the difference between the road network (Tui Drive) and the private hotel access. The access hotel access, from the cul-de-sac turning area, is appropriate.

---

[2] Refer QLDC Proposed District Plan, Chapter 29, Schedule 29.2.
[3] From QLDC Traffic Count Data, 2004vpd and peak traffic 231vph at 14:30 30/1/2019 at RP13760.
[4] Refer QLDC Land Development and Subdivision Code of Practice, Table 3.3 – Road design standards
[5] Refer Waka Kotahi (NZTA) Trips and parking related to land use (November 2011), Table C.1 New Zealand trip generation and parking demand.

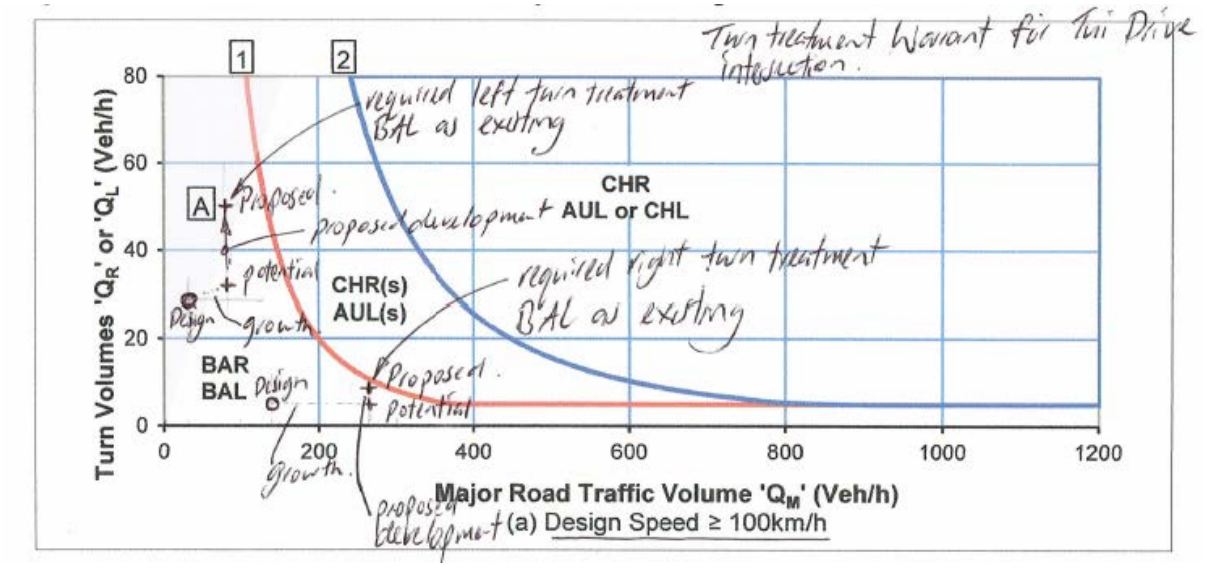
The Glentui Heights road network, including Tui Drive and associated intersections, can accommodate the increased traffic flow as a result of the proposed hotel development and there will not be any noticeable adverse safety or efficiency effects.

5 Intersection With Glenorchy-Queenstown Road

The intersection of Tui Drive with Glenorchy-Queenstown Road has accommodated considerable traffic flow increase since its design, this is both a result of consented/potential development at Glentui Heights as well as background growth on Glenorchy-Queenstown Road.

The intersection design is based on Austroads Guidance and their warrant for turn treatments[6]. The warrant is based on hourly traffic, as a robust approach the peak (mid-afternoon) Glenorchy-Queenstown Road traffic flow has been combined with the peak (evening) development traffic generation. This is a similar approach used for the original intersection design. Figure 1 below shows the change in the turn treatment based on the design traffic flows (RM130174) the potent traffic flows (41 residential lots) and proposed traffic flows with a 28 unit hotel.

Figure 1: Intersection Turn Treatment Warrant – From Austroads Guidance[7]



The Intersection Warrants show that there are no intersection improvements required to accommodate both the consented development (potential) traffic and the proposed (hotel) traffic.

The existing Tui Drive intersection with Queenstown-Glenorchy Road can accommodate the increased traffic flow as a result of the proposed hotel development and there will not be any noticeable adverse safety or efficiency effects.

[6] Refer Austroads Guide to Traffic Management, Part 6: Intersections, Interchanges and Crossings, Figure 2.25: Warrants for turn treatments on major roads at unsignalised intersections.
[7] From Austroads Guide to Traffic Management, Part 6: Intersections, Interchanges and Crossings, Figure 2.25: Warrants for turn treatments on major roads at unsignalised intersections.

6 District Plan Assessment

The existing intersection of Tui Drive intersection with Glenorchy-Queenstown Road is akin to a QLDC Diagram 9 access type from the PDP.

The PDP Rule 29.5.16 provides an access assessment based on traffic flows. This suggests that for daily traffic of 528vpd the intersection of Tui Drive with Glenorchy-Queenstown Road should be a Diagram 10 access type[8] which would require additional carriageway widening of Glenorchy-Queenstown Road.

This suggests that the existing Tui Drive intersection will breach the PDP rule (29.5.16) resulting in a restricted discretionary status. This assessment undertaken considers that the existing intersection (access type) is appropriate and acceptable based on current Austroads Guidance and that additional traffic will not result in any noticeable adverse transport effects on the safety or efficiency of the existing transport network.

7 Summary

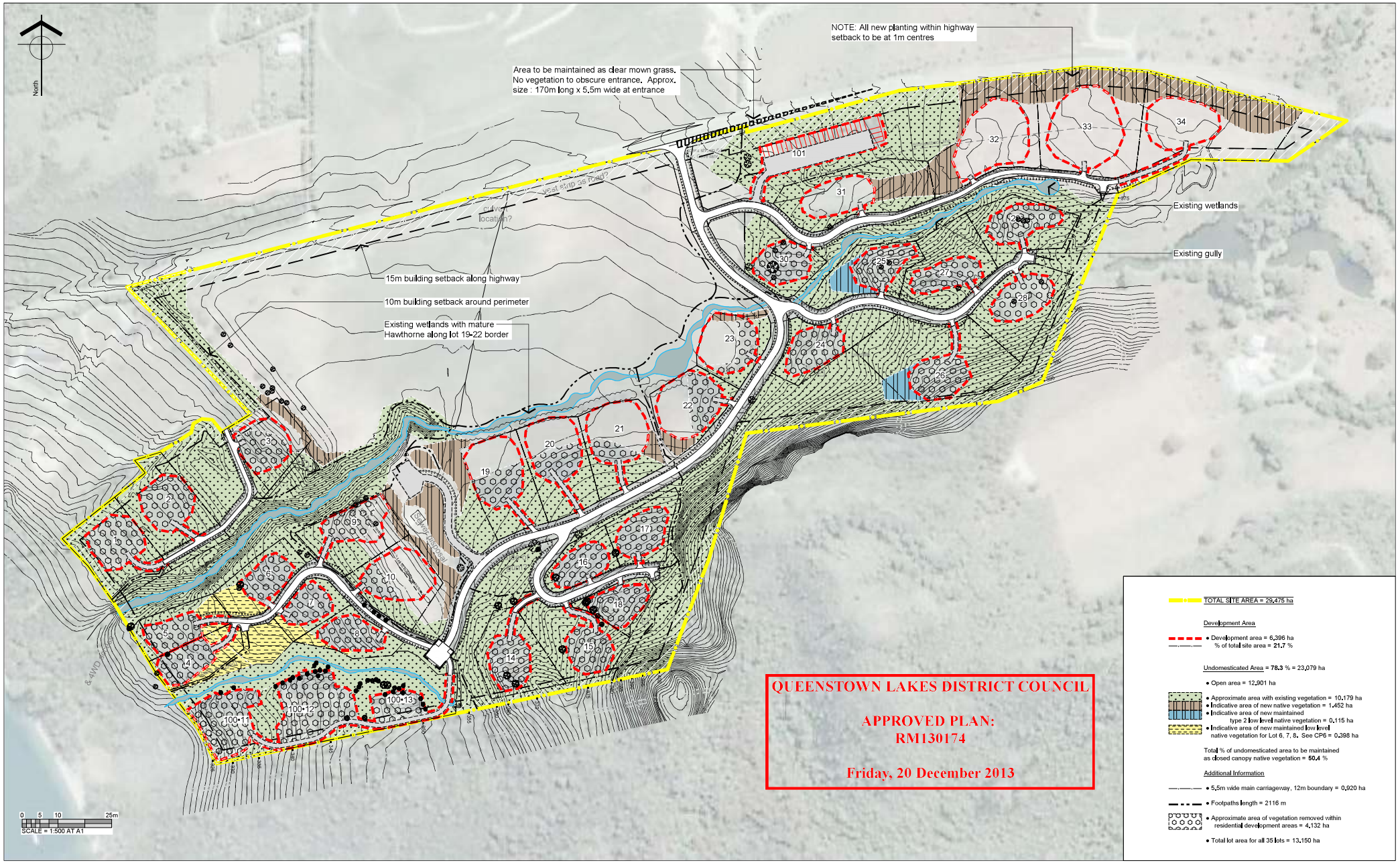
It is proposed to develop a hotel at 59 Tui Drive at Glentui Heights. The proposed development will result in an increased traffic flow on Tui Drive and at its intersection with Glenorchy-Queenstown Road. This increase can be accommodated by Tui Drive and at the existing intersection with Glenorchy-Queenstown Road without the need for any modifications. The proposed development will not have any noticeable transport effects on the overall safety or efficiency of the existing transport network.

Should you require any further information please contact me.

Yours sincerely,

Jason Bartlett
CEng MICE, MEngNZ
Traffic Engineer

[8] Refer QLDC Proposed District Plan, Chapter 29, Schedule 29.2.



GLENTUI HEIGHTS - DEVELOPMENT AREAS AND UNDOMESTICATED AREAS

REFERENCE 1748-CP1 SCALE = 1:1500 AT A1 / 1:3000 AT A3 18 Nov 2013

J:\1748 - bobs cove 2012\cad\1748-cp1 - glentui heights - development areas and undomesticated areas.dwg

GlenTui Heights
BOBS COVE NATURE RESERVE.QUEENSTOWN.

© baxter design group

Nathan O'Connell
Planner
Queenstown Lakes District Council

FROM **Hayley Mahon**
DDI +64 03 450 0009
MOBILE +64 27 663 9969
EMAIL hayley@jea.co.nz
MATTER NO. 19184
DATE 15 November 2021

Dear Nathan,

RM210618 – 59 Tui Drive, Bob's Cove – Requests for Information dated 27 September 2021

This memo sets out the responses to the requests for information for RM210618 requested on 27 September 2021.

Updated Appendices to Application:

Appendix 1 Record of Title 735397
Appendix 1a Easement 6191527.10
Appendix 1b Easement 10521522.5
Appendix 1c Easement 10521522.6
Appendix 1d Easement 10521522.7
Appendix 1e Consent Notice 10521522.10
Appendix 2 RM180302
Appendix 3 Geotechnical Report – Geosolve
Appendix 4 Infrastructure Report – JEA Survey Limited
Appendix 5 Archaeological Evaluation – Origin Consultants
Appendix 6 Ecological Assessment – Natural Solutions for Nature
Appendix 6a Ecological Assessment – Appendix 1: Fungi Recorded at Waimarino
Appendix 6b Ecological Assessment – Appendix 2: Plant Recommendations for Landscape Planting
Appendix 7 Waimarino Operations – B Property Group Limited
Appendix 8 Draft Management Agreement
Appendix 9 Subdivision Scheme Plan – JEA Survey Limited – Updated 17.12.21
Appendix 10 Earthworks Plan – JEA Survey Limited – Updated 17.12.21
Appendix 11 Easement and Wastewater Plan – JEA Survey Limited
Appendix 12 Architectural Plans – Design Base Architecture – Updated 17.12.21
Appendix 12a Alternative Design Render – Design Base Architecture
Appendix 12b Design Statement – Design Base Architecture
Appendix 13 Landscape Assessment – Baxter Design
Appendix 13a Landscape Appendices – Rating Scales, Planting Palette & Maintenance Plan – Updated 17.12.21
Appendix 13b Landscape Attachments – Baxter Design – Updated 17.12.21
Appendix 14 Lighting Plan – B Property Group Limited
Appendix 15a APA – Bob's Cove Developments Limited
Appendix 16 Permitted Baseline/Anticipated Development Memorandum – JEA 15-11-2021
Appendix 17 Permitted Baseline/Anticipated Development Plan - Design Base Architecture
Appendix 18 RM130174
Appendix 19 KamoMarsh Plan 'Consent Notice 10521522.10 Condition 2K' dated 11 November 2021
Appendix 20 KamoMarsh Appendix B – Planting Palette 12 November 2021
Appendix 21 Natural Solutions for Nature Ltd – Addendum RFI Report – 12 November 2021
Appendix 22 Arborist Report – NZ Tree Care dated 4 November 2021
Appendix 23 Preliminary Acoustic Review – Acoustic Engineering Services – 20 October 2021
Appendix 24 Correspondence from FENZ dated 18 October 2021
Appendix 25 Traffic Assessment – Tui Drive/Glenorchy Road Intersection – Bartlett Consulting – 7 December 2021
Appendix 26 RM130174 Approved Development & Undomesticated Areas Vegetation and Clearance

RFI #	RFI	Response
1	Please provide a detailed assessment in respect to the rationale and justification for altering the consent notices. This assessment must take into account recent Case Law (Ballantyne Barker v QLDC (2019 NZHC2844), and any other relevant subsequent Case Law. Of note, paragraph 45 of Ballantyne Baker v QLDC decision states: [45] *The case law makes it clear that because a consent notice gives a high degree of certainty both to the immediately affected parties at the time subdivision consent is granted, and to the public at large, it should only be altered when there is a material change in circumstances (such as a rezoning through a plan change process), which means the consent notice condition no longer achieves, but rather obstructs, the sustainable management purposes of the RMA. In such circumstances, the ability to vary or cancel the consent notice condition can hardly be seen as objectionable.* Also of relevance is paragraph 44 of this decision whereby the High Court emphasised that "*good planning practice should require an examination of the purpose of the consent notice and an enquiry into whether some change of circumstances has rendered the consent notice of no further value*".	*Ballantyne Barker Holdings Limited v Queenstown Lakes District Council* sets out the High Court's view on the considerations that are required when deciding whether to cancel a consent notice. This decision was made in the context of a substantive grant of consent and not notification. The key aspect of this decision is that the Court determined that because a consent notice is intended to give a high degree of certainty both to the immediately affected parties at the time subdivision consent is granted and to the public at large, it should only be altered when there is a material change in circumstances, which means the consent notice condition no longer achieves, but rather obstructs, the sustainable management purposes of the RMA. See paragraphs [39] –[45] of the of the decision. In a more recent case *Frost v Queenstown Lakes District Council,* the same High Court judge made further comments on consent notice cancellation in the context of a notification decision. The case was a judicial review against a non-notified consent. The case largely repeats the comments made in Ballantyne Barker. However, it took this further and decided that errors in considering the removal of a consent notice were relevant to notification. The Court held at paragraph 94 that the removal of a consent notice and the associated uncertainty created by this removal was an effect in itself that needed to be considered at notification stage. The Court found that in that case the removal of the consent notice was not appropriately considered, which constituted a material error. Overall, the case law sets the parameters for when a consent notice should be cancelled and the relevant considerations for that assessment. It also finds that the cancellation of a consent notice may result in effects that should be considered when assessing whether to notify an application. However, the case law does not suggest that notification is warranted in every case where a removal or amendment to a consent notice is proposed. The effects of the removal or amendment must be considered on a case by case basis. Condition 32(c) was imposed on RM130174 and carried over into Consent Notice 10521522.10 (Condition 2(k)) and stated the following: *"All protected trees as identified on the certified landscape plans and as 'protected trees' on the survey plan (identified as covenant areas HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN), and all other indigenous trees over 6m in height and with a DBH (diameter at breast height) of over 200mm within the undomesticated areas, are to be retained and protected. Such trees shall not be removed, altered or modified in any manner, and there shall be no excavations or construction of Structures or Buildings within 2m of the drip line. Such trees are to be identified on a landscape plan to be submitted to Council as part of any future resource consent application for development within the lot."* There are two issues to be covered from this consent notice condition: 1. The protected trees as identified in covenant areas (as identified in the updated landscape set); and 2. All other indigenous vegetation over 6m in height and with a DBH of over 200mm and not within development areas. 1. <u>Identified Protected Trees in Covenant Areas</u> The proposed villa locations and carparking areas have now been re-shuffled to protect all of the specifically identified trees. Where construction or paths/access/carparks are occurring within 2m of the dripline, areas of boardwalk will be designed to protect the root structure. Appropriate setbacks from each of the protected trees have been identified by David Finlin of NZ Tree Care and are shown as the rings around the trees in the report attached. 2. <u>All other indigenous vegetation over 6m in height with DBH of 200mm and not within approved development areas (RM130174)</u>

		Ms Palmer has identified all trees on the site above which are over 6m in height and which have a DBH of over 200mm. See **attached** KamoMarsh Plan titled "Consent Notice 10521522.10 Condition 2K dated 11 November 2021" at **Appendix 19**. In total there are 97 trees over 6m tall on the site with a DBH of over 200mm. The Consent Notice would allow for removal 31 of those trees as they fall within the development areas. Under this proposal (RM210618), it is proposed to remove 45 of those trees in total. There is a difference of 14 trees out of 97 between what is permitted to remove under the consent notice and what is proposed to remove. As Ms Palmer covers in her ecology RFI response **attached at Appendix 21**, there is a net gain of 5075m2 of indigenous vegetation on the site as a result of the proposal including a net gain of 11 beech trees to be planted. Ms Palmer notes that the proposed species will include species found in the adjacent reserves which will support the diversity of the reserve margins, boost seed sources and include species known to support pollinators and birds. Overall, Ms Palmer assesses the ecological effects of the proposal as less than minor (if confirmed that at-risk lizards are not present).[1] As covered in the Arborist's Report by NZ Tree Care dated 4th November 2021 (**Appendix 22**), appropriate setbacks will be applied to the trees above and construction managed and supervised around vegetation. Where buildings are proposed within 2m of the dripline, boardwalks will apply over the root structure of the trees and piles strategically located to protect the tree as far as possible. Overall, it is considered that the effect of amending the consent notice conditions has to be considered in terms of its effects. It is considered that the consent notice did create an expectation that the specifically identified trees to be protected in specific tree protection areas were given the highest grade of protection and then the trees over 6m tall with a DBH of over 200mm were given a slightly lower grade of protection as had these trees set out in orange on the KamoMarsh Plan been removed prior to the PDP coming into force, it would have been a permitted activity to remove those trees. As there was more of an expectation that those trees not specifically notated could be removed until the point that they reached 6m high and over 200mm then it is considered that the removal of the trees set out in orange on the KamoMarsh plan and net gain overall of 11 beech trees and 5075m^2 net gain of indigenous vegetation acts in a compensatory manner. When reviewing the PDP and looking at matters of discretion for the removal of indigenous vegetation (33.8 and 33.2.1.6), the off-setting to provide a net-gain is considered as a way to manage the adverse effects on indigenous biodiversity and is what is proposed in this case and overall the proposal is considered to have less than minor ecological effects. Therefore, it is considered that the amendment of the consent notice to allow for the removal of the trees set out in orange on the KamoMarsh plan will have a less than minor effect and is appropriate.
2	Please provide a noise/acoustic assessment in respect to the noise effects likely to be generated by the proposed activity. Please provide evidence from a suitably qualified and experience acoustic engineer to quantify the likely noise levels and demonstrate compliance with the District Plan noise standards. If compliance cannot be achieved, please provide an assessment of effects in respect to this matter.	Please see **attached** preliminary acoustic review from Acoustic Engineering Services at **Appendix 23**. This initial comment confirms that it is likely that the use of communal spaces will be able to comply with day time District Plan noise limits. At night time some managerial controls should be imposed which are set out in the comment from AES. The applicant has requested that outdoor dining be available in the restaurant until 10pm. The restaurant is 20-30m off the northern boundary and a gully with thick vegetation is within that 20-30m. Additionally, any building constructed within the approved development area #4 (from RM130174) must be at least 10m off any internal boundary (PDP Rule 22.5.23). Therefore, there should be a distance of at least 30-40m including thick vegetation between the restaurant and any future dwelling to the north. Additionally, the outdoor seating area does not cater for many restaurant patrons and all patrons are limited to guests staying on site. If any outdoor speakers are disabled from 8pm onwards, the effect of any outdoor diners until 10pm is considered to be less than minor.
3	Please provide a cultural assessment or the affected party approval from Aukaha and Te Ao Marama. This is needed because the subject site is within a Wahi Tapuna. In accordance with Policy 5.3.1.4, the cultural assessment must be undertaken by a person suitably experienced who understands and recognises the relationship between tangata whenua and their culture and traditions with their ancestral lands, water sites, topuni and other taonga. This person must also identify the potential effects from the proposed activity on	Correspondence is ongoing with Aukaha. No response from TAMI at this stage.

[1] Natural Solutions for Nature Addendum RFI Report dated 12 November 2021 Pp 21-25

<table>
<tr><td></td><td>Manawhenua values in the wahi tupuna. Also, please provide an assessment of the proposed activity against the relevant objectives and policies in chapter 5 of the PDP.</td><td></td></tr>
<tr><td>4</td><td>Please provide a site plan showing the relevant internal boundary setbacks with the proposed buildings overlaid. Please quantify the extent of intrusion relating to each building? This is needed to understand the extent of the intrusions and subsequent scale of effects.</td><td>Setbacks have now been added to site plan included with updated architectural set at Sheet A03 attached at Appendix 12. Note than 10m setback applies to Lot 100 as it is within the Bob's Cove Rural Residential subzone, but the part of Section 1 is not within the Rural Residential subzone and so 6m setback applies to this area.</td></tr>
<tr><td>5</td><td>Please provide a 3D height plane model so the effects of the height intrusions can be better understood within the context of the overall site layout and topography.</td><td>DBA have completed this and it is included as Sheet A52 with updated architectural set attached at Appendix 12.</td></tr>
<tr><td>6</td><td>In the compliance table (starting on page 29 of the application), a number of rules have been identified as being subject to appeal. Please identify the equivalent Operative District Plan rule for the PDP rules which are subject to appeal, resource consent is required for these also.</td><td>
<table>
<tr><th>PDP Rule</th><th>ODP Equivalent Rule</th><th>Assessment under ODP</th></tr>
<tr><td>22.4.10 Visitor Accommodation – discretionary activity</td><td>8.2.2.3 Visitor Accommodation – discretionary activity</td><td>Same assessment under ODP and PDP as included in AEE.</td></tr>
<tr><td>25.5.12 Erosion and sediment control measures must be implemented and maintained during earthworks</td><td>Rule 22.3.2.3(a) restricted discretionary activity on breach of Site Standard 22.3.3(iv)(a)</td><td>Will comply with PDP and ODP erosion and sediment control standards</td></tr>
<tr><td>25.5.13 Dust from earthworks</td><td>Rule 22.3.2.3(a) restricted discretionary activity on breach of Site Standard 22.3.3(iv)(b)</td><td>Will comply with PDP and ODP dust control standards.</td></tr>
<tr><td>25.5.14 Earthworks that discover any kōiwi tangata, any feature or archaeological material or evidence of contaminated land</td><td>Rule 22.3.2.3(a) restricted discretionary activity on breach of Site Standard 22.3.3(vi)(a)</td><td>Will comply with PDP and ODP through accidental discovery protocol. Archaeological comment has been provided determining that accidental discovery protocol is appropriate.</td></tr>
<tr><td>25.5.18.1 Earthworks setback from boundaries</td><td>Rule 22.3.2.3(a) restricted discretionary activity on breach of Site Standard 22.3.3(ii)(b)(iii) – The vertical height of any cut or fill shall not be greater than the distance of the top of the cut or the toe of the fill from the site boundary, except where the cut or fill is retained, in which case it may be located up to the boundary , if less or equal to 0.5 metres in height</td><td>Will not comply with ODP and PDP along southern boundary and south-western corner of site.</td></tr>
<tr><td>25.5.19 Earthworks within 10m of any water body</td><td>Rule 22.3.2.3(a) restricted discretionary activity on breach of site standard 22.3.3(v)(a) and (b) for earthworks within 7m of a water body.</td><td>Will comply with both ODP and PDP standard.</td></tr>
<tr><td>25.5.20 Earthworks undertaken below the water table</td><td>Rule 22.3.2.3(a) restricted discretionary activity on breach of site standard 22.3.3(v)(c) for</td><td>Will comply with both ODP and PDP standard.</td></tr>
</table>
</td></tr>
</table>

				earthworks that cause drainage of an aquifer.	
			25.5.10A Earthworks over 10m3 within Wahi Tupuna Area 16 (Punatapu).	No ODP equivalent.	Breach of PDP Rule 25.5.10A for earthworks over $10m^3$ in Punatapu wahi tupuna area.
			25.5.21 No more than 300m3 of cleanfill shall be transported by road to or from an area subject to earthworks	No ODP equivalent.	PDP RD consent required.
			27.5.8 Subdivision in Rural Residential Zone	No ODP equivalent – all subdivision was controlled activity (Rule 15.2.3.2(b)) as long as complied with site and zone standards	PDP RD consent required.
			27.5.11 Subdivision within a wahi tupuna area outside of the urban environment where subdivision is listed as a potential threat in Schedule 39.6 (check under appeal or not?)	No ODP equivalent	Breach of PDP Rule 27.5.11 for subdivision in wahi tupuna area where subdivision is listed as a threat.
			29.5.1 Minimum Parking Requirements	Breach of site standards would be RD under Rule 14.2.2.3(ii). Site Standard 14.2.4.1(i): - 12 villas with kitchenette: 12 parks plus 1 for staff - 12 villas with no kitchenette: 4 parks plus 1 for staff - Manager's and Owner's Residence: 4 parks - Including 1 mobility space Total required: 22 including 1x mobility space Total supplied: 22 including 2x mobility spaces.	Complies with ODP and PDP standards.
7	Please confirm if any signage is proposed, and if so, please detail the location and size of all signage, and confirm compliance with the District Plan standards? And if necessary, provide an assessment of effects from the proposed signage.	Small sign no larger than 60cm x 15cm will be provided on the gate entrance to the property. Sign complies with size requirements for Rural Residential Zone 31.10.1 and 31.11.1. Signage can be dealt with through an advice note on the consent conditions.			

8	Please provide an update in respect to the consultation which you are undertaking with the parties listed in Table 7 of the application. Please provide any relevant correspondence you have had with these parties.	DOC is waiting to be notified. Consultation with Glentui is ongoing. Consultation with Aukaha and TAMI is ongoing.
9	Please update the light and glare plan to demonstrate compliance with Rule 22.5.9 of the PDP, including the anticipated light spill. If compliance cannot be achieved, please provide an assessment of effects in respect to this matter.	Will comply with standard. To be set out in advice note or conditioned.
10	During the pre-application meeting, there was discussion of an existing contract between the Applicant and the Department of Conservation (DOC) which enables the Applicant to undertake planting on the area of conservation land immediately in front (west) of the subject site, towards the Lake. This planting was discussed as further mitigation to the built form and as a benefit to the conservation estate. There is no mention of this in the application. Please confirm if this is still planned, and if so, please provide a copy of the contract/agreement with DOC that enables the planting, along with an updated landscape/planting plan that details the area/s to be planted and the type of plants etc.	Any future planting on reserve land is not a part of this consent.
11	Please clarify the ratio of 1 bedroom (no kitchenette) villas and 1 bedroom plus kitchenette villas? Section 4.1 of the AEE only confirms what 18 of the villas will be.	12x 1 bed villas and 12x 1 bed villas with living area/kitchenette.
12	Please confirm that no HAIL activities have been undertaken on the site since the Preliminary Site Investigation was undertaken in 2013. Please update the assessment of effects if necessary.	No HAIL activities have been undertaken on the site since the PSI in 2013.
13	The permitted baseline assessment refers to RM131074 as approving three Development Areas on the subject site. Please provide further information that demonstrates that this consent was given affect to in accordance with s.125 of the RMA in respect to these development areas? Please provide a copy of the decision for RM131074?	The development areas are set out at Condition (t) of Consent Notice 10521522.10 and are registered on DP494333. **See attached at Appendix 1e**. Additionally, a 15 year lapse period was applied to RM130174 to give effect to the land-use components of RM130174 including development on the development areas. See revised permitted baseline memorandum **attached** to this RFI response at **Appendix 16**.
14	In addition to point 12, please confirm that the permitted baseline render (Figure 15) would meet all relevant District Plan rules, particularly 22.5.2, 22.5.3, 22.5.25, 22.5.26 and 22.5.27, however, also relevant rules from Chapter 25. Also, please provide a site plan showing the site layout and building location of the permitted baseline scenario, with the Development Areas overlaid.	A permitted baseline plan and analysis is **attached at Appendices 16 and 17** and would meet District Plan rules 22.5.2 (building coverage), 22.5.3 (building size), 22.5.25 (domesticated areas), 22.5.26 (landscaping) and 22.5.27 (indigenous vegetation in undomesticated areas). It is noted that it is a permitted activity to construct a house within a development area in the Bob's Cove Rural Residential Subzone (22.4.1, 22.4.3, 22.5.25). The only rule trigger likely for houses within the development areas on Lot 100 would be, the $10m^3$ wahi tupuna earthworks limit (25.5.10A) and indigenous vegetation clearance rule (33.5.3).
15	Please provide an assessment of the proposed activity against the proposed Regional Policy Statement 2021 as notified in June 2021.	An assessment of the Proposed Regional Policy Statement was already included in the AEE submitted to QLDC at pages 27 to 28.
16	The traffic generation rate is based on a resort hotel. The description of a resort hotel suggests that this type of facility would include a number of recreational activities on site which would reduce the need for guests to leave the resort. Please provide an updated traffic generation assessment using the 'all suites hotel' rate which is considered more appropriate for the proposed activity, which have peak hour traffic generation rates of 0.5-0.6vph per occupied room. Please update the assessment accordingly.	Bartlett Consulting has provided a traffic assessment attached at **Appendix 25** in regard to the Tui Drive/Glenorchy Road intersection and its capacity. The assessment also included a traffic generation assessment which would be 6.4vpd/room. This would increase the overall traffic flow on Tui Drive to 528 vpd. The Glentui Road network and intersection with Glenorchy-Queenstown Road are deemed to have enough capacity for the increased traffic.
17	No allowance appears to have been made within the water demand calculations for irrigation. Noting large areas of irrigation and the fact that green roof areas are inherently tricky in potentially dry sub-alpine summers. Please provide maximum irrigation flows requirements and proof of suitable supply?	A bore has been drilled on site and pump test has been confirmed at 1.5L per second (see infrastructure report provided with application) which provides 129,600L per day. The potable water supply required per site is based on the QLDC CoP requirement of 2,100L per lot. Total necessary potable water supply is 40,520L/day. This leaves 89,080L per day for fire and irrigation supply which is more than enough for irrigation. A resource consent is required from the Otago Regional Council for groundwater take.
18	Please confirm that the location of the proposed water supply production bore will not conflict with existing and future wastewater disposal fields. This specifically relates to future potential wastewater disposal fields within the neighbouring Glen Tui stages (Lots 5-9).	The Otago Regional Council Water Plan requires there to be 50m separation between any wastewater disposal field and any bore. It is noted that the Waimarino bore is already installed and is centrally located within the site (30m from the northern boundary and 40m from the western boundary). The Glentui Lots 5-9 have not been created, and any on-site disposal system will need to be designed and located so as to comply with the Regional Council requirements at that time.
19	The AEE and plans indicate discussions with FENZ regarding fire fighting requirements, however, no evidence of these discussions are included in the application. Further to point 8 above, please provide evidence of email discussions with FENZ that confirm that the site layout and internal accessway (particularly the gradient and surface) is suitable for fire appliances?	Please see **attached at Appendix 24** correspondence from FENZ confirming that access, hardstand and external sprinkler system are acceptable.

20	The infrastructure report has indicated that 20,000 litres/day of wastewater treatment and disposal will be required. This figure has not been suitably justified/broken down based on existing Glen Tui connections, potential Glen Tui connections, proposed development flows, future development flows. Please provide clear breakdown of flows into the proposed wastewater system that justifies volumes proposed and ensures the existing rights of Glen Tui residents are not impinged upon.	The 20,000 litre per day figure is described at page 4 of **Appendix 4** to the AEE. The method of wastewater disposal used by the future development of the Glentui land may involve a variety of treatment and disposal option. One of those options might include the use of the existing communal disposal field. More detail to follow from RDA Consulting.
21	The infrastructure report indicates a volume of flow reserved for 'future activities' within the development site beyond what is currently being proposed. Please indicate what volume is proposed to be reserved for this purpose and a general indication of what these activities may be.	The reference at page 4 of **Appendix 4** to 'future activities' is to provide some future capacity for the adjoining undeveloped Glentui land. This potential connection is hypothetical only, as that land (if it is ever developed) may utilise their own on-site treatment and disposal option.
22	Please provide a plan showing the location of the proposed treatment plant and disposal field (including both primary field and 100% reserve area). This plan should also confirm the location of the sub-soil pits undertaken by Railton Contracting. This plan shall also confirm no conflict with future stages of the greater Glen Tui development (i.e. stage 6 or Road 4).	**Appendix 11** identifies the approximate location of the wastewater pumping station, alignment of the rising main, the treatment and disposal area. These are all matters that will be addressed through the application to the Regional Council.
23	Please confirm if decommissioning of the existing Glen Tui wastewater plant will require any rehabilitation of the land to address HAIL status or possibly HAIL covenants.	Not part of this application. If necessary in the future, a separate application under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 will be submitted to the Council.
24	Please confirm that nitrogen limits from the proposed disposal area can feasibly comply with ORC Nitrogen Sensitive Zone loading requirements (ORC Water Plan map H6 – 15 kgN/ha/yr). Will additional denitrification be required and can the proposed system feasibly achieve this requirement. Alternately, please provide proof of an ORC discharge permit for the proposed system/disposal.	This is a detailed design matter that will be addressed in the application to the Otago Regional Council.
25	The proposed wastewater pump station appears to have limited/no access for any maintenance requirements. Applicant to confirm how this asset will be maintained and if required relocate.	The pump station is located 20m from the internal access road and from that point onwards is accessible by pedestrian pathway – for day-to-day maintenance or clearance.
26	The infrastructure report provides an indication of a consented baseline for stormwater runoff/flows. This baseline is rather hard to understand. Please confirm what impervious areas have been assumed and how these areas relate to the consented development areas on each lot and maximum building footprints and sealed areas.	The anticipated development under RM180302 would result in: - 4 x 500m2 dwellings = 2000m2 (1 in each of 3 development areas on Lot 100 plus one on DOC land-swap site) - 4 x driveways and parking areas = 800m2 - Main accessway = 1125m2 Total: 3,925m2
27	The access between the Glen Tui road network and main parking area is shown as tapering from 5.5m to approximately 3.5m. Given the number of proposed vehicle movements and limited line of sight on this portion of access the carriageway should be increased to a minimum 5.5m from the accessing road network to the main carpark reception area. See figure E3 of the COP and rule 29.5.14b(i) of the PDP. Please update the plans to reflect this change, or identify the non-compliance as requiring resource consent, and provide an assessment of effects in respect to this matter.	Access road leading to carpark cannot be widened due to topographic constrains. This is a slow speed environment that will be signposted (10km/h) as such. The narrowed section of this private access will facilitate a slow speed environment.
28	The proposed activity will only provide 1 mobility space for 22 parking spaces. This does not comply with 29.5.5a of the PDP which requires minimum 2 mobility spaces. Please to amend application to address this non-compliance, or identify the non-compliance as requiring resource consent, and provide an assessment of effects in respect to this matter.	Amended and now complies – there are now 22 carparks including 2x mobility spaces. Please see **attached at Appendix 12** the updated architectural set.
29	The 2x parallel parking spaces located on the main access are show as 2.4m wide x 6m long. These dimensions do not comply with Council minimum standards (see table 29.7 of the PDP). Please amend the design to address this non-compliance or identify the non-compliance as requiring resource consent, and provide an assessment of effects in respect to this matter.	Amended and now complies – see updated plan set at **Appendix 12**.
30	Further comment and explanation is requested with regards to the servicing of the development by rubbish trucks and delivery vehicles. This includes the provision of suitable tracking curves to confirm that BOH areas can be appropriately accessed by the intended vehicles/trucks.	Tracking curves have been added to plans – see updated plan set **at Appendix 12** – Sheet A03. Also raised height of porte-cochère to fit medium-rigid truck.

31	Please confirm if any footpath or trail links are proposed to link the proposed activity with the lake side DOC track or Glen Tui reserves and paths. If footpaths or trails are proposed please provide detail of their formation and location, along with the affected party approval from impacted properties (DOC, Glen Tui etc), or alternative, if APA is not obtained, please provide an assessment of effects in respect to this matter.	No footpaths or trail links proposed to DOC or Glentui land.
32	Please provide comment from a suitably qualified traffic engineer to confirm that the proposed increase in vehicle movements and/or altered use of the Glen Tui road network and associated intersection with Queenstown-Glenorchy Road can be accommodated and will not result in any associated adverse safety effects. This should take into account both the current and maximum consented use of these roads and intersection.	See attached at **Appendix 25** the traffic assessment by Bartlett Consulting which confirms that the intersection of Tui Drive with Glenorchy- Queenstown Road can accommodate the increase in traffic flow from the proposed development without the need for any modifications.
33	Please provide confirmation from a suitably qualified traffic engineer that fire and ambulance appliances can be suitably accommodated within the 3.5m internal gravel roads and the surface and steeper gradients will not result in emergency vehicles becoming stranded or unable to turnaround.	Please see **attached** correspondence from FENZ (**Appendix 24**) confirming that access and hardstand are suitable for fire appliances. If the access is suitable for fire appliances, then it should be suitable for ambulances. Additionally, there will be golf buggies with decks/trays at the rear which could be used for transporting guests to the top of the site.
34	A fee simple subdivision is proposed, however, given the small titles and common land/services it would appear logical that this should be undertaken as a unit title subdivision. Please confirm why a fee simple subdivision is appropriate over unit titles.	Fee simple is more attractive to buyers of the units than unit title. Relevance of this question is unclear.
35	Please provide further detail on how the proposed solar panels will be mounted and orientated to understand potential visibility from beyond the site	This will be confirmed at detailed design stage.
36	Details on external materials and colours is limited. Please provide a full list of all external materials and colours on submitted elevations and plans. Please also specify proposed colour treatments of surfaces, e.g. paint finishes, stains, natural finishes etc. And please include the proposed glazing specifications i.e. evidence of low reflectivity or standard glazing.	This is now shown in the updated architectural set at Sheet A25 (**Appendix 12**).
37	Please dimension all eaves and overhangs over areas of glazing.	Dimensions updated on sections within updated architectural set **attached** (**Appendix 12**).
38	Four of the five trees protected via consent notice appear not to be within a building 'platform'. Given the relatively small building unit sizes and flexible nature of access and parking layout, please provide further detail as to the justification for removing these protected trees. (Point 1 above may be sufficient to satisfy the second part of this question).	All of the specifically identified trees from the consent notice have now been retained and identified in the amended plans (see **Appendix 19**).
39	An external sprinkler system is noted in the application for vegetation in the site, however, it is not referred to in the architectural package. Please confirm how fire risk is considered in regard to the proposed planting, and provide FENZ confirmation to ensure that the planting proposed is acceptable from a fire risk perspective.	Please see **attached** (**Appendix 24**) correspondence from FENZ confirming that an external sprinkler system is appropriate to mitigate native vegetation being so close to buildings and that details will be worked through at detailed design stage.
40	There are no hard landscaping details, however, the architectural plans and images show decks, terracing, retaining, fireplaces, outdoor areas etc. Please provide details and plans of these hard landscape areas? This is most relevant for the owners residence and those areas downslope of buildings at the lower end of the site that are in view of the lake and reserve along the western boundary and part of the northern boundary.	The architectural set has been updated to include this. See detail on floor plans of outdoor decking and terraces etc (**Appendix 12**). Further detail of vegetation and planting around western boundary have been provided in the updated landscape set by Baxter Design/Kamo Marsh (**Appendix 13b**).
41	Please provide further detail on hard and soft landscaping proposed for the owners residence and areas downslope of the lower tier of buildings up to the western and part of lower northern boundary. Include level changes, materials, details of tree and shrub planting, and existing vegetation to be retained and any notable trees and shrubs in this area to be retained.	Hard surfaces for owner's residence shown on updated architectural set (**Appendix 12**). Soft landscaping detail around owner's residence answered below at Q.44. The vegetation along the part of the lower northern boundary which is not listed in Attachment F of Landscape Package is generally within the gully area and so is unlikely to be disturbed. However, if there is any disturbance, replacement planting will consist of 'tall privacy indigenous planting for areas wider than 3m'.
42	Is any fencing proposed along the site boundaries, including at the site entrance, or within the site? If so, please provide a site plan showing the location and type of fencing and/or gates etc.	No fencing. See timber gate proposed at entrance. See updated A03 in architectural package (**Appendix 12**).
43	Please provide details from a suitably qualified and experienced persons confirming how the existing vegetation will be retained and protected during construction?	Arborist has confirmed required setbacks and root protection plans (as shown on architectural plans). Refer to attached Tree Protection Plan and report by NZ Tree Care (**Appendix 22**).
44	Please confirm whether the existing vegetation shown in Attachment F of the Landscape Plan which is not notated via the categories listed in the legend will be retained, particularly along the western boundary below the owner's residence and yoga studio and along the southern boundary adjacent to the owner's residence. If not, please provide details of the proposed treatment in these areas?	The areas referred to in this request have been updated on the attached updated landscape plans (**Appendix 13b**) on Attachment F. Any existing vegetation damaged/removed during construction to be replaced with appropriate species from the proposed planting list.

45	Please confirm camera and lens model used for visual assessment images.	The photographs included in the Landscape Attachment set were taken with a Nikon D3400, 50mm lens, multiple image panoramic stitch.
46	On the plant list, please identify in the tree and shrub list what are considered to be trees (larger grade) and what are shrubs (smaller grade).	Updated Appendix B provided by KamoMarsh landscape architects separating proposed plant list into different size categories (**Appendix 20**).
47	Further to question 42 and 44, please confirm how the edge between the reserve and subject site will be addressed and please confirm what boundary treatment is proposed.	The edge between the subject site and the reserve will be replanted with a mix of species from the planting list so as to integrate that edge seamlessly with the reserve to the west, with the intention that, on completion, the legal boundary will be indistinguishable, located within a continuation of indigenous planting between the reserve and the subject site.
48	The tenant agreement refers to the use of a powerboat and row boats, please confirm if these will be stored on the subject site?	Not part of this resource consent.
49	Have any public access opportunities been considered?	No public access opportunities have been considered – however a DOC reserve neighbours the site and would be the appropriate location for future public access. There is already public access and parking provided at the Queenstown-Glenorchy Road with the Bob's Cove track running along the lakeshore which provides public access already.
50	Ms Rebecca Teele has reviewed the ecological assessment and considers that a more thorough ecological assessment is required. Attached is Ms Teele's assessment. Please provide an updated/complete ecological assessment?	An addendum to the Ecology Assessment is included with this response letter at **Appendix 21**, providing a full reply to the ecological issues raised by E3 Scientific.

Annexure 1: OBJECTIVES AND POLICIES ASSESSMENT

Operative District Plan – Objectives and Policies Assessment

Part 4 – District Wide Issues

Clause	Description	Comment
Objective		
4.1.4.1 – Nature Conservation Values	***The protection and enhancement of indigenous ecosystem functioning and sufficient viable habitats to maintain the communities and the diversity of indigenous flora and fauna within the District.***	
Policies		
	(a) To encourage the long-term protection of indigenous ecosystems and geological features.	Natural Solutions for Nature (NSN) has confirmed that if the development follows her recommendations around soil biota and regenerating the gully, the development will result in an enhancement of the indigenous vegetation of the site. NSN has confirmed in their report that despite the removal of 108 beech trees and other vegetation, the context of the site and retention of as many trees as possible and extensive planting proposed will result in a less than minor ecological effect. NSN has confirmed that the site meets the criteria for significance at a moderately low level. However, the regeneration of the gully and levels of proposed planting will result in an enhancement of the indigenous vegetation of the site.
	(b) To promote the long term protection of sites and areas with significant nature conservation values.	
	(c) To manage the sensitive alpine environments from the adverse effects of development.	
	(d) To encourage the protection of sites having indigenous plants or animals or geological or geomorphological features of significant value.	
	(e) To avoid the establishment of, or ensure the appropriate location, design and management of, introduced vegetation with the potential to spread and naturalise; and to encourage the removal or management of existing vegetation with this potential and prevent its further spread.	
	(f) To allow development which maintains or enhances the quality of the environment in areas identified as having rare, endangered, or vulnerable species of plants or animals of national significance, or indigenous plant or animal communities that are of outstanding significance to the nation.	
	(g) To avoid any adverse effects of activities on the natural character of the District's environment and on indigenous ecosystems; by ensuring that opportunities are taken to promote the protection of indigenous ecosystems, including at the time of resource consents.	
Objective		

4.2.5	***Subdivision, use and development being undertaken in the District in a manner which avoids, remedies or mitigates adverse effects on landscape and visual amenity values.***	
Policies		
1. Future Development	*(a) To avoid, remedy or mitigate the adverse effects of development and/or subdivision in those areas of the District where the landscape and visual amenity values are vulnerable to degradation.*	The visual amenity effects of the development need to be considered in the context of the permitted baseline including vegetation clearance and built form. Any development on the site is always going to be visible to some degree from the lake, recreation reserves and Glenorchy-Queenstown Road. With that context in mind, the development is considered to have a less than minor adverse effect from viewpoints, is appropriate within the receiving landscape and will not detract from the quality and character of the ONL. It is considered that the site can absorb the built form of the development.
	(b) To encourage development and/or subdivision to occur in those areas of the District with greater potential to absorb change without detraction from landscape and visual amenity values.	
	(c) To ensure subdivision and/or development harmonises with local topography and ecological systems and other nature conservation values as far as possible.	
2. Outstanding Natural Landscapes (District Wide/Greater Wakatipu)	*(a) To maintain the openness of those outstanding natural landscapes and features which have an open character at present.*	
	(b) To avoid subdivision and development in those parts of the outstanding natural landscapes with little or no capacity to absorb change.	
	(c) To allow limited subdivision and development in those areas with higher potential to absorb change.	
	(d) To recognise and provide for the importance of protecting the naturalness and enhancing amenity values of views from public roads.	
9. Structures	*To preserve the visual coherence of:* *(a) outstanding natural landscapes and features and visual amenity landscapes by:* • *encouraging structures which are in harmony with the line and form of the landscape;* • *avoiding, remedying or mitigating any adverse effects of structures on the skyline, ridges and prominent slopes and hilltops;* • *encouraging the colour of buildings and structures to complement the dominant colours in the landscape;*	The visual amenity effects of the development need to be considered in the context of the permitted baseline including vegetation clearance and built form. The natural slope of the site results in any development being visible from viewpoints such as the lake and Glenorchy-Queenstown Road. The buildings mostly comply with the 6m rolling height plane except for small protrusions which will be difficult to discern from viewpoints. The cladding for the development is to be of a dark wood stain with LRV values of less than 10%. The proposed development

	• *encouraging placement of structures in locations where they are in harmony with the landscape;* • *promoting the use of local, natural materials in construction.*	meets the building coverage standard. The buildings are largely within the approved development areas on the site.
10. Utilities	*To avoid, remedy or mitigate the adverse effects of utilities on the landscapes of the district by:* • *avoiding siting utilities in outstanding natural landscapes or features in the Wakatipu Basin (except on Slope Hill in the vicinity of the current utilities)* • *encouraging utilities to be sited away from skylines, ridgelines, prominent locations, and landscape features* • *encouraging utilities to be co-located wherever possible* • *encouraging utilities to be located along the edges of landforms and vegetation patterns* • *encouraging or requiring the alignment and/or location of utilities to be based on the dominant lines in the landscape* • *• requiring that structures be as unobtrusive as is practicable with forms appropriate for the landscape and finished in low reflective colours derived from the background landscape*	The topography was key to the design and layout of the villas and access through the site and accesses have been carefully designed not to be too steep. The underlying approved development and accesses sets a baseline of visibility from the lake. The curve of the proposed access through the site hides portions of the access from the lake. As vegetation is established, it is considered that the access will be largely screened from surrounding public views. It has been confirmed that the development can be adequately serviced. The utilities are all buried underground and so are not visible from public viewpoints.
15. Retention of Existing Vegetation	*To maintain the visual coherence of the landscape and to protect the existing levels of natural character by:* *(a) Encouraging the retention of existing indigenous vegetation in gullies and along watercourses;* *(b) Encouraging maintenance of tussock grass-lands and other nature ecosystems in outstanding natural landscapes.*	The indigenous vegetation along the gully is to be avoided as much as possible. Some areas of vegetation are proposed to be removed, however, the removal of the vegetation has been assessed from an ecological and landscape perspective to have a less than minor effect on the environment when all recommendations are followed.

Part 5 – Rural Areas Objectives and Policies

Clause	Description	Comment
Objective 1 – Character and Landscape Value	***To protect the character and landscape value of the rural area by promoting sustainable management of natural and physical resources and the control of adverse effects caused through inappropriate activities.***	
Policies		
1.1	*Consider fully the district wide landscape objectives and policies when considering subdivision, use and development in the Rural General Zone.*	The district wide landscape objectives and policies have been considered.

1.2	*Allow for the establishment of a range of activities, which utilise the soil resource of the rural area in a sustainable manner.*	The site and surrounds is not used for productive purposes currently. The value of the soil is for promoting indigenous vegetation growth. The permitted baseline should be considered when assessing this policy. The applicant engaged NSN to advise on ecology matters. NSN encouraged the retention of much indigenous vegetation as possible and has provided recommendations to ensure the development has less than minor effects on soil biota and ecology despite the removal of vegetation.
1.4	*Ensure activities not based on the rural resources of the area occur only where the character of the rural area will not be adversely impacted.*	This area is not 'rural' in the sense of productive farming land and so the proposed activity is not going to have an affect on farming or pastoral character. The site is subject to an ONL overlay and the proposal has been assessed as appropriate for the receiving landscape and will not detract from the quality and character of the ONL.
1.3	*Ensure land with potential value for rural productive activities is not compromised by the inappropriate location of other developments and buildings.*	This area is not 'rural' in the sense of productive farming land and so the proposed activity is not going to have reverse sensitivity effects as there are no farming or productive activities in the vicinity.
1.6	*Avoid, remedy or mitigate adverse effects of development on the landscape values of the District.*	NSN has confirmed in their report that despite the removal of 108 beech trees and other vegetation, the context of the site and retention of as many trees as possible and extensive planting proposed will result in a less than minor ecological effect. Baxter Design also confirm that the retention of as much vegetation as possible and proposed planting contributes to the predominance of undomesticated areas across the zone. The proposed vegetation clearance is appropriate within the receiving landsape and will not detract from the quality and character of the ONL beyond what is already approved and anticipated for the site.
1.7	*Preserve the visual coherence of the landscape by ensuring all structures are to be located in areas with the potential to absorb change.*	These policies should be read in the context of the permitted and consented baseline of the site. The Bob's Cove area is subject to an ONL overlay yet zoned Rural Residential thereby anticipating built form, vegetation clearance and infrastructure. Given that anticipated development context, Baxter Design have concluded that the proposal is appropriate for the receiving landscape and will not detract from the quality and character of the ONL. . The
1.8	*Avoid remedy or mitigate the adverse effects of the location of structures and water tanks on skylines, ridges, hills and prominent slopes.*	

		buildings mostly comply with the 6m rolling height plane except for small protrusions which will be difficult to discern from viewpoints.
Objective		
Objective 3 – Rural Amenity	***Avoiding, remedying or mitigating adverse effects of activities on rural amenity.***	
Policies		
3.1	*Recognise permitted activities in rural areas may result in effects such as noise, dust and traffic generation, which will be noticeable to residents in the rural areas.*	The site is now fully zoned as Rural Resisdential under the PDP and so the rural zoning no longer applies. However, the site is not within a productive rural area so there will no reverse sensitivity effects on farming activities. The villas do breach the southern boundary setback, however, this is the boundary shared with the recreation reserve and so the setback breaches will have a less than minor effect on the use of the reserve.
3.2	*Ensure a wide range of rural land uses and land management practices can be undertaken in the rural areas without increased potential for the loss of rural amenity values.*	
3.3	*To avoid, remedy or mitigate adverse effects of activities located in rural areas.*	
3.5	*Ensure residential dwellings are setback from property boundaries, so as to avoid or mitigate adverse effects of activities on neighbouring properties.*	

Part 8 – Rural Living Areas Objectives and Policies

Objective	**Description**	**Comment**
Objective 2 – Rural Amenity	***Avoiding, remedying or mitigating adverse effects of activities on rural amenity.***	
Policies	**Description**	**Comment**
2.1	*Recognise that permitted activities associated with farming in rural areas may result in effects such as smell, noise, dust and traffic generation, which will be noticeable to residents in the rural living areas.*	This area is not 'rural' in the sense of productive farming land and so the proposed activity is not going to result in reverse sensitivity effects on productive farming activities. The site is subject to an ONL overlay and the proposal has been assessed as appropriate for the receiving landscape
2.2	*Remedy or mitigate adverse effects of activities, buildings and structures on visual amenity.*	The visual amenity effects of the development need to be considered in the context of the permitted baseline including vegetation clearance and built form. Any development on the site is always going to be visible to some degree from the lake, recreation reserves and Glenorchy-Queenstown Road. With that

		context in mind, the development is considered to have a less than minor adverse effect from viewpoints, is appropriate within the receiving landscape and will not detract from the quality and character of the ONL. It is considered that the site can absorb the built form of the development.
2.3	*Ensure residential dwellings are set back from property boundaries, so as to reduce adverse effects from activities on neighbouring properties.*	The villas do breach the southern boundary setback, however, this is the boundary shared with the recreation reserve and so the setback breaches will have a less than minor effect on the use of the reserve.
Objective	**Description**	**Comment**
Objective 4 – The Rural Residential sub-zone at Bob's Cove	**Establishment of comprehensively planned residential development which features ample open space and a predominance of indigenous vegetation throughout the zone.**	
Policies	**Description**	**Comment**
4.1	*Ensure that at least 75% of the zone is retained as undomesticated area and that at least 50% of this area is established and maintained in indigenous species such that total indigenous litter cover is maintained over that area.*	The development complies with these statistics. The undomesticated area of the zone will be 75.7%. The total percentage of undomesticated area to be maintained as closed canopy vegetation is 50.65%.
4.2	*Ensure that an area of open space is retained in the foreground of the buildings and that this remains generally free of vegetation that would otherwise disrupt the open pastoral character of the area and the views of the lake and mountains beyond.*	The development is not located adjacent to the open space area by Glenorchy-Queenstown Road and so is not subject to to this policy
4.3	*Although it is recognised that buildings will be visible from public places and from adjoining properties, the buildings shall be set amongst the trees in such a manner so as to not dominate the existing and proposed pattern of vegetation.*	As covered by Baxter Design, taking into account the surrounding vegetation, retention of protected trees and notable vegetation, the proposed 29 beech trees and 6430m^2 of indigenous vegetation, the development will visually nestle into the existing vegetation patterns and mature tree canopies. It is considered that the proposed development will not degrade or compromise the existing or anticipated landscape quality and character.
4.4	*Ensure that landscaping is appropriately established and maintained through undertaking monitoring 5 years after subdivision and consequent land use resource consents are issued.*	Landscaping will be appropriately maintained.
Objective	**Description**	**Comment**
Objective 5 – Bob's Cove Rural Residential Zone	**To maintain and enhance the ecological and amenity values of the Bob's Cove Rural Residential Zone.**	
Policies	**Description**	**Comment**

5.1	*To ensure that views from the Glenorchy-Queenstown Road of Lake Wakatipu and the surrounding landforms are retained through appropriate landscaping, and the retention of view shafts.*	The built form and landscaping is not going to block or impede any view shafts from Glenorchy-Queenstown Road.
5.2	*To ensure that the ecological and amenity values of Bob's Cove are retained, and where possible, enhanced, through:* *- appropriate planting and landscaping using native plant species;* *- restricting the planting of exotic plant species;* *- removal of wilding species;* *- providing guidance on the colour and design of buildings;* *- Maintaining view-shafts from the Queenstown-Glenorchy Road.*	The applicant has carefully considered opportunities to retain and enhance the indigenous vegetation and biodiversity across the site and has worked with NSN and Baxter Design to develop a comprehensive planting scheme and plant palette. NSN have made recommendations to remove invasive pest species from the gully and replant with appropriate indigenous vegetation which the applicant will follow. The proposed architectural palette includes dark stained timber cladding and green roofs which will aid in visually absorbing the built form into the hue and texture of the existing and proposed planting.

Part 13 – Heritage Objectives and Policies

Objective	**Description**	**Comment**
Objective 1 – Heritage Values	**The conservation and enhancement of the District's natural, physical and cultural heritage values, in order that the character and history of the District can be preserved.**	The site falls partially within an archaeological area, however, the applicant has obtained confirmation from Ben Teele that the development has a very low risk of encountering achaeologial material.

Part 14 – Transport Objectives and Policies

Objective	**Description**	**Comment**
Objective 3 – Environmental Effects of Transportation	**Minimal adverse effects on the surrounding environment as a result of road construction and road traffic.**	
Policies	**Description**	**Comment**
3.4	*To ensure new roads and vehicle accessways are designed to visually complement the surrounding area and to mitigate visual impact on the landscape.*	The proposed planting will predominantly screen visibility of the accessway from surrounding public views, with glimpses of roading experienced. Any potential visibility will not be unexpected and will be in keeping with the existing landscape quality and character of the surrounding Bobs Cove Sub Zone.

		Once planting is established, it will weave through built form and access ways creating a layer of planting over earthworks and softening the new proposed ground levels.
Objective	**Description**	**Comment**
Objective 5 – Parking and Loading - General	**Sufficient accessible parking and loading facilities to cater for the anticipated demands of activities while controlling adverse effects.**	
Policies	**Description**	**Comment**
5.1	*To set minimum parking requirements for each activity based on parking demand for each land use while not necessarily accommodating peak parking requirements.*	The provided parking area meets required carparking space numbers. Loading areas are provided in the back of house area. An accessible parking space is provided. The parking area is tucked into the top of the site and will largely be screened from viewpoints by villas and vegetation. The parking spaces meet width and aisle requirements.
5.2	*To ensure business uses have provision for suitable areas for loading vehicles on-site.*	
5.3	*To ensure car parking is available, convenient and accessible to users including people with disabilities.*	
5.4	*To require all off-street parking areas to be designed and landscaped in a manner which will mitigate any adverse visual effect on neighbours, including outlook and privacy.*	
5.5	*To require the design of parking areas to ensure the safety of pedestrians as well as vehicles.*	

Part 15 – Subdivision, Development & Financial Contributions Objectives and Policies

Objective	**Description**	**Comment**
Objective 1 - Servicing	***The provision of necessary services to subdivided lots and developments in anticipation of the likely effects of land use activities on those lots and within the developments.***	
Policies	**Description**	**Comment**
1.1	*To integrate subdivision roading with the existing road network in an efficient manner, which reflects expected traffic levels and the safe and convenient management of vehicles, cyclists and pedestrians.*	The proposed access is integrated with the access through the Glentui Heights subdivision through use of Tui Drive. Vehicular access is not provided to each lot because of the unique operational and management structure proposed. The villa owners will be able to use their villa for 14 days each year. For the rest of the year the villas will be in the letting pool. The villas are
1.2	*To ensure safe and efficient vehicular access is provided to all lots created by subdivision and to all developments*	
1.4	*To avoid or mitigate any adverse visual and physical effects of subdivision and development roading on the environment.*	

1.5	*To ensure water supplies are of a sufficient capacity, including fire fighting requirements, and of a potable standard, for the anticipated land uses on each lot or development.*	unable to be lived in full-time due to their lack of facilities and therefore, vehicular access is not required to each lot. The development is hown to be able to adequately serviced. The applicant will cover all costs of servicing the proposal. The applicant will be required to obtain a resource consent from Otago Regional Counil for the upgrade of the wastewater treatment system so environmental effects of the wastewater system shall be considered at that point in time.
1.6	*To ensure that the provision of any necessary additional infrastructure for water supply, stormwater disposal and/or sewage treatment and disposal and the upgrading of existing infrastructure is undertaken and paid for by subdividers and developers in accordance with Council's Long Term Community Plan Development Contributions Policy.*	
1.7	*To ensure that the design and provision of any necessary infrastructure at the time of subdivision takes into account the requirements of future development on land in the vicinity, with Council being responsible for meeting any additional capacity of infrastructure above that required for the subdivision then being consented to in accordance with Council's Long Term Community Plan Development Contributions Policy.*	
1.9	*To ensure, upon subdivision or development, that anticipated land uses are provided with means of treating and disposing of sewage in a manner which is consistent with maintaining public health and avoids or mitigates adverse effects on the environment.*	
1.10	*To ensure, upon subdivision or development, that all new lots or buildings are provided with connections to a reticulated water supply, stormwater disposal and/or sewage treatment and disposal system, where such systems are available.*	
1.11	*To ensure adequate provision is made for the supply of reticulated energy, including street lighting, and communication facilities for the anticipated land uses, and the method of reticulation is appropriate to the visual amenity values of the area.*	
Objective	**Description**	**Comment**
Objective 2 – Cost of Services to be Met by Subdividers	***The costs of the provision of services to and within subdivisions and developments, or the upgrading of services made necessary by that subdivision and development, to the extent that any of those things are necessitated by the subdivision or development to be met by subdividers.***	The proposal will be consistent with Objective 2 and subsequent policies. All costs will be met by the applicant.
Policies	**Description**	**Comment**
2.1	*To require subdividers and developers to meet the costs of the provision of new services or the extension or upgrading of existing services (including head works), whether provided before or after the subdivision and/or*	All costs will be met by the applicant, and the proposal will meet these policies.

	development, and which are attributable to the effects of the subdivision or development, including where applicable: • *roading and access;* • *water supply;* • *sewage collection, treatment and disposal;* • *stormwater collection, treatment and disposal;* • *trade waste disposal;* • *provision of energy;* • *provision of telecommunications.*	
2.2	*Contributions will be in accordance with Council's Long Term Community Plan Development Contributions Policy.*	
Objective	**Description**	**Comment**
Objective 4 - Outstanding Natural Features, Landscape and Nature Conservation Values	***The recognition and protection of outstanding natural features, landscapes and nature conservation values.***	
Policies	**Description**	**Comment**
4.1	*To take the opportunity to protect outstanding natural landscapes and features, nature conservation values and ecosystems through the subdivision process.*	As much of the existing vegetation is being retained as possible. Planting has been carefully considered, selected and located by NSN and Baxter Design to enhance biodiversity, the gully ecology and increased vegetation cover on the site. Baxter Design have confirmed that the proposed development will result in less than minor visual effects from viewpoints, is appropriate within the receiving landscape and will not detract from the quality and character of the ONL beyond what is already approved and anticipated for the site.
4.2	*To ensure works associated with land subdivision and development avoid or mitigate the adverse effects on the natural character and qualities of the environment and on areas of significant conservation value.*	
4.3	*To avoid any adverse effects on the landscape and visual amenity values, as a direct result of land subdivision and development.*	
4.4	*To use opportunities through the subdivision/development process to improve the level of protection for the natural character and nature conservation values of the lakes and rivers with reference to section 230 of the Resource Management Act 1991.*	
Objective	**Description**	**Comment**
Objective 5 – Amenity Protection	***The maintenance or enhancement of the amenities of the built environment through the subdivision and development process.***	
Policies	**Description**	**Comment**

5.1	*To ensure lot sizes and dimensions to provide for the efficient and pleasant functioning of their anticipated land uses, and reflect the levels of open space and density of built development anticipated in each area.*	The proposed lot sizes do breach minimum lot size standards, however this is because of the unique operational and management structure for Waimarino proposed. The villa owners will be able to use their villa for 14 days each year. For the rest of the year the villas will be in the letting pool. The villas are unable to be lived in full-time due to their lack of facilities and therefore, vehicular access is not required to each lot. Open space is not provided within each lot except for an outdoor living area on the deck but the guests are able to access all shared and communal spaces within the lodge. The guests are also able to access the neighbouring recreation reserve and nearby tracks. The proposed operational structure means that vehicles are parked separately at the top of the site like a hotel and then guests are transported to their villas through use of golf carts. No vehicles will be allowed past the reception area at the top of the site (except for fire vehicles in case of emergency), increasing guest safety throughout the site.
5.2	*To ensure subdivision patterns and the location, size and dimensions of lots in rural areas will not lead to a pattern of land uses, which will adversely affect landscape, visual, cultural and other amenity values.*	
5.3	*To encourage innovative subdivision design, consistent with the maintenance of amenity values, safe, efficient operation of the subdivision and its services.*	
5.5	*To minimise the effects of subdivision and development on the safe and efficient functioning of services and roads.*	
5.6	*To encourage the identification of archaeological sites and sites of cultural significance.*	The site falls partially within an archaeological area, however, the applicant has obtained confirmation from Ben Teele of Origin Consultants that the development has a very low risk of encountering achaeologial material and so the development is not expected to reduce the heritage values in the area. The development does entail activites listed as threats in the Punatapu wahi tupuna area. It is noted that is only manawhenua who can determine the effect on their values. A copy of the application has been sent to Aukaha and Te Ao Marama for their comment.

Part 22 – Earthworks Objectives and Policies

Clause	Provision	Comment
Objective 1	***Enable earthworks that are part of subdivision, development, or access, provided that they are undertaken in a way that avoids, remedies or mitigates adverse effects on communities and the natural environment.***	

Policy 1.1	*Promote earthworks designed to be sympathetic to natural topography where practicable, and that provide safe and stable building sites and access with suitable gradients.*	Earthworks and terracing on the site has been well designed to take into account the topography of the site and to located works away from the gully. NSN has recommended conditions to mitigate runoff into the gully. An Environmental Management Plan will be in place during construction. Recommendations by Geosolve at Appendix 3 will be followed. Standard conditions of consent will further mitigate effects during construction. The earthworks and development is to occur in four stages from the bottom of the site up reducing the area of site exposed at one time. Each landscaping stage will begin once the foundation, retaining and inground services have been established for the previous building stage.
Policy 1.2	*Use environmental protection measures to avoid, remedy or mitigate adverse effects of earthworks.*	
Policy 1.3	*Require remedial works and re-vegetation to be implemented in a timely manner.*	
Objective 2	***Avoid, remedy or mitigate the adverse effects of earthworks on rural landscapes and visual amenity areas.***	
Policy 2.1	*Avoid, where practicable, or remedy or mitigate adverse effects of earthworks on Outstanding Natural Features and Outstanding Natural Landscapes.*	The site is already anticipated to have earthworks carried out on its slopes which are visible from the lake, recreation reserve and Queenstown-Glenorchy Road. The approved residential development on site including earthworks to create accesses and building areas up to 15% of site area. The assessment under this policy needs to consider that background or baseline. The earthworks largely follow the existing topography of the site in order to nestle the villas into the existing landscape. The proposed development is not located on any ridgelines. The remedial works are to follow recommended conditions from NSN, Geosolve and an EMP. The proposed re-vegetation mitigation is to follow the Landcape Maintenance and Management Plan developed by NSN and Baxter Design included in this application.
Policy 2.2	*Avoid, where practicable, or remedy or mitigate adverse visual effects of earthworks on visually prominent slopes, natural landforms and ridgelines.*	
Policy 2.3	*Ensure cuts and batters are sympathetic to the line and form of the landscape.*	
Policy 2.4	*Ensure remedial works and re-vegetation mitigation are effective, taking into account altitude and the alpine environment.*	
Objective 3	***Ensure earthworks do not adversely affect the stability of land, adjoining sites or exacerbate flooding.***	
Policy 3.1	*Ensure earthworks, in particular, cut, fill and retaining, do not adversely affect the stability of adjoining sites.*	NSN and Geosolve have made recommendations around earthworks which the applicant will follow. The applicant will also

Policy 3.2	*Ensure earthworks do not cause or exacerbate flooding, and avoid, remedy or mitigate the adverse effects of de-watering.*	implement an EMP supervised by an appropriately qualified person.
Policy 3.3	*Avoid the adverse effects of earthworks on steeply sloping sites, where land is prone to erosion or instability, where practicable. Where these effects cannot be avoided, to ensure techniques are adopted that remedy or mitigate the potential to decrease land stability.*	
Objective 7	***Protect cultural heritage, including waahi tapu, waahi taonga, archaeological sites and Heritage Landscapes from the adverse effects of earthworks.***	The site falls partially within an archaeological area, however, the applicant has obtained confirmation from Ben Teele of Origin Consultants that the development has a very low risk of encountering achaeologial material and so the development is not expected to reduce the heritage values in the area. The development does entail activites listed as threats in the Punatapu wahi tupuna area. It is noted that is only manawhenua who can determine the effect on their values. A copy of the application has been sent to Aukaha and Te Ao Marama for their comment.
Policy 7.1	*Ensure that iwi are consulted regarding earthworks that may affect sites of significance to Maori, including Statutory Acknowledgement Areas.*	
Policy 7.2	*Consult with Heritage New Zealand where proposed earthworks may affect any archaeological sites.*	
Policy 7.4	*Protect heritage buildings and structures from potential undermining and vibration effects resulting from earthworks on the same site or from sites in close proximity.*	

Proposed District Plan – Objectives and Policies Assessment

Note: Where an Objective or Policy is listed in red, the subject objective or policy is under appeal which has not been resolved as at the date of this application in the QLDC District Plan Review.

Chapter 3 Strategic Direction Objectives and Policies

Clause	Provision	Comment
Objective 3.2.3	***A quality built environment taking into account the character of individual communities.***	The design brief for the development was to sit lightly on the land and use the topography to enhance guest experience. The development is also designed to nestle into existing vegetation surrounding and throughout the site.
S.O 3.2.3.1	*The District's important historic heritage values are protected by ensuring development is sympathetic to those values.*	The applicant has obtained confirmation from Origin Consultants that the development has a very low risk of encountering achaeologial material.
Objective 3.2.4	***The distinctive natural environments and ecosystems of the District are protected.***	There will be a reasonable amount of vegetation clearance as part of the proposal, however, there was a reasonable amount of vegetation clearance anticipated in the underlying approved residential use. The proposal results in a 31% increase in the amount of indigenous vegetation cover on the site.
S.O 3.2.4.1	*Development and land uses that sustain or enhance the life-supporting capacity of air, water, soil and ecosystems, and maintain indigenous biodiversity.*	Natural Solutions for Nature (NSN) has confirmed that if the development follows her recommendations around soil biota and regenerating the gully, the development will result in an enhancement of the indigenous vegetation of the site.
S.O 3.2.4.6	*The values of significant indigenous vegetation and significant habitats of indigenous fauna are protected.*	NSN has confirmed that the site meets the criteria for significance at a moderately low level. However, the regeneration of the gully and levels of proposed planting will result in an enhancement of the indigenous vegetation of the site.
Objective 3.2.5	***The retention of the District's distinctive landscapes.***	
S.O 3.2.5.1	*The landscape and visual amenity values and the natural character of Outstanding Natural Landscapes and Outstanding Natural Features are protected from adverse effects of subdivision, use and development that are more than minor and/or not temporary in duration.*	As assessed by Baxter Design, the development is considered to be appropriate within the receiving landscape and will not detract from the quality and character of the ONL, beyond what is already approved and anticipated for the site.
S.P 3.3.1	*Make provision for the visitor industry to maintain and enhance attractions, facilities and services within the Queenstown and Wānaka town centre areas and elsewhere within the District's urban areas and settlements at locations where this is consistent with objectives and policies for the relevant zone.*	The development will provide a high-quality visitor experience within the Rural Residential Zone and is considered to be consistent with the objectives and policies for the zone.

S.P 3.3.19	*Manage subdivision and / or development that may have adverse effects on the natural character and nature conservation values of the District's lakes, rivers, wetlands and their beds and margins so that their life-supporting capacity is safeguarded; and natural character is maintained or enhanced as far as practicable.*	NSN has confirmed that if recommendations are followed around stormwater management and an Environmental Management Plan is followed, the effect on the dry ephemeral gully will be less than minor. NSN also made recommendations for protecting soil biota and if they are followed, then the localised effect of the earthworks will be less than minor.
S.P 3.3.26	*That subdivision and / or development be designed in accordance with best practice land use management so as to avoid or minimise adverse effects on the water quality of lakes, rivers and wetlands in the District.*	The detailed design stage of the development will include stormwater retention and management details so that NSN's recommendation in terms of gully protection can be followed.
S.P 3.3.30	*Avoid adverse effects on the landscape and visual amenity values and natural character of the District's Outstanding Natural Landscapes and Outstanding Natural Features that are more than minor and or not temporary in duration.*	As assessed by Baxter Design, the development is considered to be appropriate within the receiving landscape and will not detract from the quality and character of the ONL, beyond what is already approved and anticipated for the site.
3.3.33	*Avoid significant adverse effects on wāhi tūpuna within the District.*	It is noted that is only manawhenua who can determine the effect on their values. A copy of the application has been sent to Aukaha and Te Ao Marama for their comment.
3.3.34	*Avoid remedy or mitigate other adverse effects on wāhi tūpuna within the District.*	It is noted that is only manawhenua who can determine the effect on their values. A copy of the application has been sent to Aukaha and Te Ao Marama for their comment.

Chapter 6: Landscapes and Rural Character Objectives and Policies

Clause	Provision	Comment
Policy 6.3.4	*Avoid urban development and subdivision to urban densities in the rural zones.*	It is considered that although the subdivision will breach minimum lot size areas, the subdivision will not create an increased residential density as the villas are unable to be lived in full-time and the subdivision suits the operational structure of the lodge.
Policy 6.3.5	*Ensure that the location and direction of lights does not cause excessive glare and avoids unnecessary degradation of views of the night sky and of landscape character, including of the sense of remoteness where it is an important part of that character.*	Most of the exterior lighting is on the back side of units (facing away from the lake) with lighting on paths and the access on sensors so they will not be on full time. There are some feature lights proposed for the main access, however, as they are low-lux level ambient lights, it is considered that they will not result in excessive glare or degradation of views beyond what was aniticipated for the site.

Policy 6.3.8	*Avoid indigenous vegetation clearance where it would significantly degrade the visual character and qualities of the District's distinctive landscapes.*	NSN has confirmed in their report that despite the removal of 108 beech trees and other vegetation, the context of the site and retention of as many trees as possible and extensive planting proposed will result in a less than minor ecological effect. Baxter Design also confirm that the retention of as much vegetation as possible and proposed planting contributes to the predominance of undomesticated areas across the zone. The proposed vegetation clearance is appropriate within the receiving landsape and will not detract from the quality and character of the ONL beyond what is already approved and anticipated for the site.
Policy 6.3.9	*Encourage subdivision and development proposals to promote indigenous biodiversity protection and regeneration where the landscape and nature conservation values would be maintained or enhanced, particularly where the subdivision or development constitutes a change in the intensity in the land use or the retirement of productive farm land.*	The applicant engaged NSN to advise on ecology matters. NSN encouraged the retention of much indigenous vegetation as possible and has provided recommendations to ensure the development has less than minor effects on soil biota and ecology despite the removal of vegetation.
Policy 6.3.11	*Encourage any landscaping to be ecologically viable and consistent with the established character of the area.*	NSN and Baxter Design have worked together on a planting palette which is ecologically viable and consistent with the surrounding vegetation.
Policy 6.3.12	*Recognise that subdivision and development is inappropriate in almost all locations in Outstanding Natural Landscapes and on Outstanding Natural Features, meaning successful applications will be exceptional cases where the landscape or feature can absorb the change and where the buildings and structures and associated roading and boundary changes will be reasonably difficult to see from beyond the boundary of the site the subject of application.*	This policy should be read in the context of the permitted and consented baseline of the site. The Bob's Cove area is subject to an ONL overlay yet zoned Rural Residential thereby anticipating built form, vegetation clearance and infrastructure. Given that anticipated development context, Baxter Design have concluded that the proposal is appropriate for the receiving landscape and will not detract from the quality and character of the ONL.
Policy 6.3.23	*Ensure incremental changes from subdivision and development do not degrade landscape quality or character, or important views as a result of activities associated with mitigation of the visual effects of proposed development such as screen planting, mounding and earthworks.*	Given the topography of the site and the approved 'Domestic Areas' any development on the site is always going to be visible to some degree from the lake, recreation reserves and Glenorchy-Queenstown Road. With that context in mind, the development is considered to have a less than minor adverse effect from viewpoints, is appropriate within the receiving landscape and will not detract from the quality and character of the ONL.
Policy 6.3.26	*Avoid adverse effects on visual amenity from subdivision, use and development that:*	The visual amenity effects of the development need to be considered in the context of the permitted baseline including vegetation clearance and built form. Any development on the site is always going to be visible to some degree from the lake,

	a. is highly visible from public places and other places which are frequented by members of the public generally (except any trail as defined in this Plan); or *b. forms the foreground for an Outstanding Natural Landscape or Outstanding Natural Feature when viewed from public roads.*	recreation reserves and Glenorchy-Queenstown Road. With that context in mind, the development is considered to have a less than minor adverse effect from viewpoints, is appropriate within the receiving landscape and will not detract from the quality and character of the ONL.
Policy 6.3.29	*Encourage development to utilise shared accesses and infrastructure, and to locate within the parts of the site where it will minimise disruption to natural landforms and to rural character.*	The development shares the access to the site with the Glentui Heights subdivision and will share the existing wastewater treatment system and provide upgrade to system.

Chapter 22: Rural Residential and Rural Living Objectives and Policies

Clause	Provision	Comment
Objective 22.2.1	***The District's landscape quality, character and amenity values are maintained and enhanced while enabling rural living opportunities in areas that can absorb development.***	The visual amenity effects of the development need to be considered in the context of the permitted baseline including vegetation clearance and built form. Any development on the site is always going to be visible to some degree from the lake, recreation reserves and Glenorchy-Queenstown Road. With that context in mind, the development is considered to have a less than minor adverse effect from viewpoints, is appropriate within the receiving landscape and will not detract from the quality and character of the ONL. It is considered that the site can absorb the built form of the development. As covered in the AEE, the effects on neighbourhood amenity are considered to be less than minor.
Policies		
22.2.1.1	*Ensure the visual prominence of buildings is avoided, particularly development and associated earthworks on prominent slopes, ridges and skylines.*	The visual amenity effects of the development need to be considered in the context of the permitted baseline including vegetation clearance and built form. The topography of the site results in any development being visible from viewpoints such as the lake and Glenorchy-Queenstown Road. The buildings mostly comply with the 6m rolling height plane except for small protrusions which will be difficult to discern from viewpoints. Earthworks will be managed by an Environmental Management Plan.
22.2.1.2	*Set minimum density and building coverage standards so the open space, natural and rural qualities of the District's distinctive landscapes are not reduced.*	The density standard for the rural residential zone is based on residential dwellings and so the proposed development complies with this standard. The proposed development also complies with the site coverage standard for the zone.

22.2.1.3	*Allow for flexibility of the density provisions, where design-led and innovative patterns of subdivision and residential development, roading and planting would enhance the character of the zone and the District's landscapes.*	Flexibility should be encouraged in regard to density of buildings in the proposed site as the design for the development has been carefully thought out to be sympathetic to the topography, location and vegetation. The proposed planting and enhancement of the gully enhances the ecological character of the receiving environment and enhances the character of the site.
22.2.1.4	*Manage anticipated activities that are located near Outstanding Natural Features and Outstanding Natural Landscapes so that they do not diminish the qualities of these landscapes and their importance as part of the District's landscapes.*	The visual effects of the development need to be considered in the context of the permitted baseline including vegetation clearance and built form. Any development on the site is always going to be visible to some degree from the lake, recreation reserves and Glenorchy-Queenstown Road. With that context in mind, the development is considered to have a less than minor adverse effect from viewpoints, is appropriate within the receiving landscape and will not detract from the quality and character of the ONL.
22.2.1.5	*Maintain and enhance landscape values by controlling the colour, scale, location and height of permitted buildings and in certain locations or circumstances require landscaping and vegetation controls.*	The cladding for the development is to be of a dark wood stain with LRV values of less than 10%. The proposed development meets the building coverage standard. The buildings are largely within the approved development areas on the site. There will be removal of 5 protected trees, however, the replacement with 29 beech trees and extensive planting which has been carefully considered by the project ecologist and landscape architect is considered to enhance the biodiversity and indigenous vegetation quality over the site as a whole. The development is also considered to be appropriate within the receiving landscape and will not detract from the quality and character of the ONL. Overall, it is considered that the development will maintain and enhance landscape values.
22.2.1.6	*Lights be located and directed so as to avoid glare to other properties, roads, and other public places and to avoid degradation of views of the night sky.*	In terms of lighting visible from neighbouring properties, the southern neighbour is DOC reserve covered in thick vegetation and with low use levels and the gully with thick vegetation screens the development from the north. In terms of lighting from public places and viewpoints, most of the exterior lighting is on the back side of units (facing away from the lake and lakefront reserve/track) with lighting on paths and the access on sensors so they will not be on full time. There are some feature lights proposed for the main access, however, as they are low-lux level ambient lights, it is

		considered that they will not result in excessive glare or degradation of views beyond what was aniticipated for the site.
22.2.1.7	Have regard to fire risk from vegetation and the potential risk to people and buildings, when assessing subdivision, development and any landscaping.	The applicant is engaging in ongoing consultation with FENZ who have so far recommended that an outdoor sprinkler system is installed to assist in protecting vegetation should there be a fire on the site.
22.2.1.8	Provide adequate firefighting water and fire service vehicle access to ensure an efficient and effective emergency response.	The access has been assessed by JEA Survey Ltd as being adequate for firefighting vehicle access down to the bore and hydrant area.
Objective		
Objective 22.2.2	*The predominant land uses within the Rural Residential and Rural Lifestyle Zones are rural and residential activities.*	The proposed activity is for visitor accommodation within the Rural Residential Zone, however, this site is at the very edge of the zone with DOC reserve on two boundaries, and positive feedback so far from the owner of the residential sites neighbouring the development on the other two boundaries. The predominant land use within the rest of the Bob's Cove Rural Residential Sub-Zone will remain as rural-residential activities.
Policies		
22.2.2.2	*Any development, including subdivision located on the periphery of residential and settlement areas, shall avoid undermining the integrity of the urban rural edge and where applicable, the urban growth boundaries.*	The development is bordered on the south and west by DOC Recreation Reserve and so is not going to undermine the urban rural edge.
22.2.2.3	*Discourage commercial, community and other non-residential activities, including restaurants, visitor accommodation and industrial activities, that would diminish amenity values and the quality and character of the rural living environment.*	As covered in the AEE, the effects on amenity values and the quality and character of the rural living environment are considered to be less than minor and are therefore not considered to diminish those values.
22.2.2.4	*The bulk, scale and intensity of buildings used for visitor accommodation, residential visitor accommodation and homestay activities are to be commensurate with the anticipated development of the zone and surrounding residential activities.*	The bulk, scale and intensity of buildings used for VA are commensurate with the anticipated development of the zone as they largely comply with the height standard and comply with the building coverage levels. Some of the development is outside of the 'development area', however, extensive planting is proposed throughout the site which provides some compensation for the loss of 'undomesticated area'. It is considered that the development is consistent with the anticipated development level of the site and within the subdivision.
Objective		
22.2.3	***New development does not exceed available capacities for servicing and infrastructure.***	JEA Survey Ltd have assessed the development as being able to be adequately serviced.

Policies		
22.2.3.1	*Discourage new development that requires servicing and infrastructure at a cost to the community.*	All of the servicing is at the applicant's cost.
22.2.3.2	*Ensure traffic generated by new development does not compromise road safety or efficiency.*	As assessed by JEA Survey, Tui Drive has been constructed to an E3 standard within the QLDC Code of Practice which allows access to 1 to 150 dwelling equivalents. The formed Tui Drive has capacity for an extra 122 dwellings than currently exist so Tui Drive has capacity for the proposed development.
Objective		
22.2.4	***Sensitive activities conflicting with existing and anticipated rural activities are managed.***	There are no 'rural' activities occuring adjacent or nearby to the site. The northern neighbouring sites are rural residential and the southern/western activity is recreation reserve.
Policies		
22.2.4.1	*Recognise existing and permitted activities, including activities within the surrounding Rural Zone might result in effects such as odour, noise, dust and traffic generation that are established, or reasonably expected to occur and will be noticeable to residents and visitors in rural areas.*	There are no 'rural' activities occuring adjacent or nearby to the site. The northern neighbouring sites are rural residential and the southern/western activity is recreation reserve.
Objective		
22.2.5	***Bob's Cove Rural Residential Sub-Zone - Residential Development is comprehensively-planned with ample open space and a predominance of indigenous vegetation throughout the zone.***	
Policies		
22.2.5.1	*Ensure at least 75% of the zone is retained as undomesticated area and at least 50% of this area is established and maintained in indigenous species such that total indigenous vegetation cover is maintained over that area.*	The development complies with these statistics. The undomesticated area of the zone will be 75.7%. The total percentage of undomesticated area to be maintained as closed canopy vegetation is 50.65%.
22.2.5.2	*Ensure there is open space in front of buildings that remains generally free of vegetation to avoid disrupting the open pastoral character of the area and the lake and mountain views.*	The development is not located adjacent to the open space area by Glenorchy-Queenstown Road and so is not subject to to this policy.
Objective		
22.2.6	***Bob's Cove Rural Residential Zone - The ecological and amenity values of the Bob's Cove Rural Residential zone are maintained and enhanced.***	
Policies		

22.2.6.1	*To ensure views of Lake Wakatipu and the surrounding landforms from the Glenorchy-Queenstown Road are retained through appropriate landscaping and the retention of view shafts.*	Landscaping, site layout and building design ensure that no view shafts are blocked or impeded by the development.
22.2.6.2	*To ensure the ecological and amenity values of Bob's Cove are retained and, where possible, enhanced through:* *a. appropriate landscaping using native plants;* *b. restricting the use of exotic plants;* *c. removing wilding species;* *d. providing guidance on the design and colour of buildings;* *e. maintaining view shafts from the Queenstown-Glenorchy Road.*	NSN and Baxter Design have worked together on a comprehensive indigenous planting palette which is appropriate for the site and conditions. NSN has recommended that any invasive or pest species be removed from the gully over time and replaced with natives. The proposed cladding is timber with a dark stain with an LRV of less than 10%. The built form and landscaping is not going to block or impede any view shafts from Glenorchy-Queenstown Road.

Chapter 25: Earthworks Objectives and Policies

Clause	Provision	Comment
Objective		
25.2.1	***Objective – Earthworks are undertaken in a manner that minimises adverse effects on the environment, including through mitigation or remediation, and protects people and communities.***	
Policies		
25.2.1.1	*Ensure earthworks minimise erosion, land instability, and sediment generation and offsite discharge during construction activities associated with subdivision and development*	NSN has recommended conditions to mitigate runoff into the gully. An Environmental Management Plan will be in place during construction. Recommendations by Geosolve at **Appendix 3** will be followed. Standard conditions of consent will further mitigate effects during construction.
25.2.1.2	*Manage the adverse effects of earthworks to avoid inappropriate adverse effects and minimise other adverse effects, in a way that:* *a. Protects the values of Outstanding Natural Features and Landscapes;* *b. Maintains the amenity values of Rural Character Landscapes* *c. Protects the values of Significant Natural Areas and the margins of lakes, rivers and wetlands;* *d. Minimises the exposure of aquifers, in particular the Wakatipu Basin, Hāwea Basin, Wanaka Basin and Cardrona alluvial ribbon aquifers; Note: These aquifers are identified in the Otago Regional Plan: Water for Otago 2004.*	The visual effects of earthworks are expected on the site because of the approved residential development on site including earthworks to create accesses and building areas up to 15% of site area. The assessment under this policy needs to consider that background or baseline. The earthworks and development is to occur in four stages from the bottom of the site up reducing the area of site exposed at one time. Each landscaping stage will begin once the foundation, retaining and inground services have been established for the previous building stage.

	e. Protects Māori cultural values, including wāhi tapu and wāhi tūpuna and other sites of significance to Māori; *f. Protects the values of heritage sites, precincts and landscape overlays from inappropriate subdivision, use and development; and* *g. Maintains public access to and along lakes and rivers.*	Earthworks is a threat to manawhenua values for the Punatapu wahi tupuna area. It is noted that is only manawhenua who can determine the effect on their values. A copy of the application has been sent to Aukaha and Te Ao Marama for their comment. Part of the site does fall within an archaeological area. However, the report from Origin Consultants notes that the risk of encountering archaeological material has been assessed as very low due.
25.2.1.3	*Avoid, where practicable, or remedy or mitigate adverse visual effects of earthworks on visually prominent slopes, natural landforms and ridgelines.*	The site is already anticipated to have earthworks carried out on its slopes which are visible from the lake, recreation reserve and Queenstown-Glenorchy Road. The approved residential development on site including earthworks to create accesses and building areas up to 15% of site area. The assessment under this policy needs to consider that background or baseline. In order to mitigate adverse visual effects of earthworks, the earthworks and development is to occur in four stages from the bottom of the site up towards the east reducing the area of site exposed at one time. Each landscaping stage will begin once the foundation, retaining and inground services have been established for the previous building stage. Once planting is established, it will weave through built form and access ways creating a layer of planting over earthworks and softening the new proposed ground levels.
25.2.1.4	*Manage the scale and extent of earthworks to maintain the amenity values and quality of rural and urban areas*	Earthworks will be carried out within the controls of the EMP and staged so that the area of earth exposed at one time is reduced.
25.2.1.5	*Design earthworks to recognise the constraints and opportunities of the site and environment*	Earthworks and terracing on the site has been well designed to take into account the topography of the site and to located works away from the gully.
25.2.1.6	*Ensure that earthworks are designed and undertaken in a manner that does not adversely affect infrastructure, buildings and the stability of adjoining sites.*	Earthworks will be carried out in accordance with Geosolve's recommendations.
25.2.1.7	*Encourage limiting the area and volume of earthworks being undertaken on a site at any one time to minimise adverse effects on water bodies and nuisance effects of adverse construction noise, vibration, odour, dust and traffic effects.*	The earthworks and development are to occur in four stages from the bottom of the site up reducing the area of site exposed at one time. Each landscaping stage will begin once the foundation, retaining and inground services have been established for the previous building stage.

25.2.1.8	*Undertake processes to avoid adverse effects on cultural heritage, including wāhi tapu, wāhi tūpuna and other taonga, and archaeological sites, or where these cannot be avoided, effects are remedied or mitigated.*	Earthworks is a threat to manawhenua values for the Punatapu wahi tupuna area. It is noted that is only manawhenua who can determine the effect on their values. A copy of the application has been sent to Aukaha and Te Ao Marama for their comment.
25.2.1.9	*Manage the adverse effects arising from exposing or disturbing accidentally discovered material by following the Accidental Discovery Protocol in Schedule 25.10.*	Accept condition of consent.
25.2.1.10	*Ensure that earthworks that generate traffic movements maintain the s afety of roads and accesses, and do not degrade the amenity and qualit y of surrounding land.*	Earthworks will be carried out in line with a Construction Management Plan.
25.2.1.11	*Ensure that earthworks minimise natural hazard risk to people, communities and property, in particular earthworks undertaken to facilitate land development or natural hazard mitigation.*	The earthworks will be carried out in line with Geosolve's recommendations and supervised by an appropriately qualified geo-professional.
Objective		
25.2.2	***Objective – The social, cultural and economic wellbeing of people and communities benefits from earthworks***	
Policies		
25.2.2.1	*Enable earthworks that are necessary to provide for people and communities wellbeing, having particular regard to the importance of:* *a. Nationally and Regionally Significant Infrastructure;* *b. tourism infrastructure and activities, including the continued operation, and provision for future sensitive development of recreation and tourism activities within the Ski Area Sub Zones and the vehicle testing facility within the Waiorau Ski Area Sub Zone;* *c. minimising the risk of natural hazards;* *d. enhancing the operational efficiency of farming including maintenance and improvement of track access and fencing; and* *e. the use and enjoyment of land for recreation, including public walkways and trails; and* f. *maintaining or enhancing the operational efficiency of existing infrastructure.*	The earthworks will enable the establishment of the luxury lodge and associated infrastructure. The earthworks will be carried out in line with Geosolve's recommendations.

Chapter 26: Historic Heritage Objectives and Policies

Clause	Provision	Comment
Objective		
26.3.1	***Objective - The District's historic heritage is recognised, protected, maintained and enhanced.***	The site falls partially within an archaeological area, however, the applicant has obtained confirmation from Origin Consultants that the development has a very low risk of encountering achaeologial material.

Chapter 27: Subdivision and Development Objectives and Policies

Objective	Description	Comment
Objective 27.2.1	***Subdivision that will enable quality environments to ensure the District is a desirable place to live, visit, work and play.***	The proposal is consistent with Objective 27.2.1 and subsequent policies.
Policies	**Description**	**Comment**
27.2.1.1	*Require subdivision infrastructure to be constructed and designed so that it is fit for purpose, while recognising opportunities for innovative design.*	It is considered that although the subdivision will breach minimum lot size areas, the breach is acceptable as the subdivision is designed to enable the operational structure of the lodge. The individual nature of the villas on the site breaks up built form and creates desirable design outcomes. The applicant has obtained confirmation that the lodge is able to be serviced.
27.2.1.2	*Enable urban subdivision that is consistent with the QLDC Subdivision Design Guidelines 2015, recognising that good subdivision design responds to the neighbourhood context and the opportunities and constraints of the application site.*	
27.2.1.3	*Require that allotments are a suitable size and shape, and are able to be serviced and developed for the anticipated land use under the applicable zone provisions.*	
27.2.1.4	*Discourage non – compliance with minimum allotment sizes. However, where minimum allotment sizes are not achieved in urban areas, consideration will be given to whether any adverse effects are mitigated or compensated by providing:* *a. desirable urban design outcomes;* *b. greater efficiency in the development and use of the land resource;* *c. affordable or community housing.*	
27.2.1.5	*Recognise that there is an expectation by future landowners that the key effects of and resources required by anticipated land uses will have been resolved through the subdivision approval process.*	
27.2.1.6	*Ensure the requirements of other relevant agencies are fully integrated into the subdivision development process.*	

Objective	Description	Comment
Objective 27.2.2	***Subdivision design achieves benefits for the subdivider, future residents and the community.***	The proposal is of a good design that will not result in detrimental effects on the receiving environment, or future owners that are inappropriate.
Policies	**Description**	**Comment**
27.2.2.1	*Ensure subdivision design provides a high level of amenity for future residents by aligning roads and allotments to maximise sunlight access.*	The subject site is separated from the other residential lots in the subdivision by the gully. The site is at the far corner of the subdivision away from other residential sites so it not going to impact sunlight access for any other residents. The development will use existing road access through the subdivision. The villas have all been strategically located across the site to respond to the landform and views.
27.2.2.6	*Encourage innovative subdivision design that responds to the local context, climate, landforms and opportunities for views or shelter.*	
Objective	**Description**	**Comment**
Objective 27.2.4	***Natural features, indigenous biodiversity and heritage values are identified, incorporated and enhanced within subdivision design.***	
Policies	**Description**	**Comment**
27.2.4.1	*Incorporate existing and planned waterways and vegetation into the design of subdivision, transport corridors and open spaces where that will maintain or enhance biodiversity, riparian and amenity values.*	As much of the existing vegetation is being retained as possible. Planting has been carefully considered, selected and located by NSN and Baxter Design to enhance biodiversity, the gully ecology and increased vegetation cover on the site.
27.2.4.2	*Ensure that subdivision and changes to the use of land that result from subdivision do not reduce the values of heritage features and other protected items scheduled or identified in the District Plan.*	The site falls partially within an archaeological area, however, the applicant has obtained confirmation from Origin Consultants that the development has a very low risk of encountering achaeologial material and so the development is not expected to reduce the heritage values in the area.
27.2.4.3	*Encourage subdivision design to protect and incorporate archaeological sites or cultural features, recognising these features can contribute to and create a sense of place. Where applicable, have regard to Maori culture and traditions in relation to ancestral lands, water, sites, wāhi tapu and other taonga.*	The site falls partially within an archaeological area, however, the applicant has obtained confirmation from Origin Consultants that the development has a very low risk of encountering achaeologial material and so the development is not expected to reduce the heritage values in the area.
27.2.4.4	*Encourage initiatives to protect and enhance landscape, vegetation and indigenous biodiversity by having regard to:* *a. whether any landscape features or vegetation are of a sufficient value that they should be retained and the proposed means of protection;*	The applicant has carefully considered opportunities to retain and enhance the indigenous vegetation and biodiversity across the site and has worked with NSN and Baxter Design to develop a comprehensive planting scheme and plant palette.

	b. where a reserve is to be set aside to provide protection to vegetation and landscape features, whether the value of the land so reserved should be off-set against the development contribution to be paid for open space and recreation purposes.	
Objective	**Description**	**Comment**
Objective 27.2.5	***Infrastructure and services are provided to new subdivisions and developments.***	The subdivision can be adequately serviced.
27.2.5.1	*Integrate subdivision roading with the existing road networks in a safe and efficient manner that reflects expected traffic levels and the provision for safe and convenient walking and cycling.* *For the purposes of this policy, reference to 'expected traffic levels' refers to those traffic levels anticipated as a result of the zoning of the area in the District Plan*	As assessed by JEA Survey, Tui Drive has been constructed to an E3 standard within the QLDC Code of Practice which allows access to 1 to 150 dwelling equivalents. The formed Tui Drive has capacity for an extra 122 dwellings than currently exist so Tui Drive has capacity for the proposed development.
27.2.5.2	*Ensure safe and efficient pedestrian, cycle and vehicular access is provided to all lots created by subdivision and to all developments.*	The development is serviced by pedestrian and cart access because of the unique subdivision pattern and operational requirement for the lodge. The parking area meets all parking and aisle widths. The rest of the site is only accessible by golf carts and so the accesses and pathways are considered to be safe and efficient.
27.2.5.3	*Provide linkages to public transport networks, and to trail, walking and cycling networks, where useful linkages can be developed.*	The site is located adjacent to DOC recreation reserve so guests can traverse the reserve to the lakefront and Bob's Cove trail if desired.
27.2.5.4	*Ensure the physical and visual effects of subdivision and roading are minimised by utilising existing topographical features.*	The topography was key to the design and layout of the villas and access through the site and accesses have been carefully designed not to be too steep. The underlying approved development and accesses sets a baseline of visibility from the lake. The curve of the proposed access through the site hides portions of the access from the lake. As vegetation is established, it is considered that the access will be largely screened from surrounding public views.
27.2.5.5	*Ensure appropriate design and amenity associated with roading, vehicle access ways, trails and trail connections, walkways and cycle ways are provided for within subdivisions by having regard to:* *a. the location, alignment, gradients and pattern of roading, vehicle parking, service lanes, access to lots, trails, walkways and cycle ways, and their safety and efficiency;*	Although the villas are to be held in individual titles, they are not designed to be lived in full-time and so carparking has been provided at the top of the site with a central accommodation-style arrangement. The access through the site for the golf carts (and fire service vehicles if required) has been designed to a 1:6 gradient.

	b. the number, location, provision and gradients of access ways and crossings from roads to lots for vehicles, cycles and pedestrians, and their safety and efficiency; *c. the standard of construction and formation of roads, private access ways, vehicle crossings, service lanes, walkways, cycle ways and trails;* *d. the provision and vesting of corner splays or rounding at road intersections;* *e. the provision for and standard of street lighting, having particular regard to siting and location, the provision for public safety and the avoidance of upward light spill adversely affecting views of the night sky;* *f. the provision of appropriate tree planting within roads in urban areas;* *g. any requirements for widening, formation or upgrading of existing roads;* *h. any provisions relating to access for future subdivision on adjoining land;* *i. the provision and location of public transport routes and bus shelters in urban areas.*	Most of the exterior lighting provided is on the back of buildings (facing away from the lake) and lighting for the access will on sensors so as not to be on full time in the evenings. The proposed development is not designed to be expanded further due to the limitations of the neighbouring DOC boundary and residential subdivision.
27.2.5.6	*All new lots shall be provided with connections to a reticulated water supply, stormwater disposal and/or sewage treatment and disposal system, where such systems are available or should be provided for.*	As covered in the infrastructure report, the development can be adequately serviced.
27.2.5.7	*Ensure water supplies are of a sufficient capacity, including fire fighting requirements, and of a potable standard, for the anticipated land uses on each lot or development.*	
27.2.5.8	*Encourage the efficient and sustainable use of potable water by acknowledging that the Council's reticulated potable water supply may be restricted to provide primarily for households' living and sanitation needs and that water supply for activities such as irrigation and gardening may be expected to be obtained from other sources.*	
27.2.5.10	*Ensure appropriate water supply, design and installation by having regard to:* *a. the availability, quantity, quality and security of the supply of water to the lots being created;* *b. water supplies for fire fighting purposes;* *c. the standard of water supply systems installed in subdivisions, and the adequacy of existing supply systems outside the subdivision;* *d. any initiatives proposed to reduce water demand and water use.*	

27.2.5.11	*Ensure appropriate stormwater design and management by having regard to:* *a. any viable alternative designs for stormwater management that minimise run-off and recognises stormwater as a resource through re-use in open space and landscape areas;* *b. the capacity of existing and proposed stormwater systems;* *c. the method, design and construction of the stormwater collection, reticulation and disposal systems, including connections to public reticulated stormwater systems;* *d. the location, scale and construction of stormwater infrastructure;* *e. the effectiveness of any methods proposed for the collection, reticulation and disposal of stormwater run-off, including opportunities to maintain and enhance water quality through the control of water-borne contaminants, litter and sediments, and the control of peak flow.*	NSN has made recommendations about stormwater management in order to prevent adverse effects on the gully. These recommendations will be followed. The development can be adequately serviced in terms of stormwater.
27.2.5.12	*Encourage subdivision design that includes the joint use of stormwater and flood management networks with open spaces and pedestrian/cycling transport corridors and recreational opportunities where these opportunities arise and will maintain the natural character and ecological values of wetlands and waterways.*	NSN has made recommendations about stormwater management in order to prevent adverse effects on the gully. These recommendations will be followed.
27.2.5.13	*Treat and dispose of sewage in a manner that:* *a. maintain public health;* *b. avoids adverse effects on the environment in the first instance; and* *c. where adverse effects on the environment cannot be reasonably avoided, mitigates those effects to the extent practicable.*	The proposed upgrade of the wastewater treatment system will require resource consent from the Otago Regional Council and effects will be assessed through this process.
27.2.5.14	*Ensure appropriate sewage treatment and disposal by having regard to:* *a. the method of sewage treatment and disposal;* *b. the capacity of, and impacts on, the existing reticulated sewage treatment and disposal system;* *c. the location, capacity, construction and environmental effects of the proposed sewage treatment and disposal system.*	It has been confirmed that the wastewater system upgrade will adequately service the site.
27.2.5.15	*Ensure that the design and provision of any necessary infrastructure at the time of subdivision takes into account the requirements of future development on land in the vicinity.*	The subdivision/development is not designed to be expanded due to topography and the neighbouring DOC reserve.
27.2.5.17	*Ensure that services, shared access and public access is identified and managed by the appropriate easement provisions.*	

27.2.5.18	*Ensure that easements are of an appropriate size, location and length for the intended use of both the land and easement.*	Easement corridors already exist as part of the underlying subdivision. The servicing will be managed by appropriate easements.
Objective	**Description**	**Comment**
Objective 27.3.4	***The special character of the Bob's Cove Rural Residential Zone is recognised and provided for.***	
27.3.4.1	*In order to maintain the rural character of the zone, any required street lighting shall be low in height from the ground, of reduced lux spill and directed downwards to avoid adverse effects on views of the night sky.*	The lighting proposed will be of a low lux spill. Most of the exterior lighting provided is on the back of buildings (facing away from the lake) and lighting for the access will on sensors so as not to be on full time in the evenings.

Chapter 28: Natural Hazards Objectives and Policies

Objective	Description	Comment
Objective 28.3.1.A **Objective 28.3.1.B**	**Objective - The risk to people and the built environment posed by natural hazards is managed to a level tolerable to the community.** **Objective - Development on land subject to natural hazards only occurs where the risks to the community and the built environment are appropriately managed.**	Geosolve have confirmed that the site is not at immediate risk of natural hazards that can avoided. Geosolve's recommendations for construction processes will be followed.

Chapter 29: Transport Objectives and Policies

Objective	Description	Comment
Objective 29.2.2	***Objective - Parking, loading, access, and onsite manoeuvring that are consistent with the character, scale, intensity, and location of the zone and contributes toward:*** ***a. providing a safe and efficient transport network;*** ***b. compact urban growth;*** ***c. economic development;*** ***d. facilitating an increase in walking and cycling and the use of public transport; and*** ***e. achieving the level of residential amenity and quality of urban design anticipated in the zone.***	The proposal is consistent with Objective 27.2.1 and subsequent policies.
Policies	**Description**	**Comment**

29.2.2.5	*Enable a reduction in the minimum number of car parking spaces required only where:* *a. There will be positive or only minor adverse effects on the function of the surrounding transport network and amenity of the surrounding environment; and/ or* *b. there is good accessibility by active and/or public transport and the activity is designed to encourage public and/or active transport use and projected demand can be demonstrated to be lower than the minimum required by the rules ; and/ or* *c. the characteristics of the activity or the site justify less parking and projected demand can be demonstrated to be lower than the minimum required by the rules and/ or* *d. there is an ability for shared or reciprocal parking arrangements to meet on-site car parking demands at all times and demand can be demonstrated to be lower than the minimum required by the rules.*	The development meets required carparking standards.

Chapter 33: Indigenous Vegetation and Biodiversity Objectives and Policies

Objective	Description	Comment
Objective 33.2.1	**Objective – The District's indigenous biodiversity is protected, maintained or enhanced.**	The proposal is consistent with Objective 27.2.1 and subsequent policies.
Policies	**Description**	**Comment**
33.2.1.3	*Have regard to and take into account kaitiakitanga and the values of indigenous vegetation, taonga species and habitats. and biodiversity to tangata whenua.*	The applicant engaged NSN and Baxter Design to develop an indigenous planting scheme consistent with vegetation naturally found in this location. The net increase in planting will improve biodiversity and ecological corridors through the site.
33.2.1.5	*Undertake activities involving the clearance of indigenous vegetation in a manner that ensures the District's indigenous biodiversity is protected, maintained or enhanced.*	The applicant is removing 5 out of 30 protected trees but is planting 29 feature mountain and red beech trees. The 31% increase in native vegetation cover across the site improves biodiversity on the site.
33.2.1.6	*Manage the adverse effects of activities on indigenous biodiversity by:* *a. avoiding adverse effects as far as practicable;* *b. requiring remediation where adverse effects cannot be avoided;* *c. requiring mitigation where adverse effects on the areas identified above cannot be avoided or remediated;*	The applicant took advice from the pre-application meeting and redesigned the layout of the buildings to keep as many protected trees on the site as possible. As covered above, the applicant is removing 5 out of 30 protected trees but is planting 29 feature mountain and red beech trees. The 31% increase in native

	d. requiring any residual adverse effects on significant indigenous vegetation or indigenous fauna to be offset through protection, restoration and enhancement actions that achieve no net loss and preferably a net gain in indigenous biodiversity values, having particular regard to: *i. limits to biodiversity offsetting due the affected biodiversity being irreplaceable or vulnerable;* *ii. the ability of a proposed offset to demonstrate it can achieve no net loss or preferably a net gain;* *iii. Schedule 33.10 – Framework for the use of Biodiversity Offsets;* *e. enabling any residual adverse effects on other indigenous vegetation or indigenous fauna to be offset through protection, restoration and enhancement actions that achieve no net loss and preferably a net gain in indigenous biodiversity values having particular regard to:* *i. the ability of a proposed offset to demonstrate it can achieve no net loss or preferably a net gain;* *ii. Schedule 33.10 – Framework for the use of Biodiversity Offsets.*	vegetation cover across the site improves biodiversity on the site. It is considered that the proposal is consistent with this policy.
33.2.1.8	*Determine the significance of areas of indigenous vegetation and habitats of indigenous fauna by applying the following criteria:* *a. Representativeness* *Whether the area is an example of an indigenous vegetation type or habitat that is representative of that which formerly covered the Ecological District, including degraded examples if they are some of the last examples remaining;* *OR* *b. Rarity* *Whether the area supports;* *i. indigenous vegetation and habitats within originally rare ecosystems;* *ii. indigenous species that are threatened, at risk, uncommon, nationally or within the ecological district;* *iii. indigenous vegetation or habitats of indigenous fauna that has been reduced to less than 20% of its former extent, regionally or within a relevant Land Environment or Ecological District;* *OR* *c. Diversity and Pattern*	NSN have followed this criteria in the assessment at **Appendix 6**.

	Whether the area supports a highly diverse assemblage of indigenous vegetation and habitat types, and whether these have a high indigenous biodiversity value including: *i. indigenous taxa;* *ii. ecological changes over gradients;* *OR* *d. Distinctiveness* *Whether the area supports or provides habitats for indigenous species:* *i. at their distributional limit within Otago or nationally;* *ii. are endemic to the Otago region;* *iii. are distinctive, of restricted occurrence or have developed as a result of unique environmental factors;* *OR* *e. Ecological Context* *The relationship of the area with its surroundings, including whether the area proposed to be cleared:* *i. has important connectivity value allowing dispersal of indigenous fauna between different areas;* *ii. has an important buffering function to protect values of an adjacent area or feature;* *iii. is important for indigenous fauna during some part of their life cycle.*	
33.2.1.9	*Recognise opportunities for subdivision, use and development to enhance biodiversity values.*	The applicant has recognised opportunities to enhance biodiversity values as demonstrated throughout this application.
33.2.1.10	*Facilitate and support restoration of degraded natural ecosystems and indigenous habitats using indigenous species that naturally occur and/ or previously occurred in the area.*	NSN and Baxter Design developed a planting palette that is suitable for the site and which naturally occur in this area.
Objective	**Description**	**Comment**
Objective 33.2.3	***Objective - Land use and development maintains indigenous biodiversity values***	
Policies	**Description**	**Comment**
33.2.3.1	Ensure the clearance of indigenous vegetation within the margins of water bodies does not reduce natural character and indigenous biodiversity values, or create erosion.	The clearance of indigenous vegetation is not taking place within the margins of water bodies.
33.2.3.2	*Encourage opportunities to address adverse effects through the retention, rehabilitation or protection of the same indigenous vegetation community elsewhere on the site, subject to Policy 33.2.1.6(d) and (e).*	The applicant is removing 5 out of 30 protected trees but is planting 29 feature mountain and red beech trees elsewhere on the site.

33.2.3.3	*Encourage the retention and enhancement of indigenous vegetation including in locations that have potential for regeneration, or provide stability, or connectivity and particularly where productive values are low, or in riparian areas or gullies.*	NSN have made recommendations to remove invasive pest species from the gully and replant with appropriate indigenous vegetation which the applicant will follow.

Chapter 39: Wahi Tupuna and Biodiversity Objectives and Policies

Objective	Description	Comment
Objective 39.2.1	**Manawhenua values, within identified wāhi tūpuna areas, are recognised and provided for**	
Policies	**Description**	**Comment**
39.2.1.2	*Recognise that the effects of activities may be incompatible with Manawhenua values when that activity is listed as a potential threat within an identified wāhi tūpuna area, as set out in Schedule 39.6.*	The development does entail activites listed as threats in the Punatapu wahi tupuna area. It is noted that is only manawhenua who can determine the effect on their values. A copy of the application has been sent to Aukaha and Te Ao Marama for their comment.
39.2.1.3	*Within identified wāhi tūpuna areas:* *a. avoid significant adverse effects on Manawhenua values and avoid, remedy or mitigate other adverse effects on Manawhenua values from subdivision, use and development listed as a potential threat in Schedule 39.6; and* *b. avoid, remedy or mitigate adverse effects on Manawhenua values from subdivision, use and development within those identified wāhi tūpuna areas where potential threats have not been identified in Schedule 39.6.*	
39.2.1.4	*Encourage consultation with Manawhenua as the most appropriate way for obtaining understanding of the effects of any activity on Manawhenua values in a wāhi tūpuna area.*	