

ECOLOGICAL ASSESSMENT OF 328 HAWKINS HILL ROAD, BROOKLYN, WELLINGTON



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ECOLOGICAL ASSESSMENT OF 328 HAWKINS HILL ROAD, BROOKLYN, WELLINGTON



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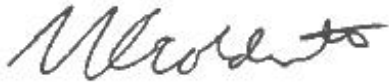
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1. INTRODUCTION

Sky Sigal has proposed clearance of vegetation at 328 Hawkins Hill Road in Brooklyn, Wellington, in order to create unsealed roads and garden plots. The property is currently undeveloped and zoned as Rural Subdivision, covering c.33 hectares. Portions of the property have previously been assessed by Wildlands Consultants Ltd (Wildlands) in association with a Significant Natural Area (SNA) designation commissioned by Wellington City Council (Wildlands 2022).

In order to determine if the proposed vegetation clearance is allowed despite there being a covenant over the land, Wellington City Council has indicated that an ecological report is required. The covenant includes the term “native bush,” which does not have a formal ecological definition. In this report, the term “indigenous” is used to describe flora and fauna that occur naturally in Aotearoa New Zealand. This report provides an assessment of ecological values at the site.

2. ECOLOGICAL CONTEXT

2.1 Ecological district

The property at Hawkins Hill Road is within the Wellington Ecological District. The District is described by McEwen (1987) as being characterised by steep hills and valleys, with frequent high winds and gales. Prevailing winds are from the north and northwest, and annual rainfall ranges between 900-1,400 millimetres.

Valleys in the ecological district have young alluvial, peaty or stony soils with varying degrees of drainage, generally more friable and better structured than hard packed coastal soils. Upper slopes are moderately fertile, with loess depths varying across the region, which results in variable erosion and weathering regimes.

Pre-human vegetation largely comprised widespread podocarp-broadleaved species forest, with kahikatea (*Dacrycarpus dacrydioides*), tōtara (*Podocarpus totara*), and matai (*Prumnopitys taxifolia*) on hills; rimu (*Dacrydium cupressinum*)-northern rātā (*Metrosideros robusta*)/kohekohe (*Didymocheton spectabilis*) forest nearer the coast; and miro (*Pectinopitys ferruginea*)-rimu/tawa (*Beilschmiedia tawa*) forests at higher levels.

Extensive farming in the region, both historical and present, has removed much of this indigenous forest, and urban encroachment is continuing. Podocarp trees have largely been logged out of many remaining remnants and gorse (*Ulex europaeus*) and Darwin’s barberry (*Berberis darwinii*) are common invasive species (McEwen 1987).

2.2 Significant natural area

Portions of the property at 328 Hawkins Hill Road overlap with proposed Significant Natural Areas. The site contains around eight hectares of WC132 (Long Gully forest and scrub east of slipway) and around six hectares of WC142 (Hawkins Hill coastal māhoe scrub and shrubland). The boundaries of these SNAs were reviewed by

Wildlands in February 2022 and revised to remove areas of exotic-dominant scrub and shrubland from the SNA.

3. STATUTORY CONTEXT

3.1 Overview

Aside from the Resource Management Act 1991, which governs the sustainable management of natural and physical resources (including the resource consenting process), additional legislation may apply to the proposed vegetation clearance at 328 Hawkins Hill Road. While National Policy Statements, National Environmental Standards and Regulations, and regional and local government policies and plans fall under the Resource Management Act, the Wildlife Act 1953 and Freshwater Fisheries Regulations 1983 are additional legislative provisions for the protection of indigenous fauna.

The information in this section has been included to provide an indication of the statutory context relevant to the proposed activity, and is by no means an exhaustive list. It is recommended that an environmental planner and/or the relevant governing body is consulted for more detailed advice around the pertinent legislation.

3.2 Wildlife Act 1953

Irrespective of the level of effects on indigenous fauna, all indigenous lizards, frogs, bats, birds, and some indigenous invertebrates are protected under the Wildlife Act (1953). A permit under the Wildlife Act must be obtained from the Department of Conservation before any indigenous lizards, bats, birds, snails and/or their habitats can be disturbed, handled, translocated, or killed.

The Wildlife Act Authority (WAA) must be applied for and approved by the Department of Conservation before activities affecting fauna may commence. This will require the submission of a species-specific management plan along with the appropriate application form.

3.3 Greater Wellington Regional Council plans, policies, and strategies

Greater Wellington Regional Council plans, policies, and strategies of potential relevance to the proposed activity include the: Regional Policy Statement for the Wellington Region 2013, Proposed Natural Resources Plan (PNRP; decisions version, 2019), and the Regional Pest Management Plan 2019 (GWRC 2013, 2019a, b). In particular, Policy 23 of the Regional Policy Statement defines the criteria for district and regional plans to identify indigenous ecosystems and habits with significant indigenous biodiversity values (that is, draft Significant Natural Areas (SNAs) delineated by district councils and Key Native Ecosystems (KNEs) delineated by regional council).

3.4 Wellington City Council Operative District Plan

The modification, damage, removal, or destruction of more than 100 m² of exotic vegetation in one calendar year and where such vegetation is greater than 5 metres in height is a Controlled activity (Rules 19.1.6 and 19.2.1, WCC 2021). The modification, damage, removal, or destruction of indigenous vegetation is a Permitted activity under any of the following conditions:

“19.1.7.1: The vegetation is on land held subject to the Conservation Act 1987 or any Act listed in the First Schedule to that Act.

19.1.7.2: The vegetation is wind thrown trees, standing dead trees that have died as a result of natural causes, or vegetation that has become dangerous to human life or property as a result of natural causes.

19.1.7.3: The activity does not involve modification, damage, removal or destruction of vegetation in the Conservation Site totalling more than 100m² during any 5-calendar year period.

19.1.7.4: The activity is associated with the creation and maintenance of pedestrian tracks not exceeding 1.5 metres in width.

19.1.7.5: The activity involves pruning around existing structures including utility structures.”

Any modification, damage, removal, or destruction of indigenous vegetation not meeting these conditions is a Restricted Discretionary activity (Rules 19.1.7 and 19.3.3, WCC 2021).

4. METHODS

4.1 Site visit

The property was visited by an ecologist and a botanist on 25 January 2023, focusing on areas selected for potential development. The accuracy of the 2022 revised SNA boundary was confirmed. Descriptions and assessments of vegetation within SNA boundaries are not within the scope of this report and can be found in the Wildlands 2022 Wellington SNA report (available online, see References). All vascular plant species observed in non-SNA areas of the property were recorded and vegetation composition and structure were described. Incidental fauna observations were recorded.

4.2 Ecological values and significance

The vegetation types at the property have been assessed for ecological value and ecological significance. The ecological values are based on the Ecological Impact Assessment guidelines published by EIANZ, accounting for representativeness, rarity/distinctiveness, diversity and pattern, and ecological context (Roper-Lindsay *et al.* 2018).

Ecological significance has been assessed using criteria from Policy 23 of the Greater Wellington Regional Policy Statement:

(a) “Representativeness: the ecosystems or habitats that are typical and characteristic examples of the full range of the original or current natural diversity of ecosystem and habitat types in a district or in the region, and:

i. are no longer commonplace (less than about 30% remaining);
or

ii. are poorly represented in existing protected areas (less than about 20% legally protected).

(b) Rarity: the ecosystem or habitat has biological or physical features that are scarce or threatened in a local, regional or national context. This can include individual species, rare and distinctive biological communities and physical features that are unusual or rare.

(c) Diversity: the ecosystem or habitat has a natural diversity of ecological units, ecosystems, species and physical features within an area.

(d) Ecological context of an area: the ecosystem or habitat:

i. enhances connectivity or otherwise buffers representative, rare or diverse indigenous ecosystems and habitats; or

ii. provides seasonal or core habitat for protected or threatened indigenous species.

(e) Tangata whenua values: the ecosystem or habitat contains characteristics of special spiritual, historical or cultural significance to tangata whenua, identified in accordance with tikanga Māori.”

Note that assessment of tangata whenua values is not within the scope of this report.

5. VEGETATION AND HABITATS

5.1 Overview

Several areas of the property were visited, referred to by names assigned by the landowners: Picnic, Crazy Goat, Spider, Meadow, Pig Fields, Hope, Knowhere, and Farfield (Figure 1). Picnic, Crazy Goat, and Hope are classified as shrubland, while the other five areas are classified as grassland.

5.2 Picnic: Darwin’s barberry-gorse shrubland

The Picnic area is dominated by Darwin’s barberry and gorse, with some mānuka (*Leptospermum scoparium* agg.) (Plate 1). The area comprises a mosaic of shrubs and grass. The grassy areas between shrubs largely comprise browntop (*Agrostis capillaris*), dryland browntop (*Agrostis castellana*), sweet vernal (*Anthoxanthum odoratum*), and tall oat grass (*Arrhenatherum elatius*), with narrow-leaved plantain (*Plantago lanceolata*), catsear (*Hypochaeris radicata*), and white clover (*Trifolium repens*) also appearing in open areas. Herbs and ferns were present in grassy areas and beneath shrubs, including: *Leptinella squalida* subsp. *squalida*, *Hydrocotyle heteromeria*, *H. moschata* var. *moschata*, *Centella unifolia*, *Leptostigma setulosa*, *Helichrysum filicaule*, piri-piri (*Acaena anserinifolia* and *A. novae-zelandiae*), little hard fern (*Austroblechnum penna-marina*), kiokio (*Parablechum novae-zelandiae*), and mātātā (*Paesia scaberula*). The surrounding vegetation is similar in composition.



Plate 1: View looking west across the Picnic area, which supports abundant low-stature gorse and Darwin's barberry. 25 January 2023.



Plate 2: View looking west of mixed exotic-indigenous scrub at Crazy Goat area. 25 January 2023.



Plate 3: Pine stand with mixed exotic-indigenous understory in Sentinel area, looking northwest. 25 January 2023.



Plate 4: Exotic grassland at Spider area, looking southwest. 25 January 2023.

5.3 Crazy Goat: Darwin's barberry-gorse-mānuka shrubland

Crazy Goat area is an area of mixed exotic-indigenous shrubland dominated by Darwin's barberry, gorse, and mānuka (Plate 2). Indigenous shrubs such as rangiora (*Brachyglottis repanda*), kanono (*Coprosma autumnalis*), mingimingi (*Leucopogon fasciculatus*), *Coprosma propinqua* var. *propinqua*, hangehange (*Geniostoma ligustrifolium* var. *ligustrifolium*), tauhinu (*Ozothamnus leptophyllus*), māhoe (*Melicytus ramiflorus* subsp. *ramiflorus*), tī kōuka (*Cordyline australis*), koromiko tāraanga (*Veronica parviflora*), and coastal tree daisy (*Olearia solandri*) are also present. Ground cover species include exotic grass species such as browntop and sweet vernal, the ferns pūnui (*Polystichum vestitum*), mātātā, kōwaowao (*Lecanopteris pustulata* subsp. *pustulata*), kiokio, little hard fern, smooth shield fern (*Parapolystichum glabellum*), and piupiu (*Lomaria discolor*), and the herbs catsear, white clover, *Centella unifolia*, and foxglove (*Digitalis purpurea*). The surrounding vegetation is similar in composition.

5.4 Sentinel: Pine-Darwin's barberry treeland

Sentinel is a stand of 30 to 40 pines (*Pinus* sp.) with a mixed exotic-indigenous understorey of frequent Darwin's barberry and gorse with occasional *Coprosma rhamnoides*, rangiora, kōwaowao, kiokio, and *Hypolepis ambigua* (Plate 3). Hawkins Hill Road bounds this stand to the east; to the west there is vegetation similar to the Crazy Goat area.

5.5 Spider: Browntop-sweet vernal-Yorkshire fog grassland

Spider is an area of grassland along the top of a spur with Darwin's barberry-gorse shrubland on either side (Plate 4). The grassland is dominated by browntop, sweet vernal, and Yorkshire fog (*Holcus lanatus*), with common pātītī (*Microlaena stipoides*) and tall oat grass. Herbs are numerous, including *Centella unifolia*, hawksbeard (*Crepis capillaris*), foxglove, *Sisyrinchium micranthum*, yarrow (*Achillea millifolium*), narrow-leaved plantain, ragwort (*Jacobaea vulgaris*), piripiri (*Acaena anserinifolia*), white clover, onion orchid (*Microtis unifolia*), centaury (*Centaureum erythraea*), blackberry (*Rubus fruticosus* agg.), rimuroa (*Wahlenbergia violacea*), Scotch thistle (*Cirsium vulgare*), selfheal (*Prunella vulgaris*), catsear, oxeye daisy (*Leucanthemum vulgare*), and vetch (*Vicia sativa*). Ferns, including mātātā and *Hypolepis ambigua*, occur occasionally. A few saplings of Darwin's barberry, gorse, and mānuka are present. The surrounding vegetation comprises Darwin's barberry, gorse, and occasional mānuka and tauhinu (Plate 5).

5.6 Meadow: Browntop-sweet vernal-dryland browntop grassland

The Meadow area is a hilltop grassland dominated by browntop, dryland browntop, and sweet vernal with common cocksfoot (*Dactylis glomerata*), pātītī, Yorkshire fog, and rye grass (*Lolium perenne*) (Plate 5). Among the grass, herbs were common, including hawksbeard, yarrow, white clover, narrow-leaved plantain, *Centella unifolia*, pātōtara (*Leucopogon fraseri*), ragwort, lotus (*Lotus pedunculatus*), Scotch thistle, onion orchid, *Helichrysum filicaule*, centaury, *Euchiton sphaericus*, pukatea (*Pseudognaphalium lutoalbum*), catsear, tarweed (*Parentucellia viscosa*), and maruru (*Ranunculus reflexus*). Small individual gorse, tauhinu, and Darwin's barberry and one mature

mānuka are scattered through the grassland. This area is part of a mosaic of other grassland areas and “peninsulas” of SNA. It is bounded by a dirt track to the east.



Plate 5: View looking southwest across exotic grassland at the Meadow area.
25 January 2023.



Plate 6: View looking east across exotic grassland at Pig Field and Pig Flat Field areas. 25 January 2023.

5.7 Pig Field and Pig Flat Field: Browntop-sweet vernal grassland

Pig Field and Pig Flat Field make up an area of grassland on the edge of regenerating indigenous forest, dominated by browntop and sweet vernal grass (Plate 6). Other grasses include occasional dryland browntop and pātītī. Herbs were numerous, including hawksbeard, *Centella unifolia*, catsear, ragwort, rimuroa, *Senecio hispidulus*, sheep's sorrel (*Rumex acetosella*), narrow-leaved plantain, *Hydrocotyle moschata*, foxglove, centaury, *Sisyrinchium micranthum*, Scotch thistle, and white clover. The ferns mātātā and piupiu as well as small gorse and Darwin's barberry plants occur occasionally. One mature mānuka is present. This area is a clearing bounded by SNA vegetation on three sides.

5.8 Hope: Darwin's barberry-gorse-mānuka shrubland

Hope is an area of mixed exotic-indigenous shrubland area dominated by Darwin's barberry and gorse with frequent mānuka and occasional tauhinu (Plate 7). Understorey vegetation could not be accessed but is likely similar to that at Crazy Goat. A fence bounds the area uphill (east) and the SNA boundary delineates the transition from exotic-dominant to indigenous-dominant vegetation downhill (west).

5.9 Knowhere, Orchard, and Farfield: Browntop-dryland browntop-pātītī grassland

Knowhere, Orchard, and Farfield are areas of exotic grassland dominated by browntop, dryland browntop, and pātītī with common ryegrass, cocksfoot and sweet vernal (Plates 8 & 9). Frequent herbs include ragwort, lotus, white clover, selfheal, centaury, pātōtara, narrow-leaved plantain, *Centella unifolia*, rimuroa, sheep's sorrel, tarweed, yarrow, catsear, hawksbeard, *Juncus planifolius*, onion orchid, field madder (*Sherardia arvensis*), and parsley piert (*Aphanes arvensis*). These areas are connected by a grassy track running along the ridgeline from Farfield to Meadow. There is more pasture across the property boundary to the east; however, the three areas are largely bounded by SNA vegetation.

5.10 Chapel & Rich's: Darwin's barberry-gorse shrubland

The Chapel area is an exotic-dominant mosaic of grassy areas and abundant Darwin's barberry and gorse (Plate 10), similar to the Picnic area. A few small individual rangiora and tauhinu are present. Occasional mānuka and māhoe occur in surrounding non-SNA vegetation, with greater indigenous biodiversity being present in areas of SNA on to the north of the ridge.

Rich's is a small clearing of exotic grasses and gorse below Chapel Ridge. The clearing is surrounded by SNA vegetation with a strip of grassland connecting it with Knowhere.



Plate 7: View looking west across Darwin's barberry-gorse-mānuka shrubland at Hope area. 25 January 2023.



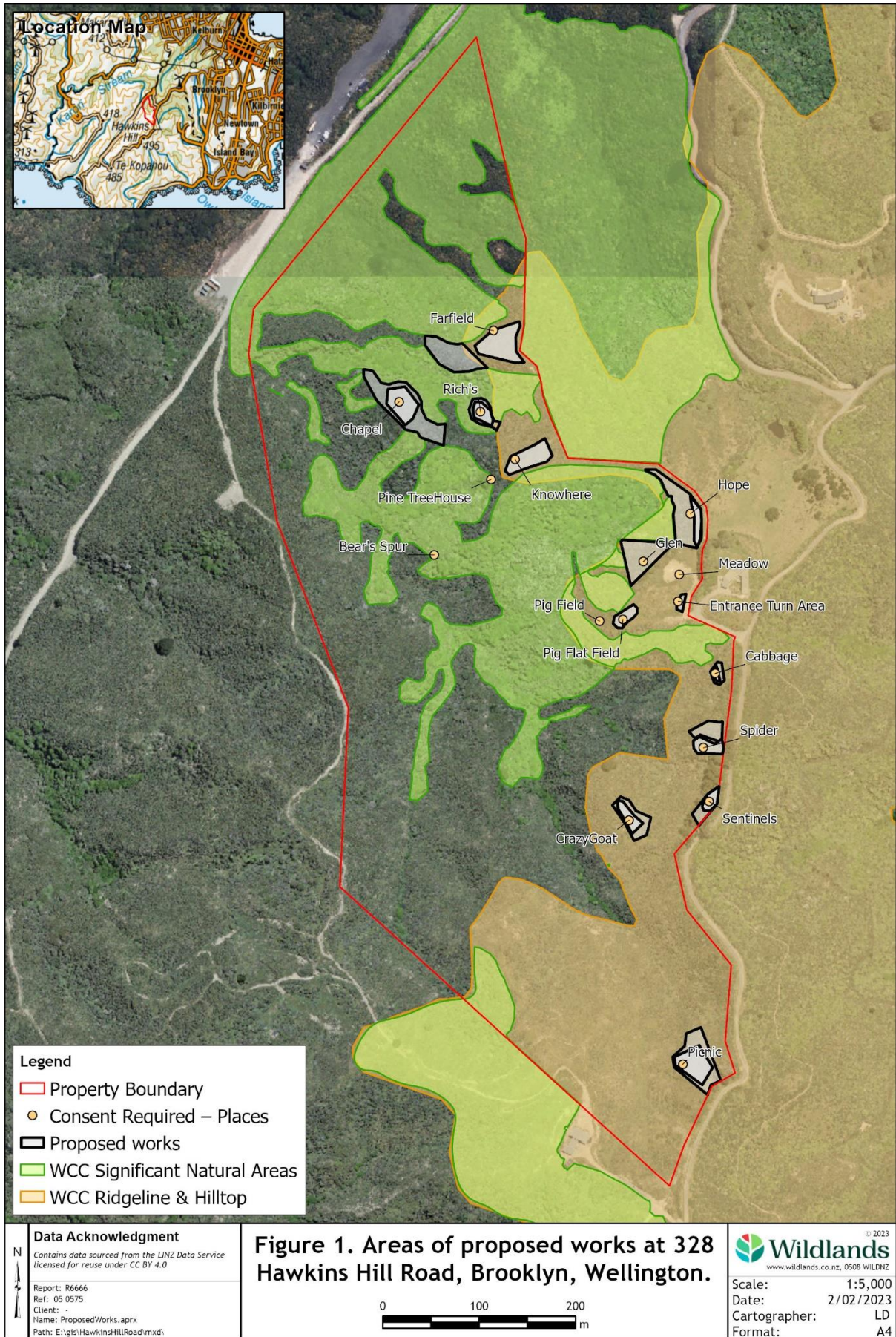
Plate 8: Knowhere area (foreground) and proposed Orchard Track to Farfield area (background), looking northwest. 25 January 2023.



Plate 9: View looking northwest at Knowhere area (foreground) and Farfield area (background). 25 January 2023.



Plate 10: View looking west across Darwin's barberry-gorse shrubland at end of Chapel area. Photograph provided by client. October 2022.



5.11 Proposed tracks

5.11.1 Orchard Track

Access tracks have been proposed at the property. The Orchard Track would connect the Knowhere and Farfield areas along the property boundary (Plate 11). This path is currently exotic grassland, similar in composition to the Knowhere and Farfield areas, following a fence on the eastern side of the track. On the other side of the fence, the neighbouring property comprises pasture with occasional shrubs. To the west of this open area is SNA vegetation.

5.11.2 Crescent Arc Track

The Crescent Arc Track would follow the path of the remnants of an old track to Chapel (Plates 11 & 12). The surface of the unsealed track has regenerated, but the form of the track remains visible. The vegetation along the eastern half of this path is mixed exotic-indigenous scrub with abundant Darwin's barberry and gorse, frequent mānuka and māhoe, and occasional *Coprosma rhamnoides* and *Hypolepis ambigua*. The western portion of the proposed track would follow a strip of grassland along the ridge.

5.11.3 Rich's Track

The Rich's Track has been proposed to connect the Crescent Arc Track to the Orchard Track, passing by the Rich's area (Plate 13). The vegetation along the proposed route is mixed exotic-indigenous scrub with common Darwin's barberry and gorse and frequent māhoe, mānuka, and tauhinu.

5.11.4 Knowhere Track

The Knowhere track would provide alternative access to the Chapel Ridge area (Plate 14). This route passes through a portion of the WC132 Significant Natural Area. The proposed route was not visited but appears to be similar in composition to the rest of the SNA (see Appendix 2). Species visible from photographs include mānuka, māhoe, pate, and rangiora.



Plate 11: Approximate path of the proposed Orchard Track (blue) and Crescent Arc Track (red). Note that this image is facing south, i.e., the left of the image is east and the right is west. Photograph provided by client. December 2022.



Plate 12: View looking northwest at Darwin's barberry-gorse-mānuka scrub along the approximate route of the proposed Crescent Arc Track. Photograph provided by client. December 2022.



Plate 13: Approximate proposed route of Rich's Track, including the existing clearing at the Rich's area. Photograph provided by client. December 2022.



Plate 14: Approximate route of the proposed Knowhere Track. Photograph provided by client in late 2022.

6. FLORA

Thirty-five indigenous and 26 exotic plant species were observed at the property. Mānuka was the only ‘At Risk’ plant species observed, which is in the family Myrtaceae. All indigenous Myrtaceae species are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating invasive fungus that cannot be controlled at a landscape scale. Mānuka was previously classified as ‘Not Threatened’ (de Lange *et al.* 2013); however, its threat status has been raised in response to the establishment of myrtle rust in New Zealand.

Four ecological weed species were found at the site (Table 1). Darwin’s barberry is listed as an Unwanted Organism by the Ministry for Primary Industries. Ragwort, blackberry, and gorse are not listed under any regional or local pest management plans, but all species have the potential to be ecological pest plants due to their rapid growth and prolific seed dispersal.

Table 1: Ecological pest plant species observed at 328 Hawkins Hill Road.

Species	Common Name	Classification
<i>Berberis darwinii</i>	Darwin’s barberry	MPI Unwanted Organism
<i>Jacobaea vulgaris</i>	Ragwort	Ecological weed
<i>Rubus fruticosus</i> agg.	Blackberry	Ecological weed
<i>Ulex europaeus</i>	Gorse	Ecological weed

7. FAUNA

7.1 Avifauna

Two indigenous and four exotic bird species were seen or heard at the property (Table 2). It is likely that additional species visit the property, including common exotic pasture species such as dunnock (*Prunella modularis*) and chaffinch (*Fringilla coelebs*), as well as highly mobile indigenous birds such as tūi (*Prosthemadera novaeseelandiae*) and kererū (*Hemiphaga novaeseelandiae*).

Table 2: Bird species seen or heard at 328 Hawkins Hill Road on 25 January 2023. Threat classification status is from Robertson *et al.* (2021).

Common Name	Species	Threat Status
Kāhu, Australasian harrier	<i>Circus approximans</i>	Not Threatened
Tauhō, silvereye	<i>Zosterops lateralis lateralis</i>	Not Threatened
Eastern rosella	<i>Platycercus eximius</i>	Introduced and Naturalised
Eurasian blackbird	<i>Turdus merula</i>	Introduced and Naturalised
House sparrow	<i>Passer domesticus</i>	Introduced and Naturalised
Yellowhammer	<i>Emberiza citrinella</i>	Introduced and Naturalised

Although the southern boundary of the Zealandia ecosanctuary is located less than half a kilometre from the property, the shrubland and grassland habitats at 328 Hawkins Hill Road are unlikely to be visited by At Risk or Threatened birds from the sanctuary.

7.2 Herpetofauna

Eight indigenous lizard species are known to be present within five kilometres of 328 Hawkins Hill Road. Additional herpetofauna species present only in Zealandia are not included in this list due to their inability to migrate out of the sanctuary.

Areas of shrubland on the property may provide suitable habitat for Northern grass skinks (*Oligosoma polychroma*, Not Threatened), which often occur in bush margins, scrub, and rank pasture. This species may use ground cover vegetation, leaf litter, and woody debris on the property. Diverse lizard habitat may be found within the SNAs on the property, although assessment of the SNA is not within the scope of this report. All indigenous lizards are protected by the Wildlife Act (1953).

Table 3: Indigenous lizard species present within five kilometers of 328 Hawkins Hill Road. Data gathered from iNaturalist (records accessed 30 January 2023). Records from Zealandia ecosanctuary have been excluded. Threat classification status is from Hitchmough *et al.* (2021).

Species	Common Name	Threat Status
<i>Mokopirirakau</i> "southern North Island"	Ngahere gecko	At Risk - Declining
<i>Naultinus punctatus</i>	Barking gecko	At Risk - Declining
<i>Oligosoma aeneum</i>	Copper skink	At Risk - Declining
<i>Oligosoma kokowai</i>	Northern spotted skink	At Risk - Relict
<i>Oligosoma ornatum</i>	Ornate skink	At Risk - Declining
<i>Oligosoma polychroma</i>	Northern grass skink	Not Threatened
<i>Oligosoma zelandicum</i>	Glossy brown skink	At Risk - Declining
<i>Woodworthia maculata</i>	Raukawa gecko	Not Threatened

7.3 Introduced pest mammals

Evidence of pigs (*Sus scrofa domesticus*) and rabbits (*Oryctolagus cuniculus*) were seen at the property, and feral goats (*Capra hircus*) were present during the site visit. The landowners communicated that a previous owner of the property would often feed feral pigs and that they still visit the property frequently. Mice (*Mus musculus*), rats (*Rattus norvegicus* and *R. rattus*), hedgehogs (*Erinaceus europaeus*), and possums (*Trichosurus vulpecula*) are frequently sighted in the area and likely present on the property. Fallow deer (*Dama dama*) and stoats (*Mustela erminea*) are reported occasionally and may visit the property as well.

8. ECOLOGICAL VALUES

The ecological value and significance of the vegetation types observed at 328 Hawkins Hill Road are assessed below (Table 4). The vegetation types were found to have negligible to low ecological value and are not ecologically significant under the Greater Wellington Regional Policy Statement criteria.

Table 4: Ecological value and significance assessment for affected vegetation and habitat types (as per EIANZ guidelines & GWRC RPS Policy 23).

Vegetation Type	Attributes to be Considered	Assigned Value
Darwin's barberry-gorse shrubland	Representativeness – Not representative of an indigenous ecosystem type. Dominated by pest plant species.	Very Low
	Rarity – No notable rare or distinctive features.	Very Low
	Diversity – Low diversity of indigenous plant and animal species.	Low
	Ecological Context – Dominated by common pest plant species in local area. Does not provide ecological connectivity or buffering.	Very Low
	Overall Ecological Value	Negligible
	Ecological Significance	Not Significant
Darwin's barberry-gorse-mānuka shrubland	Representativeness – Not representative of an indigenous ecosystem type. Characterised by mixed exotic-indigenous species.	Low
	Rarity – No notable rare or distinctive features.	Very Low
	Diversity – Moderate diversity of indigenous plants. May provide habitat for some indigenous fauna species.	Moderate
	Ecological Context – Abundant pest plants. Provides little ecological connectivity and buffering.	Low
	Overall Ecological Value	Low
	Ecological Significance	Not Significant

Grassland habitats	Representativeness – Not representative of an indigenous ecosystem type. Dominated by pest plant species.	Very Low
	Rarity – No notable rare or distinctive features.	Very Low
	Diversity – Very low diversity of indigenous plant and animal species.	Very Low
	Ecological Context – Dominated by exotic vegetation. Does not provide ecological connectivity.	Very Low
	Overall Ecological Value	Negligible
	Ecological Significance	Not Significant

9. CONCLUSIONS

The areas at 328 Hawkins Hill Road chosen for potential vegetation clearance and earthworks are of negligible to low ecological value, and none of them meet the significance criteria in Policy 23 of the RPS. The areas Sentinel, Hope, and Crazy Goat have a larger component of indigenous flora relative to other potential development sites, being characterised by mixed exotic-indigenous vegetation. The remaining sites are dominated by exotic vegetation, with the areas Spider, Pig Flat, Pig Flat Fields, Meadow, Knowhere, and Farfield largely lacking woody vegetation. No areas of scrub or forest were observed outside of the SNA boundaries.

The routes chosen for the Orchard Track, Crescent Arc Track, and Rich’s Track are also of negligible to low ecological value. Orchard Track is dominated by exotic vegetation and the Crescent Arc and Rich’s tracks contain a mixture of exotic and indigenous vegetation. The proposed route of the Knowhere Track, however, passes through SNA vegetation which meets the RPS Policy 23 criteria for ecological significance.

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VASCULAR PLANT SPECIES RECORDED AT
328 HAWKINS HILL ROAD, BROOKLYN, WELLINGTON

INDIGENOUS SPECIES

Dicot. trees and shrubs

<i>Brachyglottis repanda</i>	rangiora
<i>Coprosma grandifolia</i>	kanono, raurēkau, raurākau, manono
<i>Coprosma propinqua</i> var. <i>propinqua</i>	mingimingi
<i>Geniostoma ligustrifolium</i> var. <i>ligustrifolium</i>	hangehange
<i>Leptospermum scoparium</i>	mānuka
<i>Leucopogon fasciculatus</i>	mingimingi
<i>Leucopogon fraseri</i>	pātōtara
<i>Melicytus ramiflorus</i> subsp. <i>ramiflorus</i>	māhoe
<i>Olearia solandri</i>	
<i>Ozothamnus leptophyllus</i>	tauhinu
<i>Schefflera digitata</i>	pate
<i>Veronica parviflora</i>	koromiko, tāranga, kōkōmuka, tāranga

Ferns

<i>Blechnum discolor</i>	piupiu, petipeti, crown fern
<i>Blechnum novae-zelandiae</i>	kiokio, horokio
<i>Blechnum penna-marina</i> subsp. <i>alpina</i>	little hard fern
<i>Hypolepis ambigua</i>	
<i>Lecanopteris pustulata</i> subsp. <i>pustulata</i>	kōwaowao, pāraharaha, hound's tongue fern
<i>Paesia scaberula</i>	mātātā, hard fern
<i>Parapolystichum glabellum</i>	smooth shield fern
<i>Polystichum vestitum</i>	pūnui, prickly shield fern

Orchids

Microtis unifolia agg.

Grasses

Microlaena stipoides pātītī, meadow rice grass

Rushes

Juncus planifolius

Composite herbs

<i>Euchiton sphaericus</i>	
<i>Helichrysum filicaule</i>	
<i>Leptinella squalida</i> subsp. <i>squalida</i>	
<i>Pseudognaphalium luteoalbum</i> agg.	pukatea
<i>Senecio hispidulus</i>	

Dicot. herbs (other than composites)

<i>Acaena anserinifolia</i>	piripiri, hutiwai
<i>Acaena novae-zelandiae</i>	piripiri
<i>Centella uniflora</i>	
<i>Hydrocotyle heteromeria</i>	
<i>Hydrocotyle moschata</i> var. <i>moschata</i>	
<i>Leptostigma setulosa</i>	
<i>Ranunculus reflexus</i>	maruru
<i>Wahlenbergia violacea</i>	rimuroa

NATURALISED AND EXOTIC SPECIES

Dicot. trees and shrubs

<i>Berberis darwinii</i>	Darwin's barberry
<i>Pinus</i> sp.	pine
<i>Rubus</i> sp. (<i>R. fruticosus</i> agg.)	blackberry
<i>Ulex europaeus</i>	gorse

Grasses

<i>Agrostis capillaris</i>	browntop
<i>Agrostis stolonifera</i>	creeping bent
<i>Anthoxanthum odoratum</i>	sweet vernal
<i>Dactylis glomerata</i>	cocksfoot
<i>Holcus lanatus</i>	Yorkshire fog
<i>Lolium perenne</i>	rye grass

Monocot. herbs (other than orchids, grasses, sedges, and rushes)

Sisyrinchium micranthum

Composite herbs

<i>Achillea millefolium</i>	yarrow
<i>Cirsium vulgare</i>	Scotch thistle
<i>Crepis capillaris</i>	hawksbeard
<i>Hypochaeris radicata</i>	catsear
<i>Jacobaea vulgaris</i>	ragwort
<i>Leucanthemum vulgare</i>	oxeye daisy

<i>Aphanes arvensis</i>	parsley piert
<i>Centaureum erythraea</i>	centaury
<i>Digitalis purpurea</i>	foxglove
<i>Parentucellia viscosa</i>	tarweed
<i>Plantago lanceolata</i>	narrow-leaved plantain
<i>Prunella vulgaris</i>	selfheal
<i>Rumex acetosella</i>	sheep's sorrel
<i>Sherardia arvensis</i>	field madder
<i>Trifolium repens</i>	white clover
<i>Vicia sativa</i>	vetch

DESCRIPTION OF WC132 SIGNIFICANT NATURAL AREA

Taken from “Audit of potentially Significant Natural Areas for Wellington City - Stage 1 Desktop Analysis” (Wildlands 2016).

Site Number	Area (ha)	Site Name		
WC132	27.15	Long Gully forest and scrub east of slipway		
Description	Primary and secondary forest and scrub east of slipway, Long Gully. Includes forest remnant identified by Park (1999) and described as primary forest, including podocarps, and scrub with mahoe, mapou, putaputaweta, lancewood, rewarewa, porokaiwhiri, kamahi, nikau, wineberry, pate, mamaku, puka, <i>Griselinia littoralis</i> , <i>Veronica parviflora</i> , heketara, hinau, matai and karaka (0207.8). Includes part of QEII Covenants 5-07-333, 5-07-385, and 5-07-713. Includes possibly of local interest Not Threatened karaka (<i>Corynocarpus laevigatus</i>). North Island kaka (<i>Nestor meridionalis septentrionalis</i> , Threatened-Nationally Vulnerable); North Island saddleback (<i>Philesturnus rufusater</i> , At Risk-Recovering) reported.			
NZTM_X	1744775.74	NZTM_Y	5424894.71	North end of Long Gully adjacent to Karori Sanctuary
RPS 23 Criterion	Y/N	Justification		
RPS-23a Representativeness	Yes	>0.5ha of MF6 kohekohe, tawa forest and MF7, Tawa, kamahi, podocarp forest as predicted by Singers		
RPS-23b Rarity	Yes	One Nationally Threatened and one Nationally At Risk bird species reported		
RPS-23c Diversity	Yes?	Representative of former forest diversity, also includes more recent vegetation types		
RPS-23c Connectivity	Yes	Contiguous with and linking Karori Wildlife Sanctuary and other large areas of indigenous vegetation in the Outer Green Belt		
RPS-23e Tangata whenua values		Unknown		
Overall RPS23 Significance	Yes	Audit Category	Likely to be significant but requires site visit	



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