Attachment 5

Urban Design Memo

Memorandum

To: Chantal Janssen – Vineway Ltd

From: Cam Wallace, Partner / Urban Designer – Barker & Associates Limited

Date: 1 May 2024

Re: Urban Design Review – Delmore Fast Track Application

1.0 Introduction

1.1 Purpose

Barker & Associates (**B&A**) has been engaged by Vineway Ltd to provide a high-level, independent, urban design review of the proposed Delmore development across six titles at 88, 130 and 132 Upper Ōrewa Road and 53A, 53B and 55 Russell Road in Wainui (**Site**). The site comprises a total of 109.18 Hectares of land and is currently zoned 'Future Urban' (**FUZ**) under the Auckland Unitary Plan (**AUP**).

1.2 The Proposal

The proposal involves the creation of approximately 1250 residential lots and dwellings (with current draft scheme plan showing 1200), neighbourhood parks, supporting transport and servicing infrastructure, ecological restoration and enhancement of streams and associated walking trails, as well as all associated earthworks, construction works and structures (refer to Figure 1 below).

Figure 1 - Proposed Masterplan

Residential lots will feature the development of a range of attached and detached dwelling typologies ranging from three-to-five bedrooms in size. In addition, it is proposed to provide for a variety of lot sizes ranging between 100m^2 to over 800m^2. This approach is consistent with the nature of greenfield development that is being undertaken in the immediate area including at Ara Hills and Milldale. I understand that architectural design of the dwellings will be undertaken as part of a detailed application.

1.3 Site Context

The Site is currently used for pastoral and agricultural purposes, with homes to support that use. There are a number of mature and exotic specimen trees of varying quality scattered across the Site in the form of shelterbelts, boundary planting, stream planting, pine plantations and individual specimen trees. A series of existing water courses / streams also dissect the Site. The topography of the Site rises and falls between a series of ridgelines and gullies, with steeper areas concentrated closer to waterbodies and the northern portion of the Site. Much of the Site in between the waterbodies features is land which could be described as rolling with a general fall to the east towards the Ōrewa River. Neighbouring sites to the west and south share similar characteristics. The neighbouring site to the north is currently being developed to create a residential subdivision referred to as Ara Hills as shown in Figure 2 below. The broader Ara Hills development is set over 84 hectares and currently has approval for 400 residential lots with plans to increase this to 900 lots over time.

Figure 2 - The consented "Ara Hills" Masterplan adjacent to the Site (source: AV Jennings)

The Site is located approximately 3.2km west of the Ōrewa Town Centre and 2.3km north-east of the emerging Milldale Local Centre with access via Howard Road and Upper Ōrewa Road via Wainui Road. The Site is also located within close proximity to State Highway 1 and the Ōrewa interchange which provides direct access to the Albany Metropolitan Centre 16km south of the Site.

As shown in the Indicative Wainui / Ōrewa Structure Plan at Attachment 1, this Site is also located in close proximity to a number of existing or proposed amenities including schools, open spaces and commercial centres. The later includes two proposed neighbourhood centres, one directly adjacent to the Site in the Ara Hills development that is consented, and one approximately 800m south of the Site within the Milldale North

Private Plan Change area, which was lodged with Auckland Council in March this year. The Site is also located approximately 600m north of a proposed education campus intended to feature a primary, intermediate and secondary school on Upper Ōrewa Road which has been identified in the Wainui Future Urban Structure Plan and will be subject to the Ministry of Education designation process.

The main employment areas in proximity to the Site are located in Ōrewa Town Centre, the Highgate Industrial area (1.6km south of the Site) and Silverdale Town Centre / Industrial area (3km south of the Site). The proposed Milldale Rapid Transit Station lies adjacent to the Highgate Industrial Area. A major new industrial employment area, Silverdale West, is also proposed and is subject to a lodged Private Plan Change application, south of Diary Flat Highway approximately 3.2km south of the Site.

2.0 Urban Design Review

2.1 Land-use and Connectivity

At a macro level, the discipline of urban design considers the optimal spatial arrangement of land uses and densities relative to each other that:

- results in the most efficient use of land while providing choice for residents;
- supports the vitality of community and commercial centres; and
- maximises use of sustainable modes of transport;

while responding to the unique and specific characteristics of a site or neighbourhood.

The Indicative Structure Plan provided in Attachment 1 shows how the Site "fits-in" within the wider Ōrewa / Wainui sub-region. The Site itself sits at the periphery of the anticipated urban area but functions as the key "missing piece of the jigsaw puzzle" for urbanisation of the wider Ōrewa and Wainui areas. Development of the Site and the associated extension of Grand Drive (road infrastructure identified as being of regional significance by Commute Ltd) facilitates direct and convenient access between the emerging community of Milldale / Milldale North and the established neighbourhoods of Ōrewa. Existing or proposed arterial and collector roads facilitate direct access to a number of key amenities required to support the future residential population of the Site and will likely form key public transport routes in the future. Development of the Site will support the commercial viability of the proposed neighbourhood centre in the adjacent Ara Hills development.

The "green fingers" which extend alongside waterbodies throughout the Site, along with revegetation in the vicinity of the existing Significant Ecological Area at the northern end of the Site and regular street tree planting, will aid in providing a visual and physical transition in urban scale and intensity to the adjacent rural land.

The nature of the development proposed for the Site is, at a principled level, a use and design that will be able to easily integrate in visual character and sense of place terms, with the emerging Ara Hills development to the north. Neighbouring sites to the south, whilst also within the FUZ and yet to be structure planned in detail, would also naturally lend themselves to future residential uses consistent with what is being proposed on the Site. Due to the location of streams and topography, opportunities for close integration with the sites to the south is limited. However, opportunities to connect into / unlock development opportunities on neighbouring sites would be facilitated by some of the proposed road alignments. As such, the development of the Site would not give rise to any problematic effects on future urban form or structure.

2.2 Site Layout

The proposed site layout presents a rational and positive response to both the underlying landform of the Site which is characterised by a series of ridgelines and stream gullies as well as the proposed alignment of Grand Drive and irregular site boundaries. This should have the benefit of avoiding unnecessary or excessive landform modifications. This approach has also contributed to the establishment of a curvilinear street network heading towards the north and south with a semi-regular grid structure adopted on flatter parts of the Site. This has resulted in a significant number of lots with an east-west orientation which provides an optimal layout to maximise on-site residential amenity in terms of shelter from prevailing winds and solar orientation.

The curvilinear street network does create some limits to pedestrian connectivity across the Site. However, this is negated in part by the context of its location at the periphery of the planned urban environment and the fact that connections to surrounding amenities is primarily facilitated by the proposed Grand Drive extension. There are some limited opportunities to connect into neighbouring sites. Opportunities for pedestrian movement through the Site should be maximised through proposed reserve areas; walkways are currently shown on the draft masterplan along the Site's freshwater bodies.

All lots fronting the Grand Drive arterial have been designed to be "rear accessed" through a network of Joint Ownership Access Lots (JOALs). This is a particularly beneficial aspect of the proposal as it minimises vehicle crossings onto the arterial road to ensure it can function efficiently for vehicular movements, most notably buses and cycles.

Significant revegetation and riparian planting are proposed which will help to enhance and rehabilitate the existing waterways which pass through the Site. In addition to enhancement, this will offer considerable visual and recreational amenity for future residents. These "green fingers" also provide additional recreational and connectivity benefits through the Site and to adjoining sites. These areas of open space are also proposed to be supported by a series of neighbourhood parks that will also help to serve the recreational needs of future residents. Detailed design of these spaces will be undertaken as part the application but I would expect that these would provide opportunities for flat grassed space suitable for informal sports, picnics etc. as well as seating and play spaces.

2.3 A Well-functioning Urban Environment

"Well-functioning urban environments" are defined as places that have attributes including good accessibility between land uses including housing, employment areas, services, open space and public transport, provide for variety and choice in terms of housing options, and that support reductions in greenhouse gas emissions.

The proposed development of the Site as a standalone residential subdivision is considered to be supportive and complementary to the existing and future surrounding urban structure with more intensive residential activities provided for (and emerging) closer to commercial centres and other amenities such as the coast and schools. In a broad sense, the proposal will still provide choice in terms of housing variety within the wider sub-region while at a local level, varying site sizes and locational differences within the Site itself will help to support housing choice in terms of size (and cost) as well as typology.

Critically, the proposal will support the delivery of a key transport link (the Grand Drive extension) that serves the wider Wainui / Ōrewa sub-region. Not only will this benefit future residents of this Site but also residents

of adjoining neighbourhoods. This will help provide greater opportunity and choice in accessing a range of different amenities including commercial centres, schools and open spaces.

3.0 Conclusions

In conclusion, at a high-level the proposal is supportable in urban design terms and will support the development of a well-functioning urban environment. The development will deliver a large number of new homes across a range of typologies and lot sizes. Whilst detailed architectural and landscape architectural design is still to occur, the proposed masterplan indicates that a high-level of on-site and neighbourhood amenity can be provided across the development.

The proposed layout is logical and responds to the constrains of the site created by topography, waterbodies and awkward site geometry. Development of the site will help to deliver a significant transport connection that will improve connectivity between established communities in Ōrewa and emerging development around Wainui, as well as provide an important link to access a number of day-to-day amenities for future residents, including schools, commercial centres and employment opportunities.

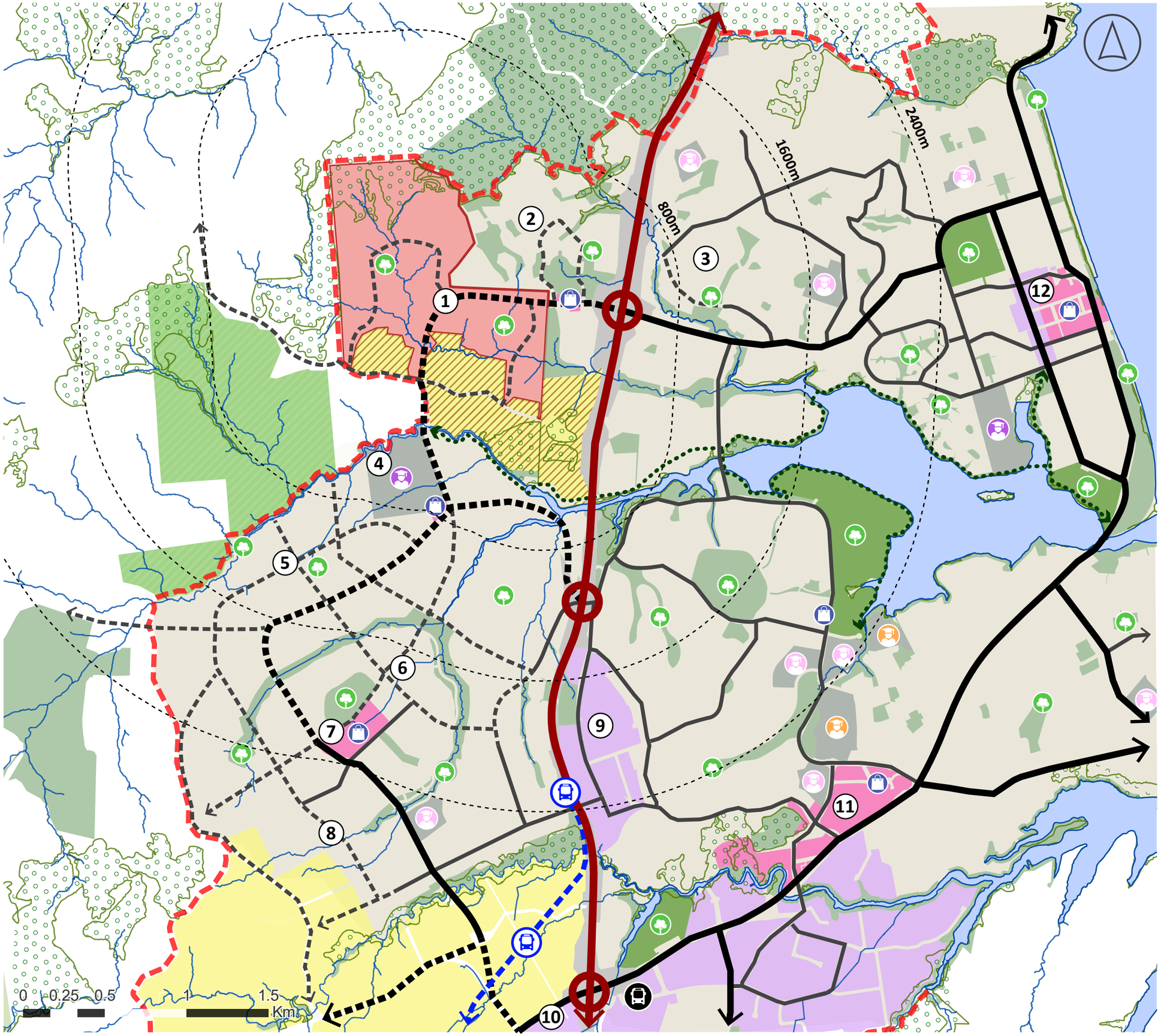
Cam Wallace

Partner / Urban Designer

MNZPI; MUrbDes (Hons); BPlan (Hons).

Attachment 1 – Indicative Ōrewa / Wainui Structure Plan

Barker & Associates
+64 375 0900 | admin@barker.co.nz
Kerikeri | Whangārei | Warkworth | Auckland | Hamilton | Cambridge | Tauranga | Napier | Wellington | Christchurch | Queenstown | Wānaka



Legend

- Rural Urban Boundary
- Application Site
- Water
- Waterbodies
- State Highways / Interchanges
- Existing Arterial Roads
- Proposed or Upgraded Arterial Roads
- Existing Collecter Roads
- Proposed or Upgraded Collector Roads
- Proposed Rapid Transit Route
- Proposed Rapid Transit Stations
- Hibiscus Coast Rapid Transit Station / Park 'n' Ride
- Existing or Proposed Greenway Routes
- Primary School
- Secondary School
- Composite School (Primary & Secondary)
- Key Existing or Proposed Suburban Parks
- Key Existing or Proposed Centres
- Existing or Proposed Residential Areas
- Centre Zones
- Employment Areas
- Schools
- Sports Fields
- Other Open Spaces
- Strategic Transport Corridor
- Future Urban Zone
- Probable Future Residential Areas
- Significant Ecological Areas
- Proposed Milldale North Ecological Protection Area Network

Notations

1. Proposed Grand Drive Extension Route (N.O.R)
2. Ara Hills Residential Development (Consented)
3. Strathmill Residential Development (Consented)
4. Proposed MoE Campus
5. Milldale North (Private Plan Change)
6. Milldale (Live Zoned / Under development)
7. Milldale Local Centre (Consented)
8. Wainui West (Private Plan Change)
9. Highgate Industrial Area
10. Silverdale West Industrial Area (Private Plan Change)
11. Silverdale Town Centre
12. Orewa Town Centre

Indicative Wainui / Orewa Structure Plan

B&A
Urban & Environmental

Attachment 11

Civil Engineering Memo

Memo

To:	Vineway Ltd
From:	McKenzie & Co
Cc:	
Date:	Wednesday, 1 May 2024
Job:	3621 - Upper Ōrewa Road Fast Track Application
Location:	Upper Ōrewa Road, Ōrewa, Auckland

Re: Upper Ōrewa Road Fast Track Application

1. Introduction

Vineway Ltd is applying for its residential development project in Upper Ōrewa to be included in the Fast-track Approval Bill schedule. This memo is a summary of the proposed earthworks, and existing and proposed stormwater, wastewater, water supply and utility servicing aspects of the proposal. The area of this proposal is located west of the Ōrewa township and covers a total site size of approximately 109.18 ha over six titles. The site lies north of Upper Ōrewa Road/Russell Road and to the west of the Grand Drive extension.

2. Proposed Development

The masterplan proposal is shown in Figure 1 below. The proposed development will involve the subdivision and construction of approximately 1250 residential lots and dwellings (with current draft scheme plan showing 1200), neighbourhood parks, supporting transport and servicing infrastructure, ecological restoration and enhancement of streams and associated walking trails, as well as all associated earthworks, construction works and structures.

Figure 1 - Current scheme of approx. 1200 lots.

3. Civil Infrastructure Requirements

To support the proposed development the following civil infrastructure shall be required:

- Earthworks
    - Cut to fill volume of approximately 600,000 m^3 and over an area of approximately 50ha.
    - Erosion and Sediment Controls installed in accordance with GD05 Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region
- Stormwater
    - Primary network to convey 10% AEP flows from impervious areas.
    - Stormwater management and treatment devices in accordance with an approved Stormwater Management Plan (SMP).
    - Stormwater treatment of all impervious areas, through GD01 compliant devices.
    - Retention and detention of flows from impervious areas to protect streams from erosion.
    - Secondary flow paths to convey 1% AEP flows.
    - Avoidance of development within the 1% AEP flood plain, including 3.8-degree climate change.
    - No attenuation of flood flows is proposed, as preliminary calculations indicate no downstream structures are affected by the increase in impervious area due to maximum probable development in the catchment. More detailed analysis of this will be provided in a Flood Model report summarising 2D flood analysis from a digital flood model as part of any resource consent application.
    - Extent of permeable surfaces within the completed development will mostly be the existing SEA, gullies and areas of pasture left undisturbed. Gullies will be enhanced with riparian planting. Many areas of pasture located between lots and the riparian margin will be retained as recreation reserve. Some public parks are proposed. Please refer to the draft scheme plan.
- Wastewater
    - First option for wastewater is to connect to existing network taking wastewater to the Army Bay Treatment Plant. The bullets below summarise what is required on-site for this. This would also require an upgrade to the Army Bay Treatment Plant to enable it to have capacity for the additional wastewater. We understand Vineway Ltd would fund this.
    - Provision for wastewater servicing from the 1200 residential lots of approximately 0.64 MLD ADWF (megalitres per day) using Watercare CoP figures of 3 people per dwelling at 180 l/p/d. For 1250 lots the ADWF is 0.68MLD. Both flows are achievable to the required standards.
    - Internal piped gravity reticulation network.
    - Wastewater pump station.

    - Rising main to connect pumpstation to existing gravity network, on Grand Drive.
- Water Supply
    - Provision for supply of water to 1200 residential lots of approximately 0.792 MLD, from Grand Drive using Watercare CoP figures of 3 people per dwelling at 220 l/p/d. For 1250 lots the demand is 0.825MLD. Both are achievable to the required standards.
    - Internal piped reticulation network for potable water and firefighting.
    - Extension and connection to Wainui Road for future development.
- Utilities
    - Power supply for proposed development site.
    - Fibre communications for proposed development site.
    - Gas supply is available for the development without network upgrade.

4. Civil Infrastructure Proposed

4.1. Earthworks

The earthworks footprint is approximately 50 ha and consists of cut and fill using natural in-situ material. This is approximately half of the development site area due to site constraints including 1 in 100yr flood extents and ecological areas. A cut to fill volume of approximately 600,000 m^3 is expected from preliminary 3d digital modelling. Cut heights of up to 10m and fill heights of up to 10m are possible. The cut and fill operations will balance with no material expected to be imported or removed from site. Likely Erosion Sediment Control (ESC) devices would be clean and dirty water diversions, decants and sediment detention ponds in accordance with Auckland Council GD05. Other devices and systems such as flumes, contour drains, etc. are able to be included as required to achieve ESC requirements. Areas of the site will be stabilised as soon as possible to prevent sediment runoff. Stabilising is likely to be topsoiling and an application of seeded straw mulch or hydroseeding.

4.2. Stormwater

Natural environmental features relevant to stormwater management are as follows:

- The Auckland Council GIS website shows the development area contains areas of flood plains. The Auckland Council definition is "Flood plains indicate the area of land inundated by runoff in a storm event that has a 1 percent or greater probability of occurring in any given year, assuming maximum probable development (MPD) and future climate change."

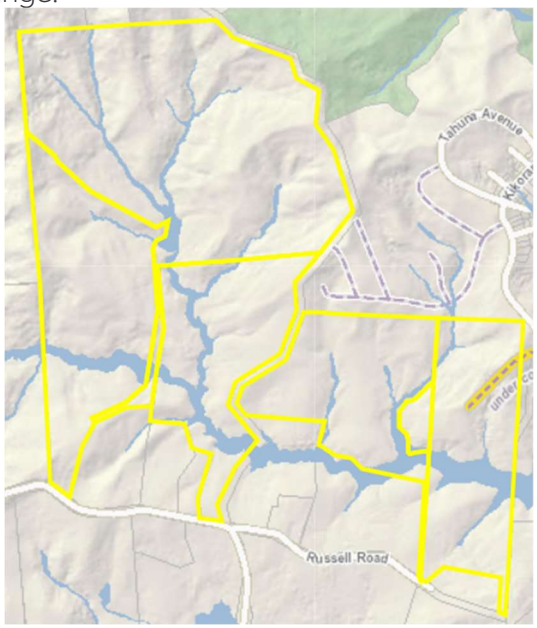


Figure 2 - Flood plains in the development site extent (Source: AC Geomaps)

- Covenanted land areas are present on the site over some vegetated natural gullies.
- A Significant Ecological Area (SEA) as identified in the Auckland Unitary Plan (AUP) is present at the north part of the site. An ecological assessment has been prepared by Viridis and is included with the application documents which identifies further areas of native vegetation at the site.

- The site is not within Auckland Council SMAF[1] overlay areas. Notwithstanding, in our experience, it is expected for proposals for significant urban developments in Auckland to adopt SMAF principles[2]. In our opinion, SMAF principles can be applied to the site such that any potential effects on freshwater environments will be appropriately managed through stormwater infrastructure design as described below.

4.2.1 Proposal

Stormwater discharges are proposed to be accommodated in accordance with Healthy Waters regional network discharge consent (NDC).[3] Therefore, a comprehensive SMP is proposed to be prepared and adopted in accordance with the NDC.

The primary piped network to convey 10% AEP flows will consist of catchpits, pipes and manholes draining impervious surfaces (road carriageways). The network will convey flows to communal GD01 compliant devices for water quality, retention and detention. Communal raingardens are proposed to achieve these requirements. These will be located at the lower areas adjacent to the gullies but outside the 1%AEP flood plain. Detention from the raingardens will discharge to adjacent gullies over a 6 to 24 hour period. On-lot tanks are proposed as optional.

Secondary flows drain within road carriageways, before discharging to the existing natural gullies. These gullies will be retained in their current natural alignments as riparian margins and be suitably planted to enhance and maintain ecological and stormwater-managing aspects of the environment. We will work closely with the ecological expert(s) assisting with the proposal on these aspects in particular.

All residential dwellings will be positioned outside the flood plain with the required freeboard requirements. Roads will avoid the flood plain where possible, with some stream crossings being unavoidable. These crossing locations will be kept to a minimum and each will be carefully assessed at preliminary design in conjunction with site specific flood modelling and with ongoing consultation with Auckland Council. Our preliminary assessment is that these crossings can be designed and constructed to appropriately manage any potential effects and flood-associated risks.

All stormwater management will be in accordance with GD01 Auckland Council Stormwater Management Devices in the Auckland Region.

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[1] Stormwater Management Area Flow 1 and Flow 2 overlay areas.

[2] Such as a Milldale North and Wainui West

[3] This is a regionwide consent to discharge stormwater. It provides clear processes and requirements for stormwater discharges throughout the region which can be tailored to specific sites.

4.2.2 Flooding

This project supports adaptation, resilience, and recovery from flooding natural hazards. Roads and buildings will be above the flood plains and include for required freeboard. Potential erosion or soil migration is mitigated by riparian planting. Over half the development site will remain permeable surface in natural ground conditions or as recreation reserve. These areas will allow recovery from large storm events by infiltration and evapotranspiration. Road reserves formed with durable surfacing (concrete/asphalt) will receive secondary flow and convey to specifically designed locations that transfer flows into the recreation reserves and riparian margins. Flows are calculated, designed for using best methods and devices, and controlled at all times.

This project will not be affected by flooding effects due to climate change or from other natural hazards. Pipe networks will be designed to cater for 10% AEP peak flows including for climate change temperature increase of 3.8°C. Secondary flow paths will be sized for 1% AEP peak flows including for climate change temperature increase of 3.8°C.

4.3 Wastewater

The site is not currently serviced by wastewater infrastructure. A Watercare gravity network connection is located 200m east of the site boundary on the Grand Drive extension. A 1050mm diameter transmission gravity network is located 600m south of the site boundary near Wainui Road. These networks ultimately discharge to the Wastewater Treatment Plant located at Army Bay.

4.3.1 Watercare Management Plan

Watercare has indicated in its Asset Management Plan 2021-2040 that the Army Bay WWTP is to be upgraded to allow for new areas or urban land supply being completed and the development site is shown in its plan as one of the areas it aims to accommodate. We understand that the applicant in this case would fund the upgrades required to ensure they occurred in tandem with the development. We also understand that an alternative on-site wastewater option has been prepared should this option prove unavailable.

4.3.2 Proposal

Due to capacity limitations on the existing gravity main under SH1 and downstream network that discharges the Ara Hills development, the proposal is to construct an interim sewer network and pump station to maximise that existing infrastructure for potential staging of the development, and ultimately be upgraded to discharge the larger development scheme.

The number of new dwellings able to be catered for currently using the existing gravity main located in Ara Hills development to the northeast is approximately 250 dwelling unit equivalents (DUE's subject to confirmation). To service these dwellings the proposal is for internal piped gravity reticulation network to an interim internal wastewater pump station

(WWPS) vested to Watercare. This would pump via a rising main to connect to the existing Watercare gravity network at Ara Hills development to the northeast.

A further 350 DUE's (approximate) can be serviced by constructing a new 450m gravity main within the Ara Hills development to the northeast laid adjacent to the existing gravity main. This will connect to the gravity main under the motorway which has capacity for the approximate 600 dwellings.

The remaining 600 dwellings (approximate) can be serviced by upgrading the interim WWPS and a new rising main constructed south through the development site and southward from the development site boundary down Upper Ōrewa Road and Wainui Road to connect to the existing 1050mm diameter transmission gravity main at the eastern end of 379 Wainui Road.

Local (in-development) wastewater reticulation, including the network wastewater pump station, will be designed, and constructed in accordance with The Auckland Code of Practice for Land Development and Subdivision Water and Wastewater Code of Practice for Land Development and Subdivision Chapter 5: Wastewater, and in accordance with the standard Engineering Plan Approval process.

4.4 Water Supply

An existing 355mm diameter Watercare supply main is located 200m east of the site boundary on the Grand Drive extension. A further 355mm Watercare supply main is located 1100m south of the site boundary at the intersection of Wainui Road and Sidwell Road. Supply capacity from the Grand Drive watermain is estimated to be sufficient for up to 1000 houses before a loop for redundancy, and a network resilience perspective, is required by Watercare. This includes houses in the Ara Hills development currently being constructed directly northeast and east of the development site. This means that current watermain is insufficient to also cater for Vineway Ltd's proposed development.

4.4.1 Proposal

The proposal is to extend the 355mm main westward along Grand Drive until a total of 1000 dwellings are serviced. capacity is reached based on number of dwellings connected (with close ongoing discussions with Watercare). The number of 1000 includes houses in the Ara Hills development currently being constructed directly northeast and east of the development site.

The remaining dwellings can be serviced by extending the 355mm Grand Drive main southward along Upper Ōrewa Road to connect to the existing 355mm at Wainui Road, providing security of supply via dual supply mains to the development area.

Internal watermains will be provided for potable/firefighting purposes. Local water reticulation will be designed and constructed in accordance with The Auckland Code of Practice for Land Development and Subdivision Water and Wastewater Code of Practice for Land Development and Subdivision Chapter 6: Water, and in accordance with the standard Engineering Plan Approval process.

4.5 Utilities

4.5.1 Power and Gas

Initial discussions have been held with Vector who has stated the site area currently has limited capacity, but that Vector are planning a new local substation to meet supply requirement. This can be constructed at a time complementary to the proposal based on number of lots planned. Piped medium pressure gas supply is present in Wainui Road and no upgrade work is required to supply the proposal.

4.5.2 Chorus

Initial discussions have been held with Chorus and its network checked for type of services at the development site. ADSL/VDSL are available at the development site boundary. Chorus has confirmed its fibre network is able to be extended to provide connection and capacity. Fibre is currently laid in the Grand Drive extension.

5 Summary

The development can adequately be serviced for civil infrastructure.

- Earthworks – Balanced cut to fill
- Stormwater – Primary network sized for 10% AEP and secondary flow paths for 1% AEP + 3.8-degree climate change, treatment, retention and detention can readily be accommodated.
- Wastewater – gravity internal reticulation with public WWPS and rising main to existing network to the north and then upgrade of existing WWPS and new rising main to connect to transmission gravity main at the eastern end of Wainui Road (as the preferred wastewater option. Alternative option prepared by Apex).
- Water Supply – Connection to existing network adjacent to the site for up to 1000 lots in the catchment, and connection to the south for servicing the remainder of the development.
- Utilities –Upgrade of Vector power network and extension of Vector gas network (if required) and extension of Chorus fibre communications network.

6 Limitation

The above recommendations have been made based on the supplied information below:

- Draft scheme plan for the development
- Lidar terrain data
- Auckland Council GIS website
- Vector and Chorus letters.

No responsibility is accepted by McKenzie and Co Consultants Limited or its directors, servants, agents, staff, or employees for the accuracy of information provided by third parties and/or the use of any part of this report in any other context or for any other purposes.

Signed,

Brin Hingston
Engineer

Signed,

James Masemann
Senior Engineer

Vector Limited
101 Carlton Gore Road
PO Box 99882
Newmarket
Auckland 1149
+64 9 978 7788 / vector.co.nz

19 April 2024

By email:

Hi Brin Hingston

Supply Availability for

55 Russell Road, Wainui 0992, Lot 1 DP 336616
53A Russell Road, Wainui 0992, Lot 1 DP 497022
53B Russell Road, Wainui 0992, Lot 2 DP 497022
88/90 Upper Orewa Road, Wainui 0992, Lot 2 DP 418770
130 Upper Orewa Road, Wainui 0992, Lot 2 DP 153477
132 Upper Orewa Road, Wainui 0992, Lot 2 DP 153477

1. Further to your recent correspondence regarding the availability of supply for an approx., 1250 residential lots development at the above-mentioned address at the time of this enquiry, Vector can confirm the following:

2. Electrical Reticulation

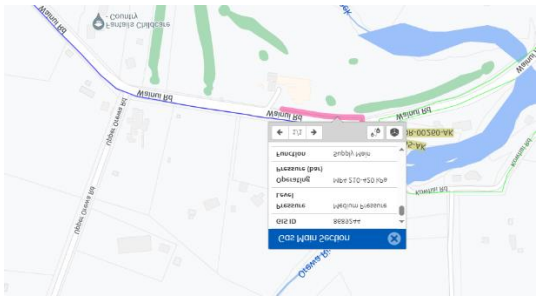
1.1 Vector Limited is the Electrical Operator of the distribution system which will provide Line Function Services to the individual Points of Supply within the development.

1.2 Vector has limited available capacity in the surrounding high voltage (HV) network and is planning a new zone substation in the area with the build date still to be determined. The build date will be brought forward if justified by the forecasted demand and timing of connections.

1.3 Installation of new HV and low voltage (LV) cables and equipment will be required to provide this development with points of supply for each of the lots.

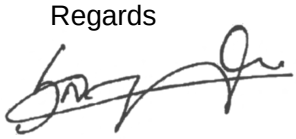
3. Gas Reticulation

We have available capacity without any required upgrade. The nearest main to connect to is as below, at Wainui Road (the highlighted medium pressure)



Please do not hesitate to contact me on 09 213 0265 if you have any further questions.

Regards



AJ Subramany
Customer Contracts Lead

Chorus NZ Ltd
4 Graham Street
Auckland CBD
Auckland

Brin Hingston
McKenzie and Co Consultants
55 Kaimanawa Street
TAUPO

18th April 2024

Hi Brin,

Thank you for providing an indication of your development plans in the Wainui area. I can confirm that we have infrastructure in the general land area that you are proposing to develop at:

1. 55 Russell Road, Wainui 0992, Lot 1 DP 336616
2. 53A Russell Road, Wainui 0992, Lot 1 DP 497022
3. 53B Russell Road, Wainui 0992, Lot 2 DP 49702
4. 88/90 Upper Orewa Road, Wainui 0992, Lot 2 DP 418770
5. 130 Upper Orewa Road, Wainui 0992, Lot 2 DP 153477
6. 132 Upper Orewa Road, Wainui 0992, Lot 2 DP 153477

Chorus will be able to extend our network to provide connection availability. However, please note that this undertaking would of course be subject to Chorus understanding the final total property connections that we would be providing, roll-out of property releases/dates and what investment may or may not be required from yourselves and Chorus to deliver the infrastructure to and throughout the site in as seamless and practical way as possible.

The cost can only be finalised at the time that you are ready to proceed.

Chorus is happy to work with you on this project as the network infrastructure provider of choice. What this ultimately means is that the end customers (business and homeowners) will have their choice of any retail service providers to take their end use services from once we work with you to provide the physical infrastructure.

Please reapply with a detailed site plan once you are ready to proceed.

Kind Regards,

Margaret Singh
Group Account Manager
Chorus NZ Ltd
s 9(2)(a)

Brin Hingston

From: HWDevelopment s 9(2)(a)
Sent: Monday, 18 March 2024 12:29 pm
To: James Kitchen
Cc: Brin Hingston
Subject: RE: Russell Road Flood modelling

Kia ora
Thank you for your email.
Here is a link to the SMP:

Orewa West

Please let us know if you have any questions about the SMP.
The stormwater management requirements of this SMP will need to be complied with at the time of any development of the sites within this catchment. If you are considering development within the area of this SMP or similar development nearby, we would be happy to discuss the specifics of your proposal and how the requirements of the Regionwide NDC can be met.

Ngā mihi | Kind Regards,

Rani Sharma
Customer Specialist | Mātanga | Kirihoko
Healthy Waters Infrastructure and Environmental Services
Auckland Council, Level 17, Auckland House.
Visit our website: www.aucklandcouncil.govt.nz
Please consider the environment before printing this

Auckland Council
Te Kaunihera o Tāmaki Makaurau

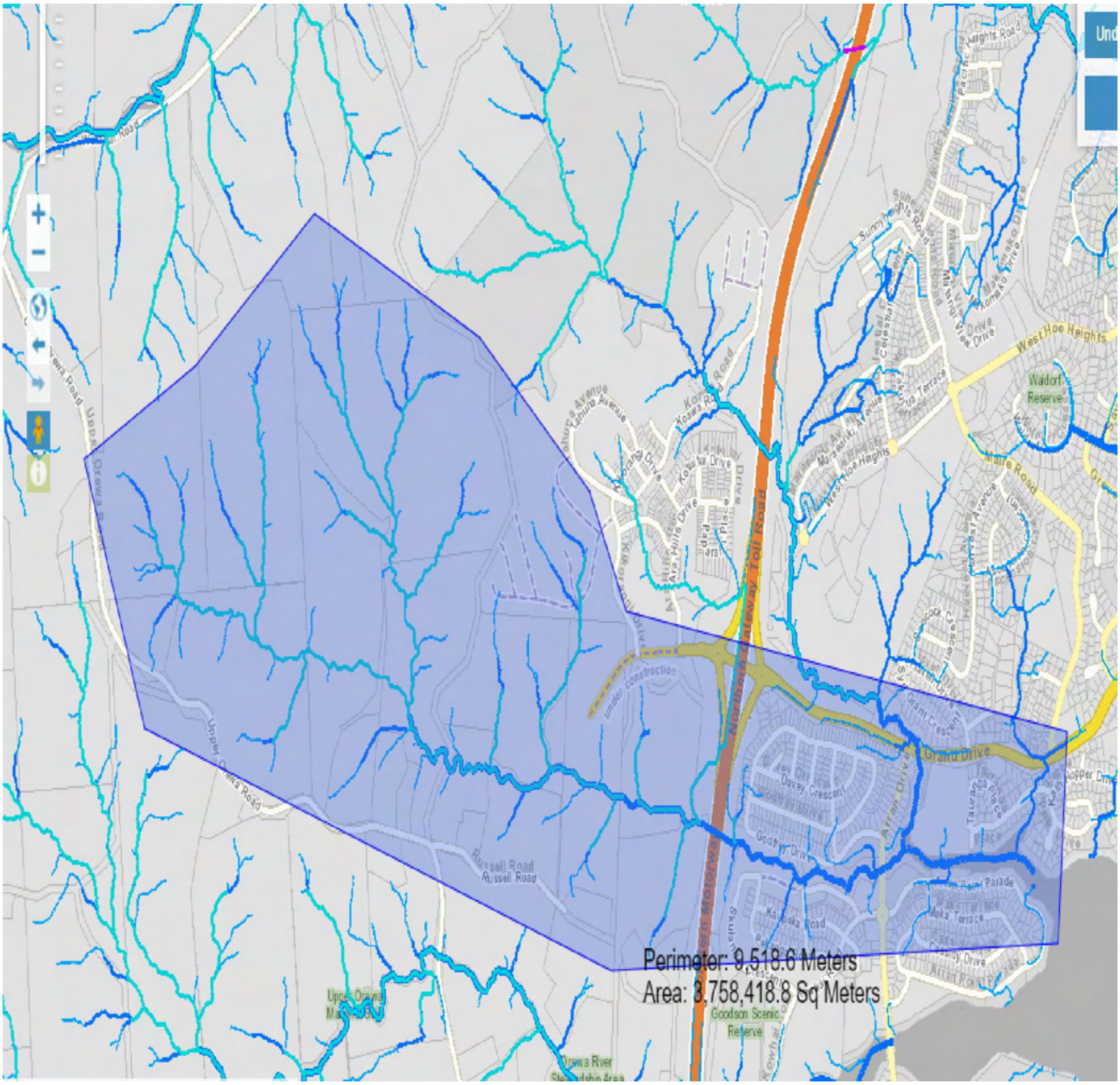
From: James Kitchen s 9(2)(a)
Sent: Monday, 18 March, 2024 10:53 AM
To: HWDevelopment s 9(2)(a)
Cc: Brin Hingston s 9(2)(a)
Subject: Russell Road Flood modelling

Hi,
We are preparing a stormwater management plan for a development in the area shaded in blue below.

- Can we please get a copy of the latest flood modelling in this area ?
- Can I please get a copy of the Orewa West SMP ?
- Is there a SMP for the Ara Hills development to the north that I could please get a link to?

I would also like to have a chat with the catchment manager on requirements for a site specific flood model for this catchment, to confirm our model inputs and methodology before we start on this modelling.

Many thanks !



Ngā mihi,

James Kitchen CMEngNZ, CPEng, IntPE(NZ)
Director
s 9(2)(a)

MCKENZIE & CO.

mckenzieandco.co.nz

AUCKLAND COUNCIL HEALTHY WATERS

RESPONSE TO REQUEST FOR FLOODING INFORMATION

Ref:	8703749544

Requestor details	Name	Business Name	email
	James Kitchen	McKenzie & Co	james@mckenzieandco.co.nz

Site Address	Catchment / Model
Russell Road Flood Model	Auckland Council Rural Rapid Flood Model Unit I

INFORMATION TO APPLICANT

This Document provides current information held by Auckland Council relating to predicted flooding levels and extent within the catchment that includes the property noted above.

The information is extracted from a catchment wide modelling study. The study does not consider effects of built structures or potential blockage of piped infrastructure and should not be assumed to be a detailed representation of potential flooding impact that will occur within a particular site.

Disclaimer

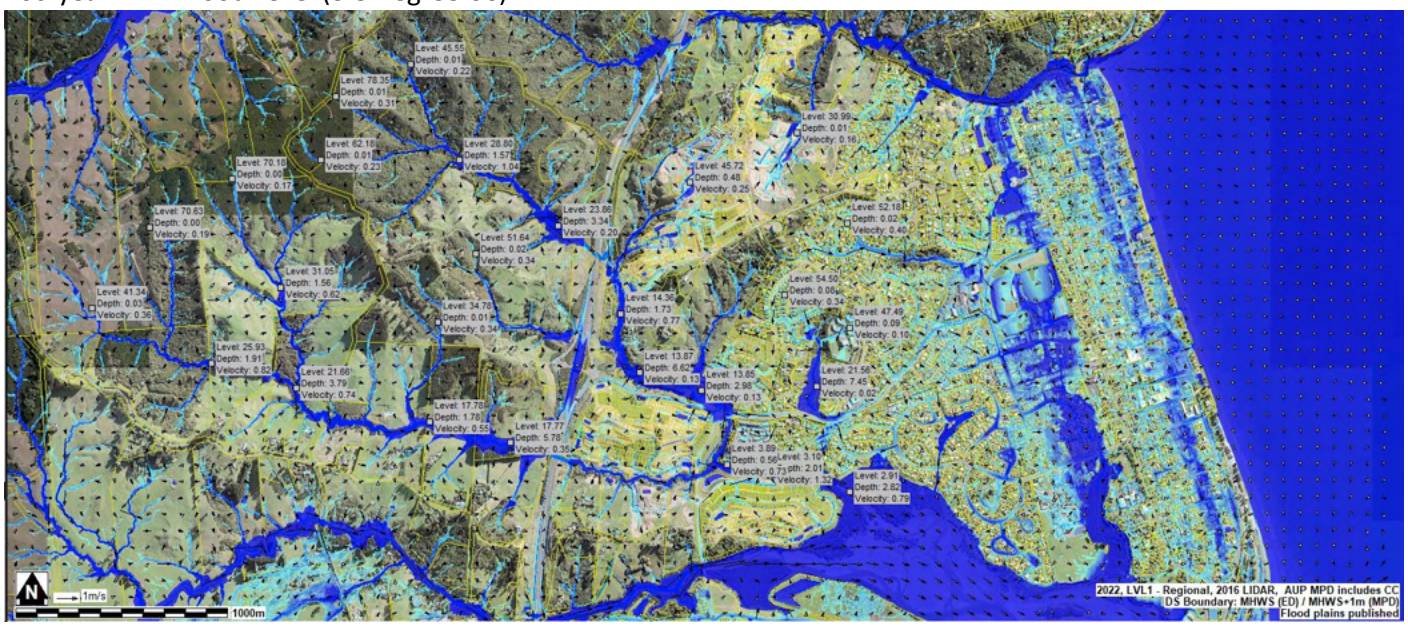
Auckland Council gives no warranty as to the accuracy and completeness of any information given and accepts no liability for any error, omission or use of the information. The information provided does not preclude the need for an appropriate site-specific assessment and cannot be construed as endorsement, or approval, by Auckland Council. of any development.

Special information requirements Auckland Unitary Plan Chapter E36. Section E36.9.2
A hazard risk assessment must be undertaken when subdivision, use, or development requiring resource consent is proposed to be undertaken on land which may be subject to the 1 percent annual exceedance probability (AEP) floodplain or overland flow paths. A hazard risk assessment report must accompany a resource consent application for the subdivision, use or development referenced above. The flooding hazard risk should be assessed for all rainfall event frequencies where flooding of the site occurs.

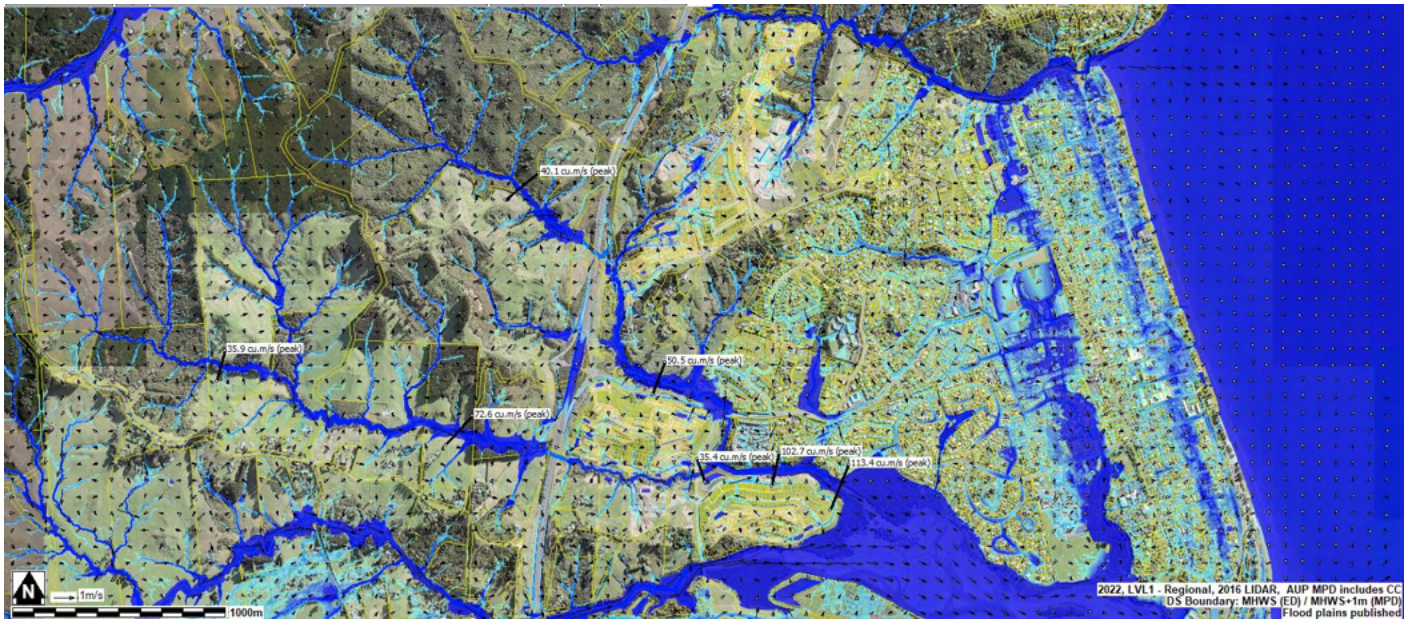
FLOODING INFORMATION

1% AEP Flooding Information		
Overland Flow: Q_{max}	**Refer to snips below**	Pipe blockage has not been considered
Maximum flooding level	**Refer to snips below**	Based on floodplain level, pipe blockage has not been considered
Model results: Flooding Level, Depth, Velocity	See information below, from WaterRide etc, for rainfall events and circumstances where flooding of site occurs	

100-year MPD Flood Level (3.8 Degree CC):



100-year MPD Flow (3.8 Degree CC):



100-year Culvert Flow (3.8 Degree CC):

James Masemann

From: James Kitchen
Sent: Wednesday, 1 May 2024 9:24 am
To: James Masemann
Subject: Fwd: Water and Wastewater servicing

James Kitchen
Director
s 9(2)(a)
Mckenzie&Co.

Sent from my iphone

Begin forwarded message:

> **From:** James Kitchen s 9(2)(a)
> **Date:** 17 April 2024 at 1:00:16 PM NZST
> **To:** Lars Fog s 9(2)(a)
> **Subject: Re: Water and Wastewater servicing**
>
> Great thanks Lars , much appreciated.
>
> James Kitchen
> Director
> s 9(2)(a)
> Mckenzie&Co.
>
> Sent from my iphone
>
> > On 17 Apr 2024, at 12:58 PM, Lars Fog s 9(2)(a) wrote:
> >
> > Hi James,
> >
> > Please see attached Army Bay WWTP outflow data. This includes data from 1 January 2022 till now. The earlier data which suggested a 2028 capacity constraint date was based on the inflow meter at the WWTP. This data has since been determine to possibly be suspect and consequently we have switched to the outflow data which is used for the consent compliance reporting. As such, this is probably the better data.
> >
> > The data shows the daily 12 month rolling average dry weather flow for the plant. This can be projected forwards to give an indication of when the plant is likely to be at capacity.
> >
> > Hopefully this gives you sufficient information for your requirements.
> >
> > Kind regards
> >
> > **Lars Fog** | Programme Lead
> > Major Developments

Watercare Services Limited
s 9(2)(a)
Postal address: Private Bag 92 521, Wellesley Street, Auckland 1142, New Zealand
Physical address: 73 Remuera Road, Remuera, Auckland 1050, New Zealand
Website: www.watercare.co.nz

From: James Kitchen s 9(2)(a)
Sent: Wednesday, February 7, 2024 4:14 PM
To: Lars Fog s 9(2)(a)
Subject: RE: Water and Wastewater servicing

Hi Lars,

I trust you have had a fantastic summer break.

I was wondering if it is possible to obtain the data that underpins the projected growth for flows entering the Army Bay treatment plant, which puts it to capacity in 2028?

We would like to review this, to do our own independent analysis on this.

Let me know if this is possible,

Many thanks !

Ngā mihi,

James Kitchen CMEngNZ, CPEng, IntPE(NZ)
Director
s 9(2)(a)

mckenzieandco.co.nz

From: James Kitchen
Sent: Monday, December 11, 2023 4:16 PM
To: Lars Fog s 9(2)(a)
Subject: RE: Water and Wastewater servicing

Hi Lars,

Wednesday afternoon would suit me, and I'll just confirm with our client that it suits also. You mentioned last time we chatted that your network planner could meet with us, to provide more detail on the upgrades. It would be appreciated if they could join also.

Thanks a lot,

Ngā mihi,

James Kitchen CMEngNZ, CPEng, IntPE(NZ)
Director
s 9(2)(a)

mckenzieandco.co.nz

<image002.png>

<image003.png>

From: Lars Fog s 9(2)(a)
Sent: Monday, December 11, 2023 3:31 PM
To: James Kitchen s 9(2)(a)
Subject: RE: Water and Wastewater servicing

Hi James,

I will be available to have a quick chat this week. Wednesday after 11am is pretty good as Thursday after 1pm. If either of those fit, please book in a Teams meeting.

Kind Regards

Lars Fog | Programme Lead
Major Developments

Watercare Services Limited
s 9(2)(a)
s 9(2)(a)
Postal address: Private Bag 92 521, Wellesley Street, Auckland 1142, New Zealand
Physical address: 73 Remuera Road, Remuera, Auckland 1050, New Zealand
Website: www.watercare.co.nz

From: James Kitchen s 9(2)(a)
Sent: Monday, December 11, 2023 2:36 PM
To: Lars Fog s 9(2)(a)

Cc: James Renall s 9(2)(a)
Subject: RE: Water and Wastewater servicing

Hi Lars,

Just following up on this meeting, is there any chance to catch up with Watercare this week please with our client?

Many thanks,

Ngā mihi,

James Kitchen CMEngNZ, CPEng, IntPE(NZ)
Director
s 9(2)(a)

<image004.png>

mckenzieandco.co.nz

<image002.png>

<image003.png>

From: James Kitchen
Sent: Thursday, November 2, 2023 10:56 AM
To: s 9(2)(a)
Cc: James Renall s 9(2)(a)
Subject: Water and Wastewater servicing

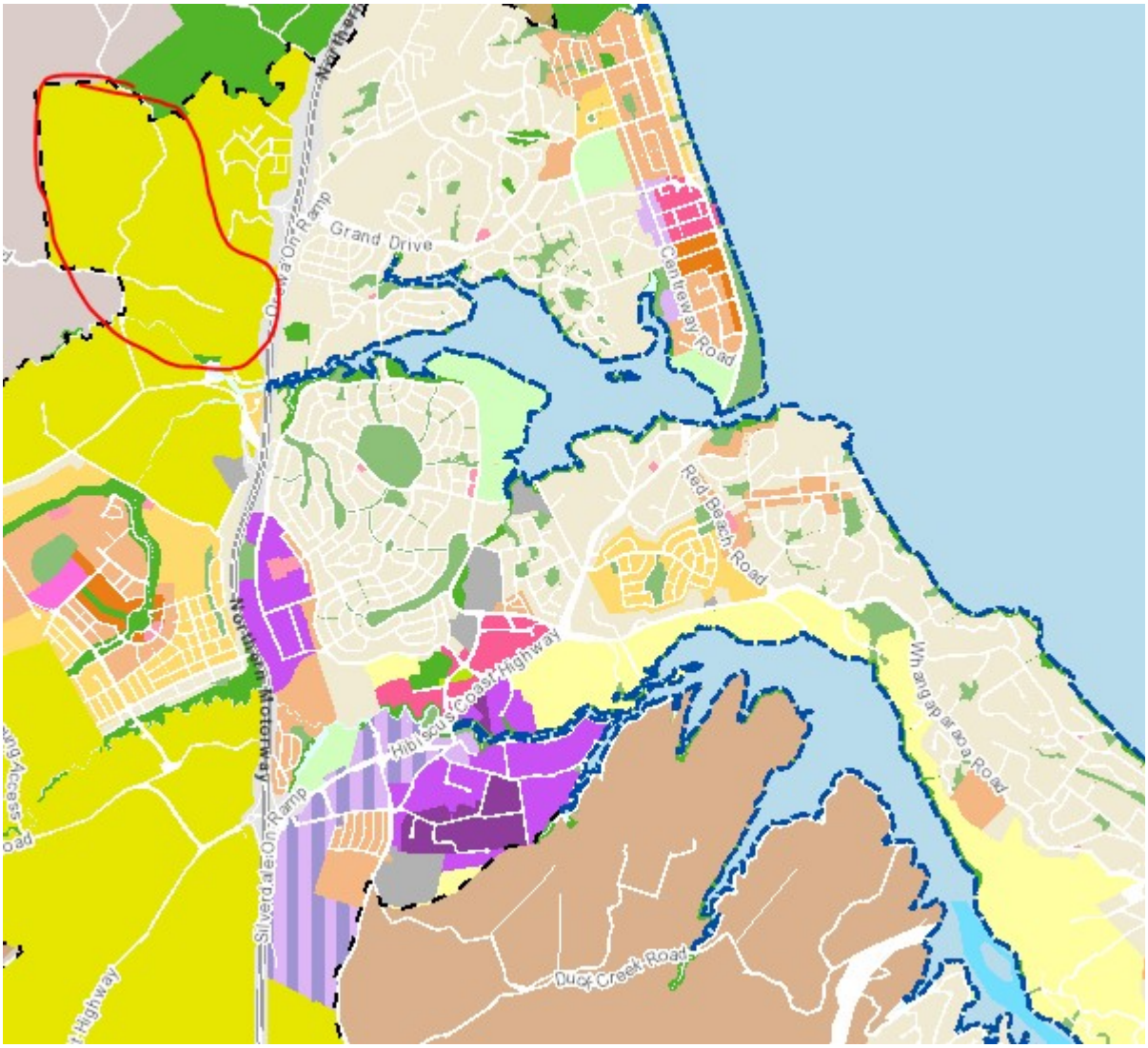
Hi Lars,

I trust you are doing well.

I am doing some investigation on a few parcels in the area circled in red for a client, and I was wondering if you would be available for a quick call either today or tomorrow to discuss? Mainly around any constraints and timing of Army Bay upgrades etc which may have a material impact on providing water and wastewater servicing for this area?

If this would be possible I would really appreciate 5 minutes of your time .

Many thanks,



Ngā mihi,

James Kitchen CMEngNZ, CPEng, IntPE(NZ)
Director
s 9(2)(a)

<image001.png>

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<image002.png>

<image003.png>

<DTARB - Rolling annual mean dry weather flow.csv>

<image001.png>

Attachment 12

Wastewater Alternatives

Concept Review of On-Site Wastewater Treatment Options for Delmore Development

Vineway Ltd

Client	Vineway Ltd
Project Number	Concept Plan Only
Revision	2.1
Date	1 May 2024
Project Name	Delmore Development Concept Review of On-Site Wastewater Treatment Options

Prepared by:

Dr Matt Savage PhD CPEng CEng MIChemE
Apex Water Limited
18 Wollcolmbe Street, Timaru 7910
P.O. Box 893, Timaru 7940

s 9(2)(a)

Summary

Delmore is a masterplanned residential development proposed to be located in Wainui, Rodney. The final development will include approximately 1250 residential lots and dwellings (with current draft scheme plan showing 1200). The developer, Vineway Ltd, is currently in discussion with Watercare Services Ltd regarding the potential for Vineway Ltd to fund the infrastructure upgrades to the Army Bay wastewater treatment plant (WWTP) required to receive the additional flows from its development.

Adopting a precautionary approach, Vineway Ltd has engaged Apex Water to design and provide advice on an alternative, on-site wastewater treatment option, that can be used if upgrades to the Watercare WWTP are untenable. This review provides that advice.

Karaka North Village south of Auckland provides a recent regional precedent where a very high level of wastewater treatment, along with culturally sensitive disposal and reuse methods, have been used to facilitate centralised on-site wastewater treatment from a similar sized 1,200 home development.

In line with the Karaka North approach, our recommendation for Delmore is state of the art Membrane Bioreactor (MBR) based treatment of the wastewater to a level equivalent to Grade A Recycled Water standard to be discharged to land (and/or to surface water via land if required).

The MBR process produces a treated water quality suitable for recreational contact re-use that is suitable for irrigation in woodland, recreation reserve, or along street verges. This level of treated water is also generally suitable to discharge to surface water via land contact. Our experience is that discharge to surface water via land typically requires extensive consultation with Iwi prior to consenting, and that Iwi have generally been more comfortable with irrigated discharge to land.[1]

Although further infiltration testing and other geotechnical investigations would be required to confirm the exact area needed, at this stage our estimate is that approximately 17ha of irrigation area would be needed for Delmore. Alternatively, 9ha of total irrigation area along with a back-up discharge to surface water via land would be sufficient.

The proposed treatment plant and irrigation system would cost in the order of $18M-$20M plus GST for a fully operational sewage treatment plant including irrigation systems.

In our opinion, use of low-pressure sewer, combined with treatment to this high level and land application at Delmore would represent a regionally significant advance in both

[1] E.g. Karaka Village North Limited - MBR treatment prior to discharge to land and to water via land
Curio Bay - MBR treatment prior to discharge to water via land
Papatowai DOC Campground – MBR treatment followed by discharge to water via land
Rotoiti – Rotomā - MBR treatment prior to discharge to land

environmental performance and culturally sensitive wastewater treatment and disposal. This also represents a high level of compliance with the objectives of the National Policy Statement for Fresh Water Management 2020 (NPS-FW 2020) which has Te Mana o te Wai as its fundamental concept and through that concept, prioritises freshwater ecosystem health.

Site Development and Land Use

Figure 1 17ha of potential irrigation land and treatment plant location.

The draft masterplan for the site shows that there should be at least 17ha of area available for irrigated discharge. One example of how this 17ha area might be distributed using existing woodland areas on the site is illustrated in Figure 1 above. Detailed analysis during the design phase is likely to show other equally suitable configurations. The red box in Figure 1 indicates a potential wastewater treatment plant location.

The minimum area recommended for land application is 9Ha. There is at least 9ha of potentially suitable irrigation land available in a number of areas around the site. If this option were adopted, this would also need to be paired with discharge to surface water via land. Figure 2 below shows just one such potential treated water irrigation area. The red box in Figure 2 indicates a potential wastewater treatment plant location. While several suitable locations exist for the treatment plant within the development, the indicated location is recommended due to its proximity to available irrigation area and relative isolation from large numbers of other houses. With a low-pressure sewer system there is no need for the treatment plant to be in a topographically low point on the development.

Figure 2 Potential 9Ha wastewater irrigation area and treatment plant location.

In our opinion, if land application alone (rather than joint land and surface water discharge) is able to be utilised for treated water disposal, this represents a significant wider benefit for the community compared to discharge to ocean via the Army Bay sewage treatment plant due to significantly higher cultural acceptance of land discharge of treated water.

Agreement of bodies named in the relevant covenants (such as Auckland Council) will be required prior to proceeding with irrigation in the woodland areas identified.

Water Efficiency and Wastewater Minimisation

A key means of minimising wastewater flows, which reduces the environmental impact of the development while also reducing the cost of onsite treatment and disposal and improving the ease of consenting, is to utilise low-pressure sewer system rather than gravity sewer throughout the development. In typical gravity sewer design, Watercare requires that treatment and disposal systems be sized between 4-6 times larger than their average flow to accommodate peaking factors based on inflow and infiltration of groundwater and rainwater into the sewer network.

Low pressure sewer systems, such as those by eOne and Aquatec, operate under pressure, eliminating this risk of water ingress in the network. The ability to then use small diameter PE pipe in the sewer network, and the reduced size of the treatment plant, more than offset the cost of the additional low pressure pumpstations required.

On this basis, utilising the current Watercare Code of Practice design basis of 180L/person/day with an average occupancy of 3 people per household[2] and a peaking factor of 1.2 for low pressure sewer systems (Figure 3), we would expect the 1,250 HHU development to produce between 675 (Average Dry Weather Flow) to 810m^3/day of wastewater requiring treatment.

	Daily Loading Rate (L/property/day)					
	Min	Max	Average	Median	95 Percentile	Notes
Christchurch (based on pump run time)	306	423	354	354	384	7 days of individual grinder pump run time in seconds, approx 260 properties
Christchurch (based on PS104 flow data)	311	400	350	347	388	14 days, flow meter data approx 260 properties
Te Puna Analysis	205	441	359	354	391	9 months of data, 130 properties
Riverhead Analysis	393	476	413	418	447	1 month of data with accurate population, 2 years of data with estimated population, approx 1,000 properties

Figure 3 Analysis of flows from actual subdivisions such as Riverhead using low pressure sewer systems show very low peaking factors with virtually no rain influence on flows being detectible

A peak flow of 810m^3/day over a 9ha irrigation area corresponds to an 9mm application rate. 810m^3/day, over a 17ha irrigation area, represents a 4.7mm application rate, which is more consistent with utilising land irrigation alone as a means of disposal.

Should the option of combined discharge to land by irrigation, and to water via land be utilised, in keeping with the principals of Te Mana o te Wai, a land first approach should be taken. A treated water reservoir should be utilised to maximise the volume of water that is irrigated by providing the ability to store at least 24hrs of treated water production for later irrigation if irrigation needs to be deferred (e.g. due to heavy rainfall). Only once this treated water storage is full should surplus water be discharged to a rapid infiltration system where the water flows through land into water.

[2] The Auckland Code of Practice for Land Development and Subdivision *Table 5.1.2 Design residential occupancy* specifies an average of 3-person occupancy is to be used for wastewater design purposes for 3-4 bedroom houses

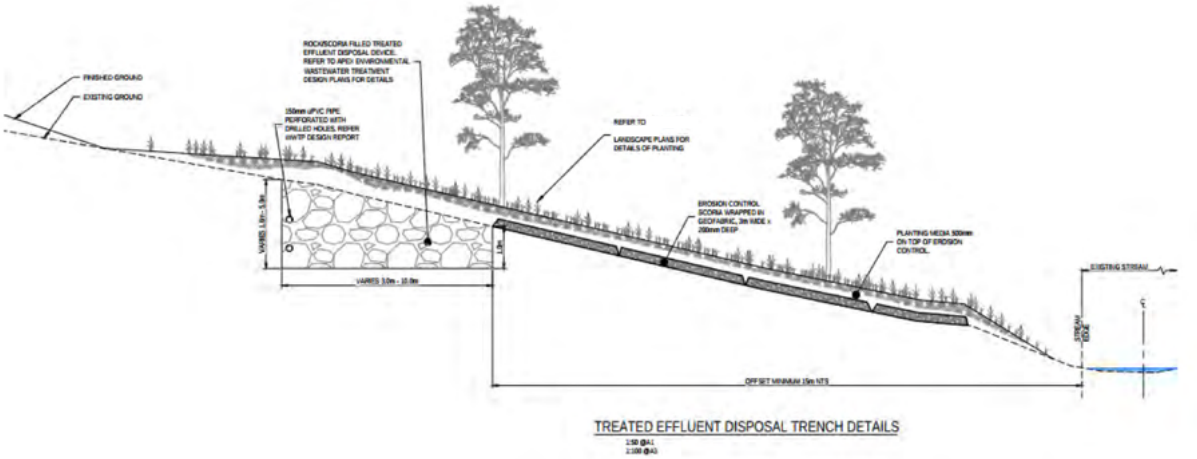

Figure 4 Example of rapid infiltration system for discharge of treated water to surface water via land (cross section only – infiltration trench length to suit design flows and site topography)

Land Application System

In the wooded areas, either on-grade drip irrigation or spray irrigation would be suitable options depending on the density of the undergrowth and topography. Watercare's Omaha WWTP represents a local precedent of treated wastewater being applied to woodlots of varying densities. At the Omaha site, on-grade drip irrigation is used.

If irrigation is to open grassed areas, sub-surface drip irrigation would be the preferred option for recycled water irrigation due to improved aesthetics and reduced human contact, but the Wainui Golf Course provides a local precedent where MBR treated water is irrigated to contact recreation land at night by spray irrigation.

Should additional irrigation land be required, this may present an opportunity to beneficially reuse the treated wastewater for irrigation of Wainui Golf Course. The golf course has a significant irrigation demand, an established irrigation system, and already uses MBR treated wastewater to meet part of this demand. The golf course is less than 3km from Delmore in a straight line and any pipeline installed for this application would be predominantly through farmland, significantly improving ease of installation.

On-Site Treatment Recommendations

Karaka North Village, Watercare's new Meremere plant, and Wainui Golf Course have set precedents locally for use of MBR treatment plants for treatment of sewage to a level suitable for on-site reuse and/or discharge to surface water. This technology represents the current state of the art and Best Practicable Option for on-site wastewater treatment.

MBR membranes inherently provide consistent, and near complete, removal of solids. This both provides substantial direct disinfection of the treated water (discharge from an MBR typically contains undetectable levels of *E. coli* bacteria prior to any further disinfection), but also optimises the treatment capacity of downstream ultraviolet (UV) disinfection systems by consistently presenting the UV with treated water with a solids content of <4mg/L (regularly 0mg/L).

Based on work caried out on similar sites adopting MBR level of treatment, an MBR with tertiary UV treatment can provide approximately 99.9999999% removal of viruses and bacteria from the wastewater.

In our experience, the step change in treatment achieved by MBR, with regards to nutrient and pathogen removal, means that this technology, combined with appropriate land contact, represents the best practicable option for treatment of water prior to discharge to surface water in alignment with the principles of Te Mana o te Wai.

Recent MBR upgrades in the region (e.g. Watercare's recent upgrades to their Meremere, Waiheke Island, Clark's Breach and Warkworth treatment plants) have shown that an MBR can produce treated water with almost half the nutrient content of a similarly sized conventional activated sludge processes. This improved level of treatment is key, in our experience, in meeting national and local policy direction relating to wastewater treatment.

The cost of MBR technology has recently come down to a point where the capital cost involved in such an upgrade is comparable to traditional, less effective on-site sewage treatment systems.

The real estate required to install an MBR upgrade is also significantly less than an equivalent traditional system, therefore maximising the amount of land that remains available for development.

Apex Water is able to engineer the treatment plant to substantially mitigate the risk of noise, odour and visual impact being detrimental to the amenity values of the neighbouring properties (Figure 5).

Figure 5 Apex Water 1,200-house subdivision MBR wastewater treatment plant featuring acoustically isolated plant room with full odour extraction and treatment.

Based on similar projects recently completed, and depending on site constraints such as geotechnical conditions, it is estimated that a fully operational treatment plant for Delmore will cost in the order of $18-20M plus GST (including design and irrigation costs but excluding network reticulation).

Attachment 13

Ecological Assessment

TO:	Andrew Fawcet Myland Partners (NZ) Limited	Date:	29 April 2024
COPY TO:	Vineway Limited	Document No:	10122-001-1
FROM:	Mark Delaney, Le		

DELMORE DEVELOPMENT - FAST TRACK SCHEDULE APPLICATION – PRELIMINARY ECOLOGY ASSESSMENT

Introduction

Vineway Limited (Vineway), is intending to lodge an application for its proposed development of approx. 110-ha of land at Upper Ōrewa Road and Russel Road ('the site') to be listed on the schedule to the Fast-track Approvals Bill. If included on the schedule it would seek approvals for its proposal using the fast-track process. This memorandum provides a high-level ecological assessment of the proposal, including an evaluation of regional significance of the proposal's potential contributions to ecology.

Methodology

A conservative, high-level desktop assessment and brief site visit over part of the site (undertaken by an experienced ecologist on 4 December 2023) informed an assessment of the site's existing ecological values. Freshwater features were classified based on the Auckland Unitary Plan -Operative in Part (AUP-OP) definitions. Indicative wetland areas were identified based on changes in vegetation, contours and hydrology, and conservatively classified as a 'natural inland wetland' under the National Policy Statement for Freshwater Management 2020 (NPS-FM). Terrestrial values were qualitatively assessed by considering botanic and habitat value of vegetation on site (in particular, considering the quality of habitat for indigenous birds, bats and lizards).

It is noted that the ecological features presented in the draft scheme plan are indicative and that at future stages of the consent application, these features can be ground-truthed and further defined.

Existing Environment

Background

The site is located within the Rodney Ecological District of the Auckland region. Historically (pre-human), the area would have likely been comprised of the kauri, podocarp, broadleaved forest ecosystem type (WF11) and would have supported a diverse range of invertebrates, amphibians, reptiles, birds and bats (Singers et al. 2017). However, historical aerials available for the area (dating back as far as 1940) indicate that the site and much of the surrounding landscape has been progressively cleared over the years to make way for agricultural and horticultural land use.

Currently, the site consists of predominantly farmland and rural residential life-style blocks, with bush fragments present to the north, largely associated with the Nukumea Scenic Reserve, which the site intersects. The site is bordered by similar rural residential and farming land uses to the west and south, with various residential developments present to the east. Within the site boundaries, several recognised ecosystems are present; kānuka scrub forest (VS2), mānuka, kānuka scrub (VS3), a few unclassified areas of vegetation (UC), and remaining fragments of the historic kauri, podocarp, broadleaved forest (WF11).

Terrestrial ecology

Aside from large areas of managed pasture, low-value amenity plantings, and the pine plantations, the site's terrestrial value is linked to areas of mature, native vegetation, present along stream margins and connected to the neighbouring Nukumea Scenic Reserve. Areas of this vegetation are recognised as Significant Ecological Areas (SEA_T_6652) or protected by local covenants. Under Schedule 3 of the AUP-OP, the vegetation is listed as meeting SEA factors for representativeness, threat status and rarity, diversity and stepping-stones, migration pathways and buffers. It is anticipated that areas of indigenous vegetation on site not currently classified as SEA may be of SEA quality, due to their proximity to, and connection with, the reserve vegetation.

While the assessment was largely based on data available via desktop (i.e., from Auckland Council's GeoMaps), it is expected that the areas of indigenous vegetation on site are of high ecological value. Species likely to be present include natives common to the site's historic ecosystem type WF11, including kauri (*Agathis australis*), podocarp (*Podocarpus* sp.), rimu (*Dacrydium cupressinum*), tōtara (*Podocarpus totara*) and miro (*Prumnopitys ferruginea*). These areas will likely support populations of indigenous birds, bats and lizards, due to the vegetation's native diversity and high connectivity to area habitat areas.

Freshwater ecology

A network of natural streams, namely unnamed tributaries of the Ōrewa River, were identified to be present within the site's extent during a preliminary desktop assessment. In connection with these streams, several potential wetland areas were identified. Given the nature of the site's current and historical land use, it is expected that the vast majority of these features will have been impacted by years of farming practise (e.g., alteration, runoff, stock damage) and suffered from lack of riparian vegetation (i.e., no filtration, bank stabilisation or shading function is currently offered by the site's pastural riparian vegetation). For this reason, the streams located with the pastoral farmland were assessed to hold low ecological value. The freshwater features within vegetated areas are expected to have a higher ecological value.

A review of the New Zealand Freshwater Fish Database, showed that in similar catchments in close proximity only shortfin eel (*Anguilla australis*) are present, indicating the catchments are highly degraded. However, it is expected that other freshwater species, such as banded kōkopu (*Galaxias fasciatus*), longfin eel (*Anguilla dieffenbachii*) and kōura (*Paranephrops planifrons*) are also present within streams that have intact riparian vegetation and appropriate fish passage.

As a threatened ecosystem, wetlands have inherent ecological value. However, given the likely degraded nature of these features (which is typical for such a landscape), the ecological quality of the wetlands (and associated habitat) was conservatively assessed as moderate. Similarly, the unnamed tributaries, though likely permanent in nature and well-connected to additional habitat (i.e., the Ōrewa River), are expected to have been impacted by years of farming practise (e.g., alteration, runoff, stock damage) and therefore also were conservatively assessed to hold moderate ecological value.

The confirmation of such features and the further definition of their extent and value can be confirmed at future consent application stages.

Assessment of Effects

Proposal

The proposed development will involve the subdivision and construction of approximately 1250 residential lots and dwellings (with current draft scheme plan showing 1200), neighbourhood parks, supporting transport and servicing infrastructure, ecological restoration and enhancement of streams and associated walking trails, as well as all associated earthworks, construction works and structures.[1]. As part of the proposed works, Vineway intends to undertake the following activities relating to ecological management:

- Covenanting non-covenanted SEA areas and indigenous vegetation that meets the definition of an SEA under Schedule 3 of the AUP-OP
- Restore areas of existing vegetation by undertaking pest plant control (i.e., in SEAs and unrecognised high-value vegetation areas).
- Undertake planting and covenanting of 10 m riparian margins for streams and wetlands present on site where appropriate, e.g. outside of crossings.
- Maintain a 20 m setback from Nukumea Reserve for all development features.

Reclamation or removal of key ecological features, as presented in the draft scheme plan, will be avoided. It is noted that the proposal provides further opportunities for enhancement, for example, through additional planting activities, which can increase connectivity, diversity and buffering on site. These can be explored as part of detailed design and consent application stage.

Effects on terrestrial values

Terrestrial ecological values on site are limited to areas of SEA vegetation, areas connected to this vegetation, and stream margins, which offer high-quality habitat for indigenous fauna. In accordance with the National Policy Statement for Indigenous Biodiversity (NPS-IB), Vineway does not propose to remove this vegetation. Removal would result in adverse effects such as loss of ecosystem representation and extent, fragmentation or a reduction in the population size or occupancy of Threatened or At Risk species within SEAs. Rather, the proposed protection (i.e., creating additional covenants) and enhancement (i.e., pest plant control) of SEA and other potential priority areas will allow for an increase in habitat quality, native vegetation diversity, ecological connectivity and buffering function of terrestrial vegetation on site. Additionally, the intended riparian and wetland buffer planting will further greatly increase indigenous terrestrial ecological values by increasing ecological connectivity, indigenous plant species diversity and abundance, and habitat values. In light of Auckland's history of biodiversity loss and ecosystem fragmentation, this proposal presents a significant opportunity for biodiversity gain within the region.

If adverse effects on indigenous biodiversity arise and are unavoidable, the effects management hierarchy will be applied to ensure the proposed activities meet the objective and polices of the NPS-IB and adverse effects are managed appropriately. Any potential direct effects on indigenous fauna can be appropriately managed through fauna management plans. If the relocation of native lizards is required than a Wildlife Act Authority (permit) through the Department of Conservation would be required.

[1] It is noted that an area of the site has been earmarked for development by Auckland Transport (AT), referred to as the Pukekohe South-West Upgrade (NoR 6). The effects of these works are expected to be addressed by AT.

The removal of other, low-value vegetation (i.e., pasture and amenity plantings) for future developments is considered appropriate for the site and will not result in a significant loss of ecological function or terrestrial habitat. As noted above, there are opportunities for additional planting (e.g. parks, street trees, on-lot trees), which have the potential to add to the ecological benefits achieved by the proposal, and can be explored at a later stage.

Effects on freshwater values

The site's existing freshwater values are associated with a network of streams and natural inland wetlands. At future consenting stages, the extent and quality of these features will be further defined. However, based on preliminary assessment, these features are considered likely to be degraded and adversely affected by the current land use, offering poor-quality habitat for freshwater fauna. As shown in the draft scheme plan the proposal has been designed around, and to avoid, these key features. The proposal will seek to retain this through detailed design phase. Furthermore, through proposed riparian margin planting and the creation of additional covenants, the proposal is expected to promote an improvement in water quality (i.e., via increased filtration function of riparian vegetation), shading, bank stability and in-stream fauna habitat, while providing buffer and connectivity function. As some of the existing wetland and stream habitats are in poor condition, these restorative actions represent an overall increase in freshwater value.

Indirect adverse effects, such as sedimentation or pollution from stormwater or wastewater discharges, are proposed to be adequately mitigated through appropriate controls and following best practice guidelines (McKenzie & Co 2024) (Apex Water 2024), to help ensure adverse effects on ecological values are no more than minor.

If adverse effects on streams or wetlands are unavoidable, the effects management hierarchy will be applied to ensure the proposed activities meet the relevant standards within the National Environmental Standards for Freshwater 2020 (NES-F).

Relevant legislation

The proposal is considered to align with the policies and objective of key pieces of environmental legislation, such as the NPS-FM and the NPS-IB.

The main objective of the NPS-FM is to ensure the health and well-being of water bodies and freshwater ecosystems are prioritised. To prioritise the health and well-being of freshwater ecosystems on site, Vineway has engaged Viridis to conservatively identify and qualitatively assess these features, so that reclamation or disturbances are avoided. Potential significant adverse effects for future development will be able to be appropriately avoided, minimised, remedied or offset under the effects management hierarchy and will be able to meet the relevant standards of the NES-F. Furthermore, the proposal will result in the establishment of planted and protected riparian margins, which will improve the overall quality of freshwater environments on site.

The main objective of the NPS-IB is to ensure, at a minimum, that no overall loss in New Zealand's biodiversity occurs by protecting and restoring indigenous biodiversity values. The proposal is considered to be consistent with the objectives of the NPS-IB, as the biodiversity values of the site have been identified, qualitatively assessed, and no overall loss in indigenous terrestrial biodiversity is anticipated as a result of the urbanisation of the site. Rather, the proposal provides the opportunity to improve the site's terrestrial biodiversity through protection and enhancement activities, which will improve the overall diversity, native species habitat and quality of the site's terrestrial features. The

restoration actions proposed by Vineway align with the priorities of Clause 3.21 of the NPS-IB by prioritising the restoration of SEAs, threatened ecosystems, areas that offer connectivity and buffering functions, and natural inland wetlands on site. Furthermore, these proposed restoration actions, including the planting of riparian margins and wetland buffers, will greatly increase indigenous terrestrial ecological values by increasing ecological connectivity, indigenous plant species diversity and abundance, and habitat values. These benefits will provide a significant positive contribution in relation to the regional indigenous biodiversity loss Auckland has historically experienced.

Conclusion

The potential impacts of Vineway's proposed residential development at upper Ōrewa have been assessed in relation to the ecological values currently associated with the site. These include areas of high-value indigenous vegetation, and a network of moderate-value streams and wetlands. The proposed avoidance of reclamation or removal of these features, along with mitigation measures for indirect effects (e.g., suitable stormwater and wastewater management), will prevent a loss in the site's biodiversity value. In actual fact, it has been acknowledged that the proposal presents ample opportunity for the enhancement and protection of existing features, which is proposed to be undertaken by Vineway (with specifics to be determined during detailed design). Given the proposed ecological management activities, it is considered that the development's contribution to environmental value would be regionally significant.

References

Apex Water 2024. Concept Review of On-Site Wastewater Treatment Options for Delmore Development. A report, prepared by Apex Water Limited for Vineway Limited. 19 April 2024.

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Attachment 14

Geotechnical Assessment

Vineway Ltd
s 9(2)(a)

30 April 2024

Our Ref: 240065-C

Attention: Ms Chantal Janssen

Dear Ms Janssen

Geotechnical Suitability of Land for Residential Development Upper Ōrewa Road and Russell Road, Ōrewa

1.0 Introduction

Further to your request Riley Consultants Ltd (Riley) has carried out a high-level geotechnical assessment of the site at Upper Ōrewa Road and Russell Road, Ōrewa. This assessment is intended to provide geotechnical information to assist with an application for the site to be included in the schedule to the Fast Track Approval Bill currently going through the Select Committee process. We understand the land for consideration includes 88, 130, and 132 Upper Ōrewa Road together with 53A, 53B, and 55 Russell Road, Ōrewa.

The proposed development will involve the subdivision and construction of approximately 1,250 residential lots and dwellings (with current draft scheme plan showing 1,200), neighbourhood parks, supporting transport and servicing infrastructure, ecological restoration and enhancement of streams and associated walking trails, as well as all associated earthworks, construction works and structures. The residential lots are depicted as being located along the site ridge lines and sidling slopes.

This report is intended as an initial assessment of geotechnical constraints (e.g. land stability, bearing capacity, and ground settlement) over the site. We have considered the geotechnical constraints for the site including hazards, possible measures to improve or ensure stability and settlement, and an opinion regarding the extent of landform modification required for future development.

As outlined in the attached commentary, site stability is a key element that will require geotechnical investigation and design input to address. However, we consider that with appropriate stability enhancement measures the site can be developed for residential purposes in a way that ensures stable lots are available to meet the requirements of the Auckland Council Code of Practice for Land Development (which considers a range of groundwater and seismic conditions). We envisage that the stability enhancement measures will comprise a combination of earthworks shear keys, subsoil drainage and inground palisade walls. These are conventional measures and have been adopted successfully on other developments in the vicinity.

2.0 Assessment

The site contains large areas that have steep slopes, soil creep, and existing instability features. Thus, we consider that the site predominantly comprises land with moderate and high geotechnical constraints. However, as outlined above and below, we consider these constraints can be managed through established, effective stabilizing measures. Further commentary on the site conditions is attached.

The stability constraints at present mean the site will require detailed geotechnical involvement and many areas may require significant remedial earthworks for slope stabilisation. Some areas may not be suitable for development without earthworks, which is a typical feature of development in this area (e.g. Ara Hills). In areas with moderate and high constraints, we expect suitable stability improvement measures to include the use of shear keys, subsoil drainage and/or palisade retaining walls.

There may also be some areas within the site that have low geotechnical constraints and only require limited earthworks or stability improvement to support future development. Areas with low geotechnical constraints are likely to require minimal geotechnical input with respect to stability for future development. It should be noted that low geotechnical constraints zones could be subject to some ground settlement beneath possible future fill and building loads. Such settlements can be mitigated through the careful development planning and construction. Even with reduced available bearing pressure in some areas, adequate bearing capacities should still be available to support conventional residential development.

3.0 Conclusion

We consider that with appropriate earthworks and stabilisation measures, the site should be suitable for residential development. The earthworks required here should be generally consistent with those required at other sites in the Auckland area and the Hibiscus Coast, specifically with similar geotechnical features that have already been developed.

4.0 Limitation

This letter report has been prepared solely for the benefit of Vineway Ltd as our client with respect to the brief. The reliance by other parties on the information or opinions contained in the report shall, without our prior review and agreement in writing, be at such parties' sole risk.

Recommendations and opinions in this letter report are based on a desktop review and limited site observations. The nature and continuity of subsoil conditions is inferred could vary considerably from the assumed model. As noted above, further detailed analysis would be undertaken as part of preparing a consent application and/or at EPA stage.

Yours faithfully
Riley Consultants Ltd

Prepared by:

James Beaumont
Principal Geotechnical Engineer, CPEng

Reviewed and approved for issue by:

Brett Black
Project Director, CPEng

Attachments: Assessment Commentary

Assessment Commentary

1.0 Methodology

In performing this high-level assessment, the following methodology has been adopted:

- Review of historical aerial photographs to assess the general extent of areas that exhibit obvious topographic evidence of slope instability.
- Limited on-site observation of geological and geomorphic features within the site area.
- Review of published geological information.
- Consideration of geotechnical constraints, hazards and remedial options adopted at other nearby developments.

2.0 Geology

The published geological map indicates the site is underlain by the following geological units:

- Waitemata Group (East Coast Bays and Pakiri Formation) – underlying the raised areas of the site.
- Northland Allochthon (Hukerenui Mudstone) – underlying the lower southern part of the site.

Tauranga Group alluvium is also mapped as being present to the south of the site. We consider that these are likely to be present in gully inverts in the lower lying parts of the site.

The oldest and most widespread geological unit is the Miocene-age Waitemata Group. Here, the Waitemata Group deposits are represented as East Coast Bays Formation (ECBF) and Pakiri Formation. The ECBF is described as comprising alternating sandstone and mudstone with variable volcanic content and interbedded volcaniclastic grits. Pakiri Formation is an alternating thick-bedded, volcanic rich, graded sandstone, and siltstone. Hukerenui Mudstone of the Northland Allochthon (NA) typically described as commonly sheared mudstone.

Tauranga Group generally comprises silts and sands, with the potential for localised peat lenses. These materials have generally been subjected to pre-consolidation, however, they may contain localised areas of very soft ground.

3.0 Geomorphology

The site is located to the west of the Northern Motorway. It is bounded to the east by the existing Ara Hills residential development, to the south by Upper Ōrewa Road and Russell Road, to the north by Nukumea Scenic Reserve and to the west by farmland. The topography is dominated by a number of ridges and gullies that slope down to a confluence near the centre of the site. From here surface water discharges to the south to a stream that flows from west to east adjacent to the southern margin of the site. There are various small streams throughout the site which are to remain as part of the development.

Land gradients within the site typically slopes between 5° and 15° but steepen into the gullies, increasing up to in the order of 20°. Numerous instability features are present across the site in the form of slip scarps, hummocky ground, and mid slope benches. These are a common features of Northland Allochthon deposits and areas in the vicinity of the contact between geological units.

4.0 Geotechnical Constraints

The presence of the Northland Allochthon deposits and its interface with the ECBF also present complex stability issues that will need to be addressed. Similar land instability features were also present at the adjacent Ara Hills development.

Due to the presence of significant instability features, we consider that the site predominantly comprises land with medium and high geotechnical constraints. However, there may be some localised areas that have low geotechnical constraints that are likely to require minimal geotechnical input and remedial works with respect to stability, building foundation, and future development requirements.

In areas with low geotechnical constraints the land is generally flat or slightly sloped, which in its present state, is considered unlikely to be affected by deep-seated instability. Such low-lying areas could be subject to ground settlement beneath possible future fill and building loads; in the more low-lying areas, bearing capacities are likely to be reduced. A comprehensive geotechnical investigation and assessment will be required, subject to specific development design.

Medium and high-risk zones tend to have land of slight to steep slopes and/or existing instability features that is considered to be at risk of being affected by slope movement in its present state. This includes land at risk of inundation by slopes above. Areas with medium and high geotechnical constraints are likely to require significant remedial earthworks to create the desired development including formation of roads and building platforms at suitable gradients. The design of such remedial works will be subject to specific investigation, the extent of which is likely to vary in different parts of the site. A detailed geotechnical assessment of stability is envisaged.

5.0 Geotechnical Hazards and Remedial Measures

Areas with low geotechnical constraints are considered to be at low risk of slope instability and minor ground settlement. However, relatively small areas at risk may exist and specific geotechnical assessment will be required adjacent to the stream banks and low-lying areas of the site.

It is envisaged, that within areas of low geotechnical constraints, limited earthworks and remedial measures will be required for typical residential type development, although, for the proposed development, significant landform modification, greater geotechnical input and earthworks are likely to be required.

Development in areas with moderate and high geotechnical constraints is likely to require increased earthworks, and remedial stability improvement works, specific to the site and proposed development.

Key geotechnical hazards within the moderate and high geotechnical constraint zones include steep slopes, marginally stable land and land with existing instability features, where inappropriate development could trigger slope movement, slope failures, and potential for inundation. However, with appropriate geotechnical input and design, we consider that such land can be remediated and be made stable for residential development as shown on the draft masterplan. We understand that the adjacent Ara Hills residential development had similar instability features to those present at this site and that those were stabilized through earthworks construction of shear keys, counterfort drains and inground palisade walls. These are conventional slope remediation solutions and we would expect them to also be suitable for this site. However, earthworks and drainage type stabilisation solutions are likely to be more cost effective than palisade walls but these approaches are typical for dense urban development sites such as this (although development density does not affect technical suitability of remedial options) and the suitability of individual options will need to be assessed as part of future geotechnical investigation and design inputs.

As is normal practice, a range of groundwater and seismic conditions will be considered during the design of stability enhancement measures to ensure that adequate stability is maintained across the lots. The cases considered include varying degrees of ground saturation and seismic events in accordance with the Auckland Council Code of Practice for Land Development.

Attachment 15

Contaminated Land Assessment

WILLIAMSON
WATER & LAND ADVISORY

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Vineway Limited
via email

Attention: Djordje Petkovic
s 9(2)(a)

30 April 2024 WWLA1147

Delmore Subdivision – Preliminary ground contamination advice for Fast-track Approval

Williamson Water & Land Advisory Ltd (WWLA) is pleased to provide our preliminary ground contamination advice for Vineway Limited's (Vineway) proposed residential subdivision in Ōrewa/Wainui, Auckland (see **Figure 1** overpage).

In summary this assessment has identified very limited potential for significant ground contamination as the site has primarily been used for pastoral farming and rural residential uses. Former farm structures were generally limited to small barns / sheds and stockyards until the area transitioned into rural residential use from the 1980s. Most of the dwellings were constructed in the 2000s (or later).

Localised soil contamination, which may be present around existing structures, is best dealt with during demolition, for example, by a localised scrape of surficial soils. Such minor works can be dealt with under the demolition approval process and should not trigger the need for ground contamination specific consents. Following demolition and clearance of the existing structures it is expected that earthworks should largely be able to be managed through standard earthworks controls and procedures.

1. Background

We understand Vineway is proposing to develop a residential subdivision across the following properties in Ōrewa/Wainui, Auckland (the site):

- 88, 130, 132 Upper Ōrewa Road; and
- 53a, 53b, 55 Russell Road.

A draft development scheme plan is provided in **Appendix A**. Vineway intends to lodge an application for the development to be included in the schedule to the Fast-track Approvals Bill (2024) and is seeking preliminary advice on the potential for ground contamination at the site to support this process.

2. Scope of work

WWLA undertook the following scope of work to assist Vineway with understanding potential ground contamination risks associated with the proposed development:

1) Review of historic aerial photographs from Auckland Council GeoMaps, Retrolens and Google Earth.
2) A site walkover assessment by a suitably qualified and experienced practitioner (SQEP).
3) Preparation of this report.

While this report is not intended to constitute a full preliminary site investigation (PSI), WWLA has prepared this report in general accordance with requirements of published industry best practice guidance, being the MfE's *Contaminated Land Management Guideline No. 1: Reporting on Contaminated Sites in New Zealand (Revised 2021)*, (CLMG 1).

This report has been prepared, reviewed, and certified by WWLA SQEPs as described in the NESCS Users Guide[1]. CVs confirming the SQEP status of our contaminated land specialists are available on request.

Figure 1. Site location (approximate red outline) and layout (source: Google Earth)

3. Site setting

The site setting is described below, the features of the setting are considered in the context of their potential to affect the distribution, mobility and form of contaminants (if present).

Site condition	The site was visited by a SQEP from WWLA on 22 April 2024. The following observations regarding the condition and current use of the site were made (selected photographs are provided in **Appendix B**): • As described in **Section 1**, the site comprises 6 adjoining properties located on the northern side of Upper Ōrewa and Russell Roads. • All of the properties were being used for rural and rural residential purposes with pasture being the dominant use (see **Photograph 1**). Several small stands of both plantation forestry (pine) and native bush are present across the wider site (see **Photograph 2**). • Except for 53a Russell Road each property includes a dwelling and associated infrastructure (typically sheds, garages etc.) near its southern end with gravel or paved accessways from Russell or Upper Ōrewa roads (see **Photograph 3** to **Photograph 6**, **Photograph 11**, **Photograph 16** and **Photograph 23** in **Appendix B**). 53a Russell Road is undeveloped. • Except for 55 Russell Road all dwellings and sheds were observed to be constructed of inert building materials: brick, stained wooden cladding, modern weatherboard systems or profiled steel products (see **Photograph 6**, **Photograph 15**, **Photograph 18** and **Photograph 24** in **Appendix B**). A singe garage on 55 Russell Road was observed to be clad with fibre cement board, a suspected asbestos containing material (ACM), see **Photograph 5** in **Appendix B**.

[1] Ministry for the Environment. 2012. Users' Guide: National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health.

	• Residential scale vegetable gardens and groves of fruit trees are present on 53b and 55 Russell Road and 88 Upper Ōrewa Road (see examples in **Photograph 12**, **Photograph 13** and **Photograph 16** in **Appendix B**). • Small stockyards are present on 53b and 55 Russell Road and 88 and 130 Upper Ōrewa Road (see examples in **Photograph 8**, **Photograph 19** and **Photograph 24** in **Appendix B**). However, no evidence of livestock dipping facilities was observed in relation to the stockyards (or elsewhere on the properties). • A half round bard and associated stockyard at 130 Upper Ōrewa Road is configured for handling deer with facilities indicating that animal treatments were administered by oral or pour on application (see **Photograph 18** to **Photograph 22** in **Appendix B**). • Several small ponds are present across the wider site, apparently utilised for water supply for stock watering purposes. • No evidence of onsite disposal of wastes (e.g. farm dumps) was observed. But storage of fuel and/or oil at residential volumes was noted in some localised areas (see **Photograph 9**, **Photograph 10** and **Photograph 15**). • No signs of stressed vegetation or surface staining were observed during the walkover.
Site surrounds	The site is located within an area that is currently dominated by rural residential (lifestyle blocks) and rural (pastoral grazing) land uses with occasional blocks of regenerating native bush and plantation forestry. As shown on the draft scheme plan provided in **Appendix A**, a number of new subdivisions are in various stages of development to the immediate north and east of the site so residential land uses will start to dominate the surrounds (at least to the north and east) in the near future.
Topography and drainage	*The topography and drainage influences where contaminants may migrate to if present and surface water features are potential receiving environments for contaminants (if any) derived from the site.* The topography of the site is dominated by a north-south gully and ridge system in its north. The ridges generally rise to an elevation of some 60 m within the site, with the gullies generally around 20 m elevation. The gullies drain to the south intersecting an easterly flowing tributary of the Ōrewa River in the south of the site. To the south of the tributary the topography rises to Upper Ōrewa and Russell roads. Auckland Council GeoMaps indicates that narrow flood plains are associated with the tributary of the Ōrewa River and feeder streams in most gullies. The tributary of the Ōrewa River discharges into the main Ōrewa River some 1.7 km to the east. The Ōrewa River ultimately discharges into the Hauraki Gulf at Ōrewa Beach, some 4 km to the east. Auckland Council GeoMaps also shows that the site is not currently serviced by any public water, sewerage or stormwater services.
Geology	*Geological conditions can influence how contamination migrates if present, for example, more porous soils can enable contaminants to move more quickly and potentially further than clay-rich soils that retain/bind or prevent penetration of contaminants.* The published geology[2] indicates the site is principally underlain by alternating sandstones and mudstones of the East Coast Bays Formation (ECBF). ECBF rocks typically weather to predominantly fine grained, silt and clay soils. Information available from the New Zealand Geotechnical Database (NZGD) indicates that fine grained alluvial or colluvial soils are likely to be present in the gully inverts in the lower lying parts of the site.
Hydrogeology	*Hydrogeological conditions affect the potential risk of a contaminant entering and being transported in groundwater*. Shallow groundwater is expected to be encountered near surface (<1 m depth) in the gullies and a greater depth (several metres or more) beneath the ridges. Shallow groundwater is expected to follow topography discharging into the gully streams. Information available from the NZGD indicates that regional groundwater is present in the ECBF at some 30 to 50 m below ground level (m BGL).

[2] Edbrooke, S.W. (compiler), 2001. Geology of the Auckland area. Scale 1:250,000. Institute of Geological & Nuclear Sciences geological map 3.

Sensitive receptors	*Sensitive environmental receptors could include aquatic or terrestrial ecosystems. This is not an ecological assessment but is instead an initial review of the surrounding environment to assess where contaminants (if present) on the site could migrate to and whether the receiving ecosystem could be vulnerable to contaminants*. The tributary of the Ōrewa River and feeder gully streams may be considered sensitive environmental receptors where these have not been modified. Some of the areas of regenerating native bush also have the potential to be considered sensitive environmental receptors.
	Sensitive human receptors could for example be children at a school or kindergarten on or adjacent to a site. Workers on industrial land (including or adjacent to a site) would be considered less sensitive. Occupiers and users of the adjoining rural residential properties may include sensitive receptors. However, the nearest residences are typically setback at least 20 m from the site and are therefore unlikely to be impacted by ground contamination (if any) associated with it.

4. Site history

Review of historical aerial photographs found that the site was primarily used for pastoral farming, with some localised planation forestry and/or regenerating scrub / bush, since before 1940 to at least the 1980s. During this period structures were limited to sheds / barns, stockyards (there is no evidence of livestock dipping facilities) and a single dwelling on 88 Upper Ōrewa Road. From the 1980s the area transitioned into rural residential uses, in addition to the ongoing rural (pastoral) uses, with a further dwelling constructed on 53b Russell Road, but additional dwellings were not built until the 2000s (or later).

Selected historical aerial photographs are provided in **Appendix C**. A brief summary of the site history derived from the aerial imagery is provided on a property by property basis below.

55 Russell Road	This property was undeveloped pasture or regenerating bush in 1940s. A quarry was developed near its northeastern corner in the 1950s but this activity had ceased by 1963 and scrub / bush regenerated across this area. A dwelling was first constructed near the southern end of the property in the mid-1980s (between 1981 and 1988). Only minor changes to the dwelling and surrounds have occurred since. The northern portion of the property was cleared of scrub / bush in the 1990s and plantation forestry established.
53a Russell Road	This property has remained undeveloped and variously covered in either pasture, regenerating scrub / bush or plantation forestry (across its southern half) throughout its history.
53b Russell Road	This property remained undeveloped and variously covered in either pasture, regenerating scrub / bush or plantation forestry (across its southern half) until an accessway and building platform were constructed at near its southern end in 2013. The property was occupied by a shed (near its southeastern corner) and various smaller structures (possibly tiny houses) until a main dwelling and adjacent minor dwelling were constructed in 2017. A small residential orchard was established near the building platform for the dwellings in 2015.
88 Upper Ōrewa Road	A single dwelling and shed were present on the road frontage of this property in 1940. These do not appear to have changed materially until they were removed in the early 2000s, after which time a small stockyard is evident. A single dwelling was constructed near the southern end of the site around 2009/2010. A pool, shed and landscaping were added to the site over time, but it has otherwise not change materially since 2010. In the 1950s an accessway to the quarry on 55 Russell Road was provided through this property. This had fallen into disuse by 1963 and little more than a discontinuous farm track by the 1970s.
130 Upper Ōrewa Road	This property has remained undeveloped and variously covered in either pasture, regenerating scrub / bush or plantation forestry (across its southern half) throughout its history. The only structure developed on the property is a small half round barn. Built in the 1970s, this appears to have initially been used as a barn but later repurposed as a stockyard with both indoor and outdoor pens and races, likely to handle deer (see **Section 3**).

132 Upper Ōrewa Road	A large shed or barn, accessed from Upper Ōrewa Road, was first constructed near the southern end of this property in the 1950s. Smaller sheds were variously located on the northern portion of the site over time, but only one remains today. A stockyard was developed adjacent to the main southern barn in the late 1980s-early 1990s. A dwelling was also constructed near the southern end of the site in this period. The site has not changed materially since other than the original barn being replaced by more modern farm sheds in the 1990s or 2000s, these sheds are now located outside of the property, immediately adjacent to its eastern boundary.

5. Potential for contamination

In summary this assessment has identified very limited potential for significant ground contamination as the site has primarily been used for pastoral farming and rural residential uses. Structures were generally limited to small barns / sheds and stockyards until the area transitioned into rural residential uses from the 1980s. Most of the existing dwellings were constructed in the 2000s (or later).

Potentially contaminating activities are described below along with an assessment of the likelihood and magnitude of any contamination resulting from the activity, and whether the activity constitutes a HAIL[3]. HAIL activities are those recognised by the Ministry for the Environment as having the greatest potential to result in ground contamination. Those activities highlighted red are confirmed HAILs (none), those activities that have potential to have occurred but require soil testing to confirm are highlighted in orange and those that are not a HAIL in the context of this site are indicated in green.

Land use and associated HAIL Activity	Potential contaminants	Potential likelihood and extent of contamination	HAIL Assessment
Asbestos building materials *Activity E1. Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition.*	Asbestos	The majority of structures currently or previously present on the site were either: • Constructed before asbestos was in common use - pre-1940s buildings on 88 Upper Ōrewa Road; or • Constructed after asbestos was in common use - predominantly >2000s era buildings present on the site today; or • Were not observed to include (ACM) on their exterior - barns and sheds are constructed of steel or wooden materials. Suspected ACM material was only observed on a single garage at 55 Russell Road. The materials were observed to be intact but unpainted. Being unpainted means they have the potential to shed fibres to ground during natural weathering processes.	HAIL Activity E1 **does not apply** to the site as the limited ACM was observed to be intact.
Lead-based paint *Activity I: Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.*	Lead	While lead was widely used in paint in New Zealand until 1965 it had largely been phased out by the early 1980s (white lead was banned in 1965). As a result, it is highly unlikely that the existing dwellings would have been finished with paints containing high concentrations of lead. As most of the older barns/sheds are unpainted these are also not considered to be source of lead contamination. The few older structures that are painted, or those previously removed (pre-1940s buildings on 88 Upper Ōrewa Road) are unlikely to present a significant source of contamination, either due to their small scale or the dilution	HAIL Activity I **is not considered to apply** to the site as contaminants are not expected to be present at concentrations posing a risk

[3] Ministry for the Environment's Hazardous Activities and Industries List (HAIL).

Land use and associated HAIL Activity	Potential contaminants	Potential likelihood and extent of contamination	HAIL Assessment
		of contamination that likely occurred when the buildings were demolished and the areas repurposed.	to human health or the environment.
Vehicle servicing *Activity F4: Motor vehicles workshops.*	Petroleum hydrocarbons (fuels, oils, grease etc.), solvents, metals	Some of the sheds were being used for the storage of farm equipment, including tractors, motor vehicles etc. Some evidence of previous maintenance of farm equipment/ vehicles was observed (fuel and oil containers). However, no evidence of spills or significant staining was noted. We consider that the nature of the activity is consistent with a residential property where the landowner maintains their own vehicles (i.e. it is not a commercial vehicle servicing activity). As the HAIL guidance[4] provides an exclusion for landowners servicing their own vehicles we consider that HAIL activity F4 does not apply to the site.	HAIL activity F4 **does not apply** to the site.
Operation of effluent ponds and septic tanks *Activity G5: Waste disposal to land.*	Pathogens, nutrients, metals	As described in Section 3, the site is not currently serviced by public sewerage systems therefore animal and human wastes will have been discharged to ground. The HAIL guidance[4] includes exclusions for: • *"Agricultural spreading of animal effluents (eg, dairy shed effluent) or manure where normal animal husbandry practices are not expected to result in contamination of effluent or manure".; and* • *"Domestic septic tanks. While these systems may discharge wastewater to ground containing biological hazards, the amount of organic chemicals or inorganic contaminants, such as metals and metalloids, that could persist in soil will generally be low."* For these reasons we consider that HAIL activity G5 does not apply to the site.	HAIL activity G5 **does not apply** to the site.
Residential orchards and vegetable gardens *Activities A1 or A10 relating to handing and use of agrichemicals including pesticides*	Metals, pesticides	The HAIL guidance[4] includes an exclusion (in Category A1) for *"..storage or mixing of agrichemicals in a residential setting (where small volumes of product would be handled at one time and any spills that were to occur would be limited in extent)".* For this reason, we consider that HAIL activities A1 and A10 do not apply to the site.	HAIL activities A1 and/or A10 **do not apply** to the site.
Historic quarrying on 55 Russell Road *Activity E7: Mining industries…*	Various but metals and hydrocarbons are common	The HAIL guidance[4] includes an exclusion for *"gravel extraction or rock quarrying for aggregate or building stone (no likelihood of soil contamination from the gravel or rock materials but may have ancillary activities covered by other HAIL activities)".* As there is no evidence of ancillary activities associated with the quarry we consider that HAIL activity E7 does not apply to the site.	HAIL activity E7 **does not apply** to the site.

In summary, while there is limited potential for ground contamination that would present a risk to human health or the environment, typical urban activities may have contributed contaminants to ground in localised areas, particularly around the existing dwellings and associated structures. Such contamination is expected to be limited to a narrow halo (generally 1-2 m wide) around the

[4] Ministry for the Environment. 2023. Hazardous Activities and Industries List guidance: Identifying HAIL Land.

structures. While the activities are not considered to be HAILs, contaminants may still be present above background ranges meaning that affected soils cannot be treated as cleanfill in an offsite disposal of soil scenario. In addition, while none were observed during the site inspection, localised sources of ground contamination, such as offal pits, incineration/burning, or other small areas of farm waste disposal cannot be excluded.

6. Preliminary conceptual site model

A conceptual site model (CSM) indicates known and potential sources of contamination, routes of exposure (pathways), and the receptors that are affected by contaminants moving along those pathways. Receptors may be people or the environment. *The CSM's purpose is to set out risks to people and the environment (if any) associated with any proposed activity (short or long term) on the land.* Colour coding is used in the source – pathway – receptor analysis presented below to indicate the:

- Potentially complete exposure pathways i.e. those where there may be a risk to people and/or the environment if appropriate controls are not in place; and
- Incomplete exposure pathways where there is no risk to human or environmental receptors.

Source	Receptor	Exposure pathway	Acceptable risk (Yes/No) and assessment
Surficial soil impacted by asbestos, lead or horticultural chemicals (orcharding)	Construction workers and neighbouring site occupants during soil disturbance	Dermal contact, ingestion	**Yes** Contaminants are highly unlikely to be present at concentrations that present a risk to human health. In addition, it is expected that topsoil will be removed to facilitate the proposed development and any impacted soils can be appropriately managed or disposed of at that time.
	Future site occupants		
	Ecological receptors at the nearest surface water bodies	Discharges via surface and groundwater	**Yes** Contaminants are highly unlikely to be present at concentrations that present a risk to environment. In addition, it is expected that topsoil will be removed to facilitate the proposed development and any impacted soils can be appropriately managed or disposed of at that time.
	Receptors at the soil receiving sites	Discharges to the receiving environment	**No** While contaminants are highly unlikely to be present at concentrations that present a risk to human health or the environment, localised soils around dwellings and associated structures may contain contaminants at concentrations that exceed background (cleanfill) ranges and therefore need to be reused or disposed of appropriately.

7. Implications for development

7.1 Consenting implications

As this assessment has not identified any evidence of HAIL activities having been undertaken on the site, ground contamination related resource consents are not expected to be required to support subdivision or development of the site.

While there is potential for localised contamination around existing dwellings and associated structures (generally a halo 1-2 m wide), we consider that these can be dealt with during demolition and clearance activities. Council has the necessary mechanisms available to it under

the Asbestos Regulations[5] and/or Building Act to ensure that the any minor soil contamination is appropriately addressed.

7.2 Construction implications

Following demolition and clearance of the existing dwellings and associated structures it is expected that earthworks should largely be able to be managed through standard earthworks controls and procedures.

Demolition and clearance requirements	No specific soil remediation requirements have been identified for the site but soil and debris around existing dwellings and associated structures (generally a 1-2 m wide halo) should either be tested for suitability for reuse, or removed for disposal to appropriate facilities, during the demolition and clearance process. The Asbestos Regulations require that an asbestos survey is conducted prior to any refurbishment or demolition of structures built prior to the year 2000. Where it is being disturbed asbestos will need to be removed by a Licensed Asbestos Removalist.
Earthworks controls	Standard earthworks controls are expected to be suitable for controlling the localised contamination (if any) around existing dwellings and associated structures.
Health and safety	Aside from those associated with asbestos removal there are not expected to be any specific contamination-related health and safety requirements for onsite workers during disturbance of soil. Good hygiene practices should always be followed, such as washing hands before eating and drinking.
Soil reuse	Other than soil and debris around existing dwellings and associated structures (generally a 1-2 m wide halo) soil should be able to be reused without contamination-related constraints.
Soil disposal	Other than soil and debris around existing dwellings and associated structures surplus soil should be able to be disposed offsite as cleanfill. However, cleanfill facility operators are likely to require confirmatory testing before they will receive surplus soils. Soil and debris around existing dwellings and associated structures (generally a 1-2 m wide halo) is expected to require disposal to managed fill or landfill. Testing will be required unless the material is disposed to landfill (as mullock).
Unexpected discovery protocols	In accordance with standard industry procedures works shall cease and the area must be isolated if unexpected contamination is discovered. A SQEP shall be engaged to advise on how to proceed. Typical unexpected materials can include: • ACM, visible as white/pale fragments of fibreboard sheeting, or other demolition material, signifying filling with waste may have occurred. • Odorous materials (i.e., hydrocarbons, solvent odour). • Discoloured soil (green, black). • Putrescible material.

8. Closure

We trust that this report meets your requirements but please contact the undersigned if you have any queries.

Yours sincerely,

Wendi Williamson
Principal Contaminated Land and Environmental Specialist | s 9(2)(a)
s 9(2)(a) | www.wwla.kiwi

[5] Health and Safety at Work (Asbestos) Regulations 2016.

Appendix A. Draft development scheme plan

Delmore

Appendix B. Site photographs

Photograph 1. View to northeast from the accessway to 130 Upper **Ō**rewa Road showing general topography.

Photograph 2. View of the south from accessway to 130 Upper **Ō**rewa Road showing stands of both native and plantation forestry.

Photograph 3. View of main dwelling at 55 Russell Road, stained wooden weatherboard cladding

Photograph 4. View of minor dwelling at 55 Russell Road, modern fibre cement cladding.

Photograph 5. Example of sheds between dwellings at 55 Russell Road, single garage to left is clad with suspected ACM.

Photograph 6. Example of sheds between dwellings at 55 Russell Road.

Photograph 7. Contents of shed (behind sheds in Photograph 6) at 55 Russell Road.

Photograph 8. Closeup of stock yard and materials stored at 55 Russell Road.

Photograph 9. Containers of waste oil being stored adjacent to sheds at 55 Russell Road.

Photograph 10. Closeup of waste oil being stored adjacent to sheds at 55 Russell Road.

Photograph 11. View of the main and minor dwelling at 53b Russell Road.

Photograph 12. Residential fruit trees at 53b Russell Road.

Photograph 13. Residential vegetable garden at 53b Russell Road.

Photograph 14. View to east over wood cutting and splitting area adjacent to accessway of 53b Russell Road.

Photograph 15. Fuel and oil containers at wood cutting and splitting area at 53b Russell Road.

Photograph 16. View to northwest over dwelling at 88 Upper **Ō**rewa Road (not able to be accessed).

Photograph 17. View to west over stockyard at the entrance to 88 Upper **Ō**rewa Road (not able to be accessed).

Photograph 18. View to north over half round barn and stockyard at 130 Upper **Ō**rewa Road.

Photograph 19. View to south over half round barn and stockyard at 130 Upper **Ō**rewa Road.

Photograph 20. View of the interior of the half round barn at 130 Upper **Ō**rewa Road.

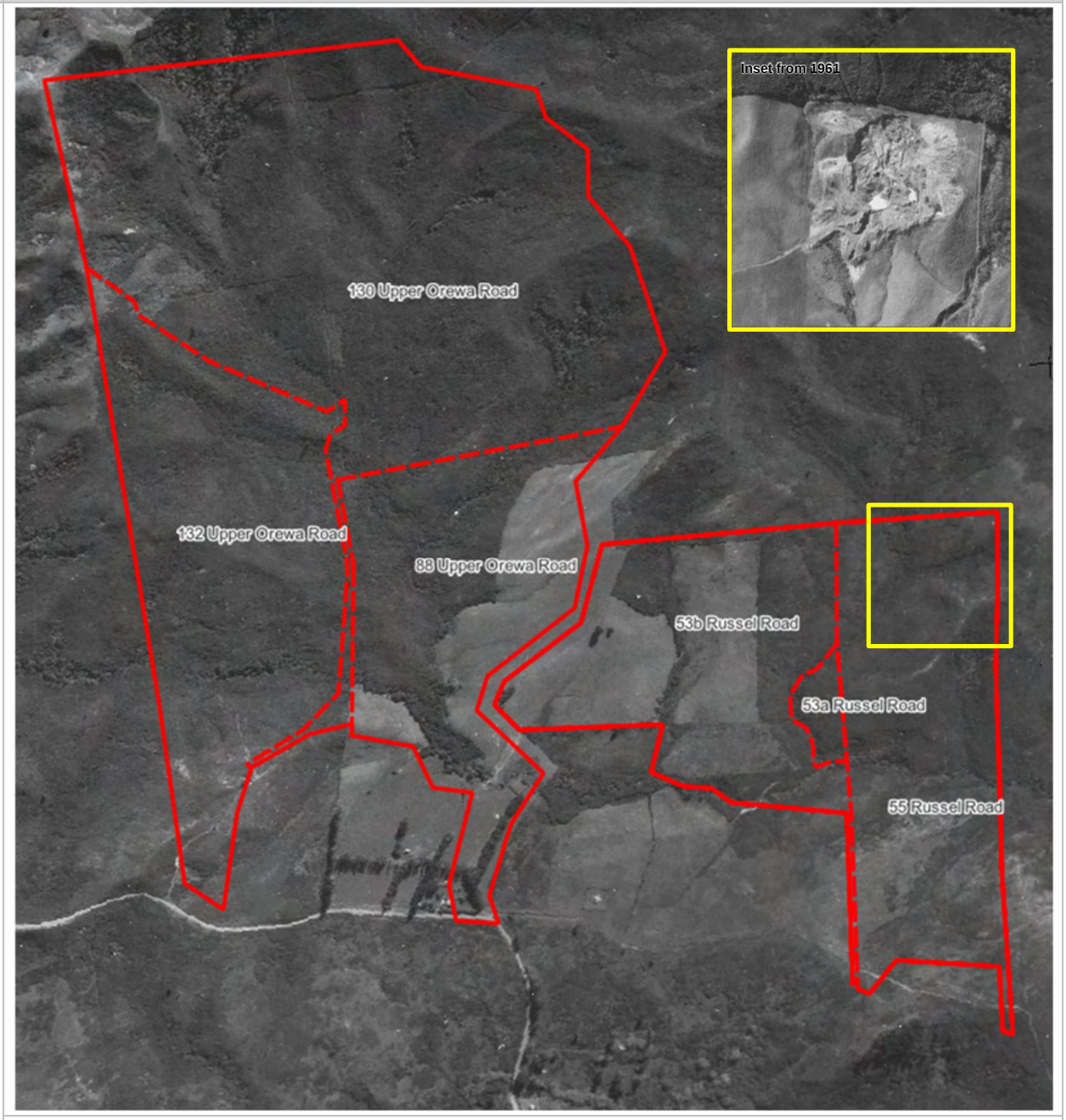
Photograph 21. Stock handling facilities in half round barn at 130 Upper **Ō**rewa Road.

Photograph 22. Stock handling facilities in half round barn at 130 Upper **Ō**rewa Road.

Photograph 23. View to west over dwelling at 132 Upper **Ō**rewa Road.

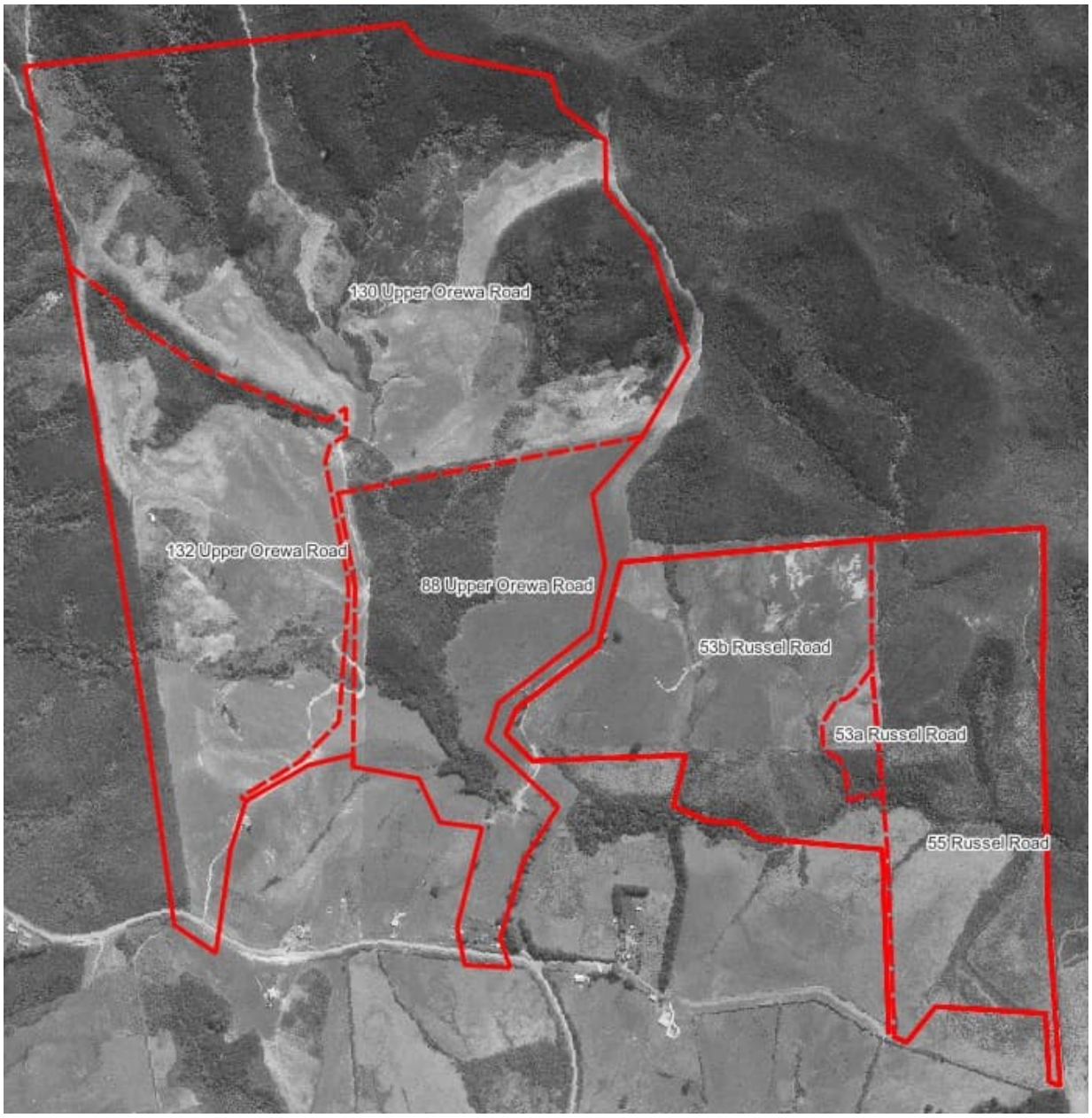
Photograph 24. View to over stockyard at 132 Upper **Ō**rewa Road.

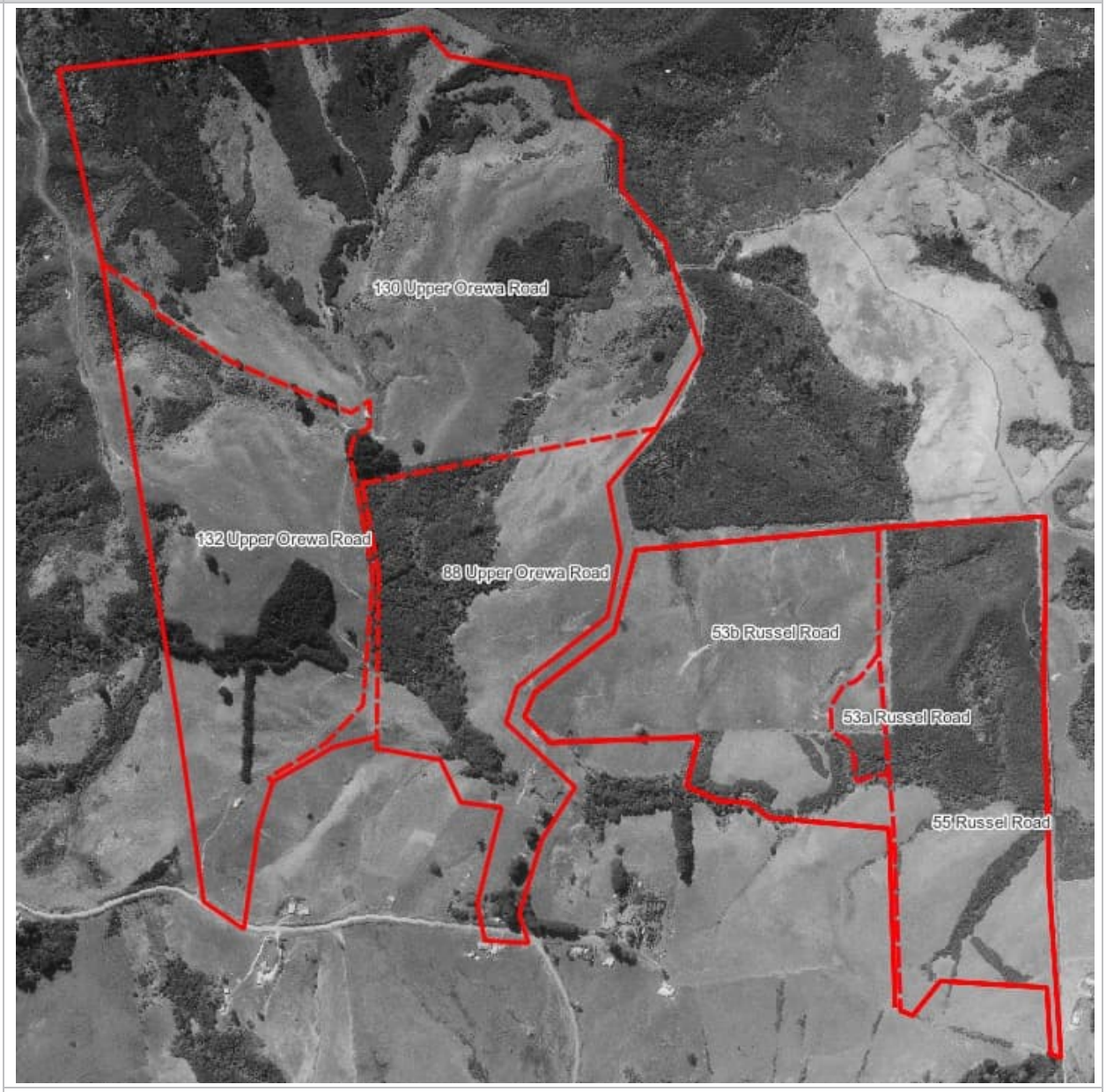
Appendix C. Historic aerial photographs

Photograph date (source)	Aerial image (approximate site in red outline, internal property boundaries dashed)
1940 (Retrolens)	

Notable activities or changes:

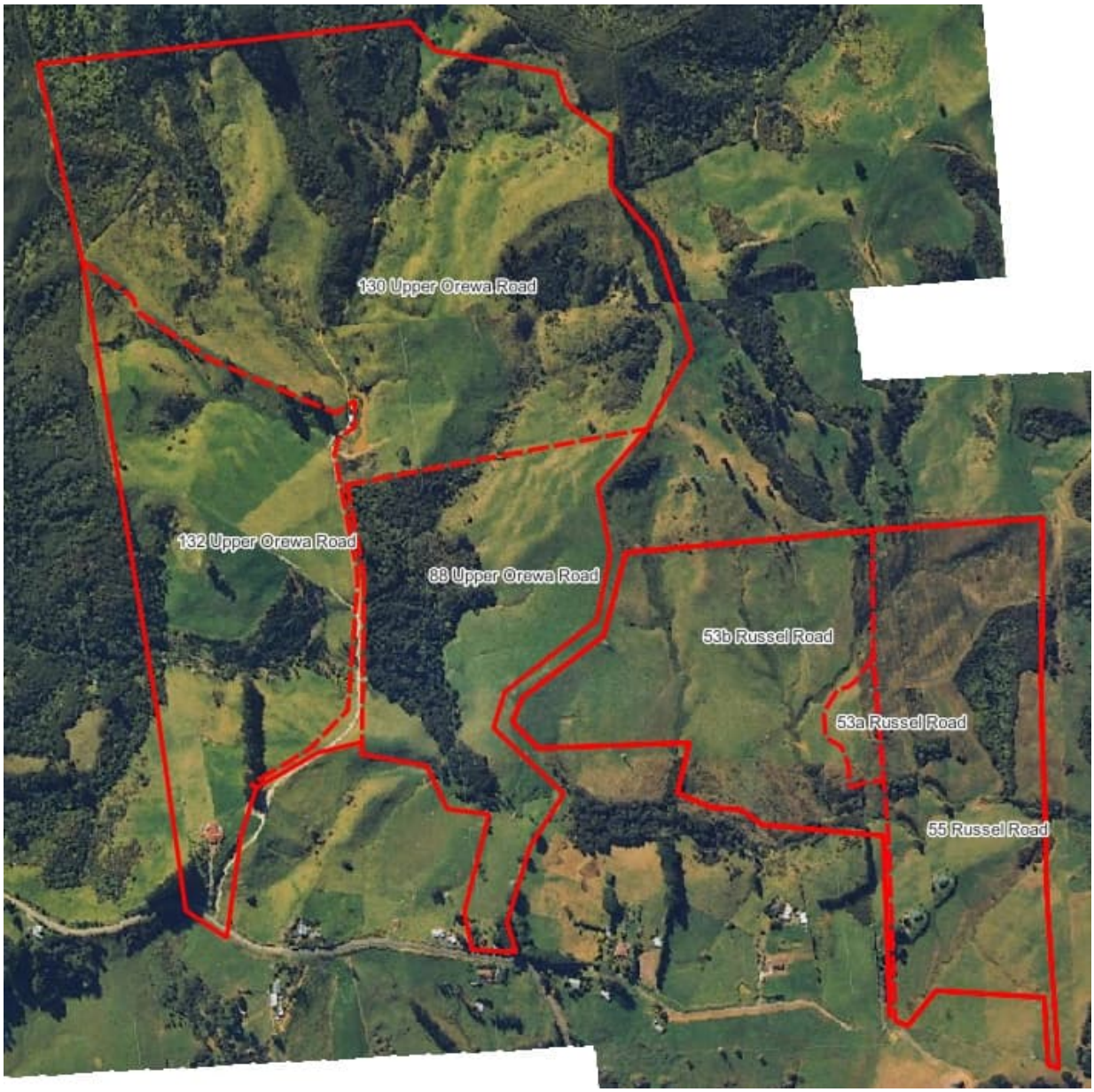
- The property was primarily undeveloped, comprising a mixture of pasture and regenerating bush at this time.
- Upper Ōrewa Road has been formed but Russell Road appears to be a farm track.
- A single dwelling and shed were present on the road frontage of 88 Upper Ōrewa Road, otherwise structures are limited to occasional small barns or sheds.
- A quarry was developed near the northeastern corner of 55 Russell Road in the 1950s (see inset in yellow outline). Quarrying of limestone rock has been a common activity in this area, both historically and currently. As shown in inset, no permanent structures were associated with the quarrying activity. The access road to the quarry crossed to the west exiting via 88 Upper Ōrewa Road.

Photograph date (source)	Aerial image (approximate site in red outline, internal property boundaries dashed)
1963 (Retrolens)	
	Notable activities or changes: • Much of the regenerating bush has been cleared with pastoral use becoming dominant • Russell Road has now been formed. • Quarry operations have ceased on 55 Russell Road and the accessway appears to have fallen into disuse. • A large shed or barn, accessed from Upper Ōrewa Road, has been constructed near the southern end of 132 Upper Ōrewa Road.

Photograph date (source)	Aerial image (approximate site in red outline, internal property boundaries dashed)
1981 (Retrolens)	

Notable activities or changes:

- A large shed or barn has been constructed in northeastern corner of 132 Upper Ōrewa Road, where it adjoins the southern end of 130 Upper Ōrewa Road. It is not clear from this image which property the structure was associated with.
- An area of plantation forest has been established near the centre of 132 Upper Ōrewa Road.
- No other notable changes are evident.

Photograph date (source)	Aerial image (approximate site in red outline, internal property boundaries dashed)
1996 (Auckland Council GeoMaps)	

Notable activities or changes:

- Dwellings has been constructed near the southern end of the following properties:
  - 55 Russell Road - a dwelling was first constructed in the mid-1980s (between 1981 and 1988); and
  - 132 Upper Ōrewa Road – a dwelling was first constructed in the late 1980s-early 1990s.
- The northern portion of 55 Russell Road has bee cleared of scrub / bush.

Photograph date (source)	Aerial image (approximate site in red outline, internal property boundaries dashed)
2023 (Google Earth)	
	Notable activities or changes: • 53b Russell Road - an accessway and building platform were constructed at near the southern end of this property in 2013. The property was occupied by a shed (near its southeastern corner) and various smaller structures (possibly tiny houses) until a main dwelling and adjacent minor dwelling were constructed in 2017. A small residential orchard was established near the building platform for the dwellings in 2015. • 88 Upper Ōrewa Road - the original roadside dwelling and shed were removed from this property in the early 2000s, after which time a small stockyard is evident. A single dwelling was constructed near the southern end of the site around 2009/2010. A pool, shed and landscaping were added to the site over time, but it has otherwise not change materially since 2010. • 132 Upper Ōrewa Road – the original barn near the southern end of the property was replaced by more modern farm sheds in the 1990s or 2000s, these sheds are now located outside of the property, immediately adjacent to its eastern boundary.

Attachment 16

Transport Assessment

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www.commute.kiwi

TRANSPORT MEMO – VINEWAY - FAST TRACK SCHEDULE APPLICATION

1 INTRODUCTION

Vineway Limited ("the applicant") proposes to lodge an application to be included as a listed project under the Fast-track Approval Bill, enabling it to utilise the fast-track consenting process via an expert consenting panel. This application relates to the development of a contiguous landholding at 88,130,133 Upper Orewa Road covering approximately 78.45ha and 53a,53b, 55 Russell Road covering approximately 30.75ha, Orewa ("the Site") to construct a comprehensive residential housing development of approximately 1250 dwellings ("proposal").

This Site forms part of a larger land area within Ōrewa that is currently zoned Future Urban Zone ("FUZ") under the Auckland Unitary Plan ("AUP").

To support the application, this memorandum provides a high-level review of the transport aspects of the proposal, including:

- Summary of the proposal and site description;
- High level analysis of traffic impacts;
- Summary of why the proposal will provide regionally significant roading infrastructure;
- Conclusion.

2 SITE DESCRIPTION AND PROPOSAL

2.1 SITE DESCRIPTION

The Site is approximately 109ha in size. It is located to the north of Upper Ōrewa, and Russell Road. The Site also has access directly to both Upper Ōrewa and Russel Road in the south and to the recently completed Grand Drive West (part of Ara Hills Development). Figure 2-1 shows the Site location with respect to the existing road network.

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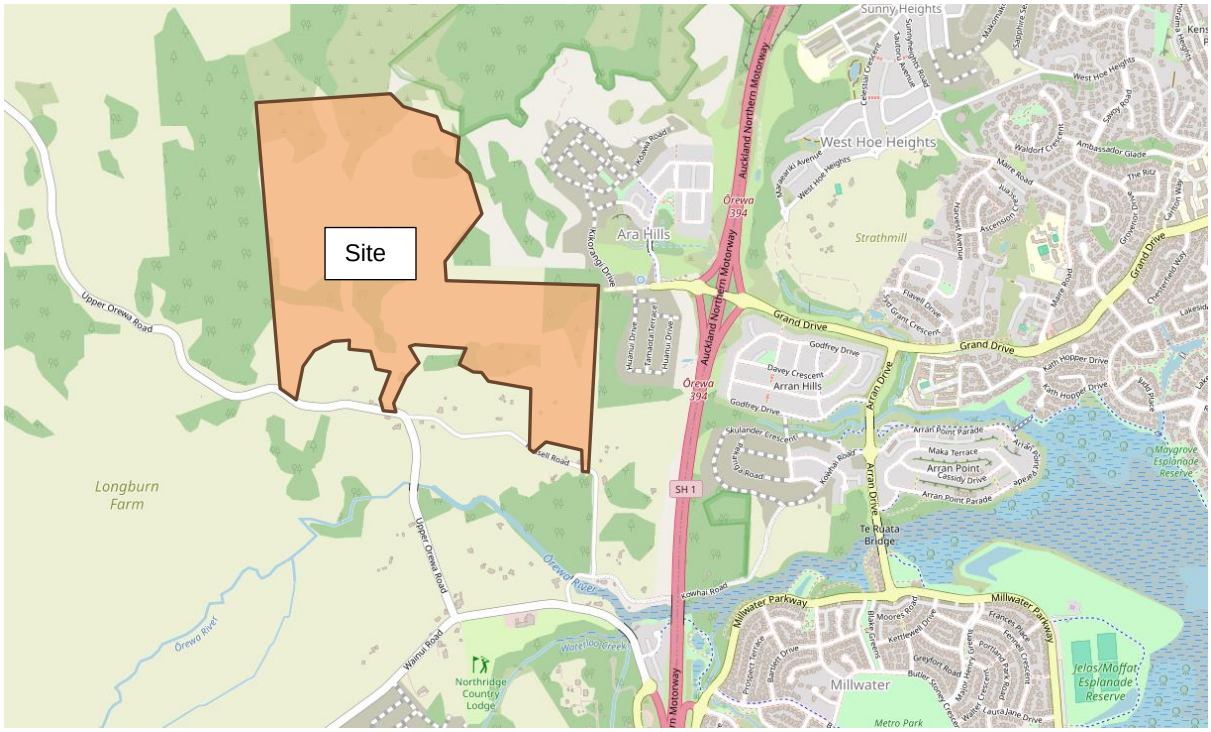
Figure 2-1: Site Location



Neither Upper Ōrewa Road, Russell Road or Grand Drive West are classified as arterial roads in the AUP. Upper Ōrewa Road is classified as a primary collector and has an approximate carriageway width of approximately 7 metres, accommodating one traffic lane in each direction. Street parking is prohibited on both sides of the road, no pedestrian footpath or cycle lane is provided on either side of the road.

Russell Road is in the vicinity of the Site and is classified as an Access Road. Russell Road has an approximate carriageway width of 5 metres, accommodating one traffic lane in each direction. No parking is permitted on either side of the road, no footpath is provided, the road also ends in a cul-de-sac, is unsealed, and provides access to residential properties.

Grand Drive West in the vicinity of the Site is not currently classified as an Arterial Road, however it is intended to be one in the future (as per Grand Drive to the east of SH1). Grand Drive West has an approximate carriageway width of 7.5 metres, accommodating one traffic lane in each direction. No parking is permitted on either side of the road, however there is a 3 metre shared pedestrian / cyclist path provided on both sides of the road.

Russell Road has a posted speed limit of 40km/hr and Upper Ōrewa Road has a posted open road speed limit of 60km/hr. Grand Drive West has a posted speed limit of 50km/hr.

Russell Road connects to Upper Ōrewa Road which then connects to Wainui Road and then Millwater Parkway (a Primary Collector that in turn connects to SH 1 at the Wainui Interchange).

Grand Drive West connects directly to the Ōrewa Interchange (full movement interchange with SH 1).

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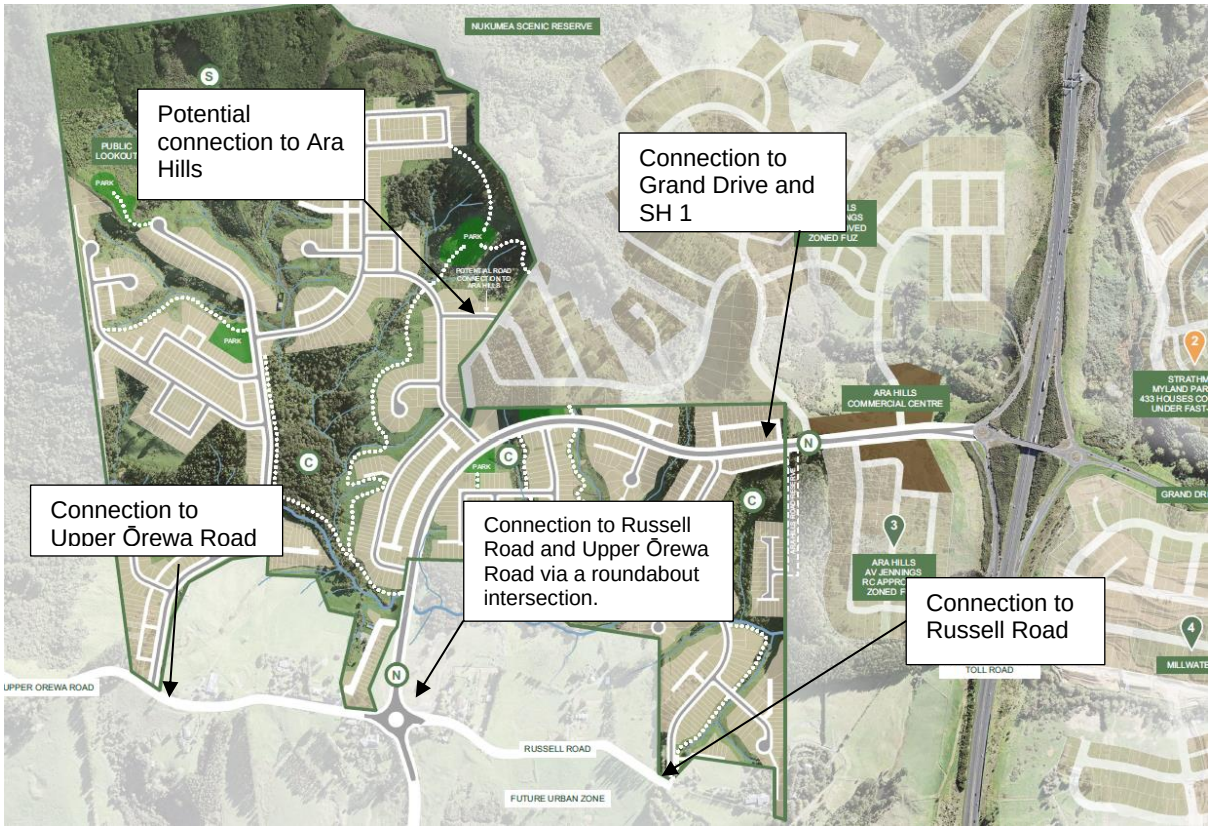
2.2 PROPOSAL

The applicant is proposing development of the Site for residential use. The proposed development will involve the subdivision and construction of approximately 1250 residential lots and dwellings (with current draft scheme plan showing 1200), neighbourhood parks, supporting transport and servicing infrastructure, ecological restoration and enhancement of streams and associated walking trails, as well as all associated earthworks, construction works and structures.

Figure 2-2 shows the proposed development including its internal roading configuration and proposed connections to existing roads.

Figure 2-2: Plan of proposed development



3 HIGH LEVEL ANALYSIS OF TRAFFIC IMPACTS

3.1 VEHICLE TRAFFIC

3.1.1 OTHER DEVELOPMENTS

There are a number of other consented or under construction developments surrounding the proposed site which will also have access to the roading systems so the traffic volumes for those developments also need to be considered as shown below in Figure 3-1.

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Figure 3-1: Other consented developments surrounding the site.

These developments include:

- Millwater Development – Note 5 in Figure 3-1: Partly completed and still under construction
- Strathmill Development - Note 2 in Figure 3-1: Earthworks commenced (433 lots)
- Ara Hills Development - Note 3 in Figure 3-1: Partly completed and still under construction (approx. 700 dwellings)

3.1.2 TRAFFIC GENERATION

The density of the current proposal means it is better aligned with "*3-bedroom Medium density residential flat building*" use, which has a trip rate of 0.5-0.65 trips per dwelling in the peak hour or 5-6.5 trips per day. This is the same trip rate that was used for the recently approved Strathmill development (Note 3 in Figure 3-1 above), under the Covid-19 Recovery (Fast-track Consenting) Act 2020. For a conservative case of 1250 units (noting the current scheme plan shows 1200 but this could grow at detailed design stage) this equates to 625-813 vehicle movements in the peak hour or 6250-8125 movements per day.

3.2 ROADING MITIGATION

The Site connects to the arterial network in four locations:

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- Grand Drive connection/ SH 1
- Grand Drive extension through Site / Upper Ōrewa Road / Russell Road (Roundabout)
- Russell Road
- Upper Ōrewa Road

From a review of current travel times, the Grand Drive West / SH 1 Ōrewa Interchange will cater for the majority of traffic (likely to be in excess of 80% of the traffic). A detailed review of this intersection / interchange should demonstrate it has significant capacity. This will need to be confirmed through detailed analysis in the Integrated Transportation Assessment (ITA) prepared as part of the consent application.

However, based on an initial review the following mitigation is considered appropriate to serve the development:

- Grand Drive West extension through to Upper Ōrewa Road including the provision of walking / cycling
- Roundabout at the Grand Drive West extension / Upper Ōrewa Road intersection
- Upgrade (including sealing) of Russell Road from the new site intersection (priority intersection) to Upper Ōrewa Road intersection. As per above, with this mitigation, the interchange should be able to accommodate traffic associated with the development.

3.3 ARTERIAL ROAD LINK

Of significant note, the proposal includes an extension of Grand Drive to Upper Ōrewa Road essentially providing a link from the Ōrewa Interchange thorough to Wainui Road. This will be delivered and funded by the applicant. In this regard the proposal will construct / deliver an arterial link that has already been identified is regionally significant.

In this regard, a Notice of Requirement (“NoR”) has been recently lodged (notified in November 2023) by Auckland Transport for a designation for this extension, being a new urban arterial corridor with active mode facilities between Wainui Road in Milldale and Grand Drive in Upper Ōrewa (NoR 6). The hearing is to occur in late June 2024. The “General arrangement Plan” of this new arterial road in shown in Figure 3-2 below (note north to the left of plan). The applicant’s draft scheme plan aligns with the “General arrangement Plan”.

Based on the above, the applicant will fund and deliver a significant portion of road that is within the development site that has been identified as regionally significant and route has been secured via a NoR lodged by Auckland Transport. The applicant will liaise with Auckland Transport / Supporting Growth Alliance (“SGA”) to ensure that the road is designed to be consistent and seamlessly align with the existing connection at Grand Drive, as well as the future connection to Wainui Road (to be delivered by SGA in the future).

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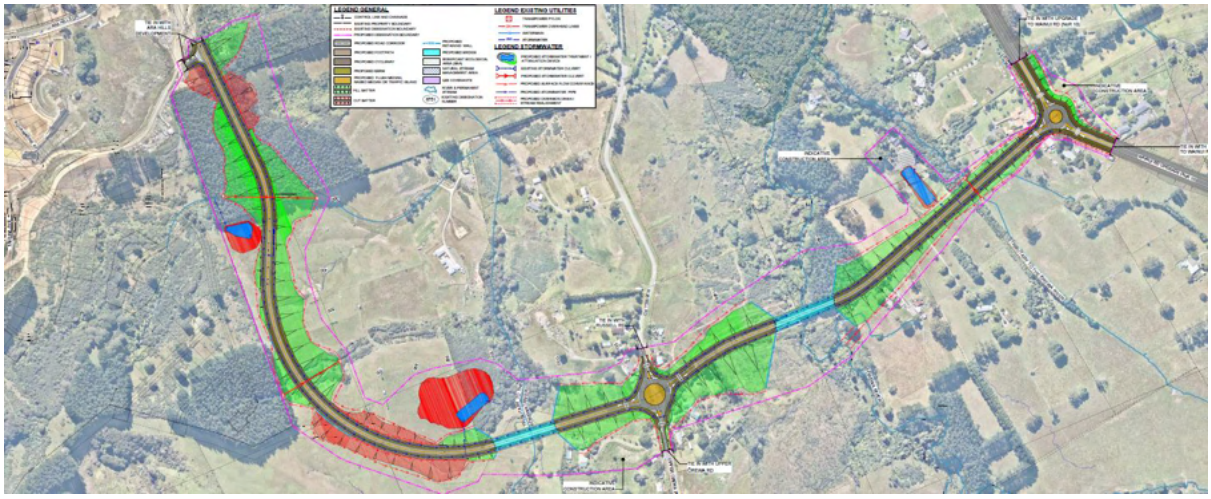
Figure 3-2: NoR 6 General Arrangement Plan.



From a review of the ITA lodged[1] with the NoR this arterial road will have the following features / benefits:

- New two-lane urban arterial with a 24m cross section.
- Separated walking and cycling facilities on both sides between Wainui Road (Milldale) and the western edge of the Ara Hills development in Ōrewa. This will connect through to Grand Drive at SH1 via a new 30m road corridor.
- The forecast Average Daily Traffic (ADT) in 2048 is 13,200 vehicles. As such without the new connection between Milldale and Grand Drive, there will be an additional 13,200 vehicles using local and collector roads to access the land use within Wainui/Ara Hills.
- Allows for a "*frequent bus service*" with 6 buses per hour (one every 10 minutes in peak).
- In terms of safety the ITA notes in Table 4-2: "*The provision of a key spine route for movements north-south will improve road safety on the surrounding collector roads, as without the connection there will be greater potential conflict between through movements and local movements. The expected increase in safety issues resulting from high traffic volumes on local and collector roads will also reduce the attractiveness of walking and cycling*".

In this regard the development will essentially include funding, detailed design of and construct approximately half of NoR 6 for Auckland Transport (the section from Ara Hills to Upper Ōrewa Road). In doing so it is providing a regionally significant piece of roading infrastructure for the reasons above. This is further shown in Figure 3-3 below which shows the extent of N0R 6 and the section proposed to be constructed by the applicant.

[1] North Assessment of Transport Effects August 2023

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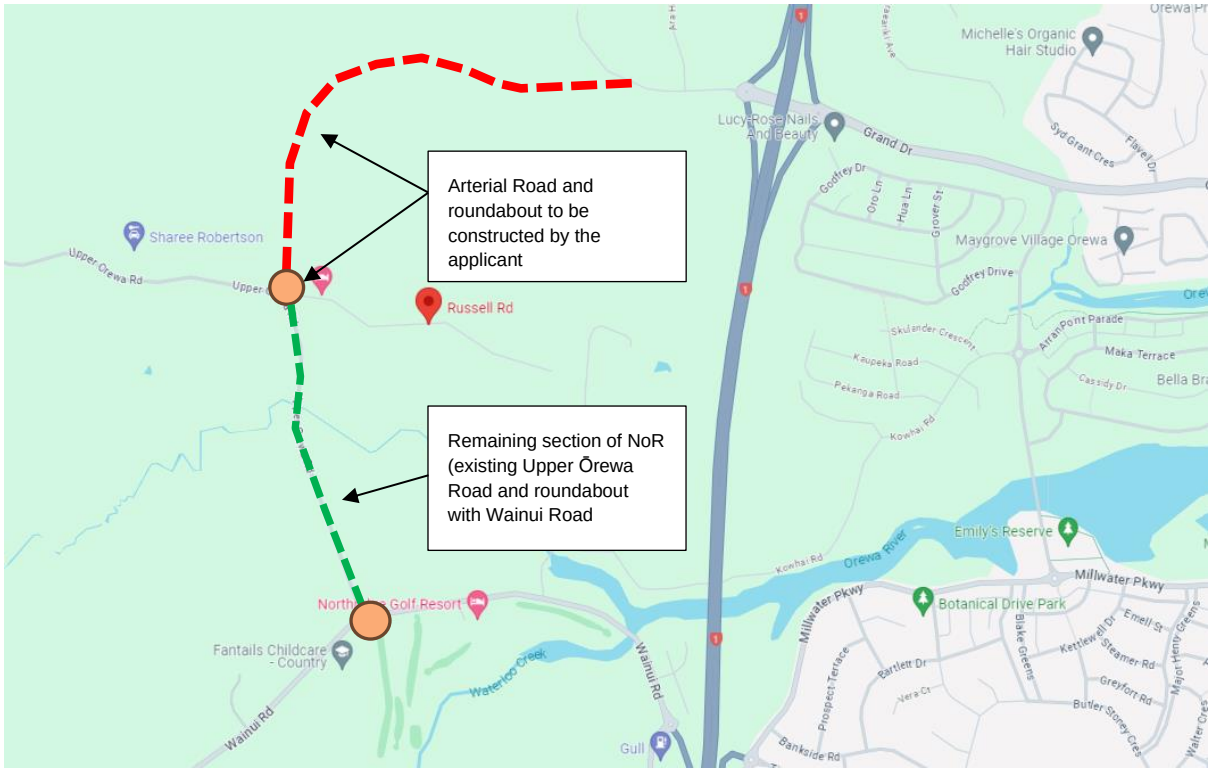
Figure 3-3: NoR 6 to be constructed by development.



As such the development constructs approximately half of a regionally significant arterial road which includes full walking / cycling /public transport provision.

3.4 WALKING, CYCLING

As part of development of the Site, Grand Drive will be extended through the Site and connect to Russell Road and Upper Ōrewa Road through a roundabout intersection. This will include a 3 metre footpath on both sides of the extension of Grand Drive within the Site boundary.

The proposal is anticipated to be a catalyst for transport connectivity in the local area, noting that the surrounding transport network has some existing deficiencies. These deficiencies are:

- Lack of mode choice – currently the area has poor access to public transport and a lack of safe and attractive walking and cycling access (eg. no footpaths or cycling lanes are provided along either Russell Road or Upper Ōrewa Road). In order to achieve transport mode share within the Site, provision of travel choice should be provided as the Site and wider area develops. This could include the extension of the existing bus service (bus route 985 which currently links Ōrewa and Silverdale) along the proposed Grand Drive West extension through the site.

- Active mode connections to key destinations (eg – no footpaths or cycling lanes are provided along either Russell Road or Upper Ōrewa Road). Pedestrian and cycle demand from the Site is likely to be focused on key destinations in the surrounding area including the local schools like Ōrewa primary or Ōrewa town centre.

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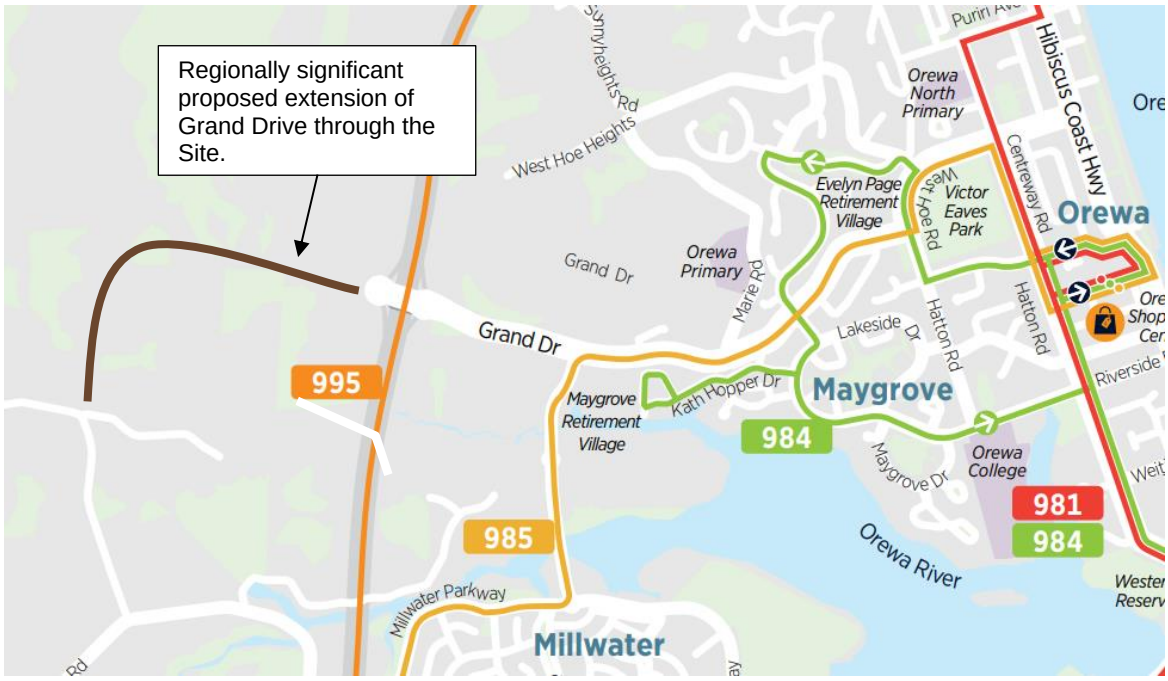
3.5 PUBLIC TRANSPORT

The current public transport context in the area surrounding the Site is shown below in Figure 3-4 together with the proposed Grand Drive West extension.

Figure 3-4: Existing bus route in respect to the site



As part of proposal, an internal urban street network will be provided with appropriate connections to proposed collector roads surrounding the Site. This internal street network is considered appropriate as it efficiently and safely links the proposed lots firstly to the collector road network which in turn links to the wider arterial network. The proposal provides active mode transport options throughout the Site via footpaths, and a potential bus route through the Site (as per the lodged NoR) , allowing for a "frequent bus service" with 6 buses per hour (one every 10 minutes in peak).

4 CONCLUSION

The application provides for the construction and funding of a regionally significant piece of roading infrastructure. This road has the significant positive benefits in the area of linking Grand Drive, SH 1, and Upper Ōrewa Drive for general traffic, pedestrians, cyclists and potential bus route is shown in Figure 3-2. These benefits include:

- Providing separated walking and cycling facilities on both sides between Wainui Road (Milldale) and the western edge of the Ara Hills development in Ōrewa. This will connect through to Grand Drive at SH1
- Removing 13,200 vehicles per day using local and collector roads to access the land use within Wainui/Ara Hills
- Allows for a "*frequent bus service*" with 6 buses per hour (one every 10 minutes in peak)

- In terms of safety, the provision of a key spine route for movements north-south will improve road safety on the surrounding collector and local roads by removing over 13,000 vehicles per day from these roads.

Overall, (subject to mitigation detailed in this report and confirmed through a full ITA) we see there to be no traffic or transport planning reasons the preclude the proposal from being considered for the fast-track consenting process. To the contrary, enabling the development will deliver a critical piece of regionally significant roading infrastructure, which will support transportation throughout the western upper Ōrewa area.

Leo Hills

Director

Commute Transportation Consultants

1 May 2024

Attachment 17

Archaeological Assessment

Clough
& ASSOCIATES LTD
321 Forest Hill Road, Waiatarua, Auckland 0612
09 814 1946 heritage@clough.co.nz
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MEMO

Clough & Associates Ltd	
To:	Chantal Janssen, Myland Partners
From:	Ellen Cameron, Clough & Associates
CC:	
Date:	4/29/2024
Re:	Vineway Fast Track Memo
Comments:	One archaeological site (Q10/776) a shell midden has been recorded in the development area and there is potential for additional unrecorded sites to be present; An archaeological assessment should be prepared to determine the effects of the proposed development on archaeological values; An Authority will be required to modify site Q10/776 and any unrecorded archaeological sites.

Introduction

This memo has been completed to provide preliminary advice regarding any heritage constraints relating to a proposed residential subdivision at Upper Ōrewa, Auckland.

Vineway Ltd is applying for its residential development to be included in the schedule to the Fast-Track Approval Bill (Bill) which is currently going through the Select Committee process. Projects on the schedule are confirmed as being able to apply for resource consent and other authorisations using the fast-track process. Schedule 7 of the Bill (Application process for archaeological authority under Heritage New Zealand Pouhere Taonga Act 2014 (HNZPT Act)) is relevant to the archaeological requirements. The information requirements for an application for an authority under the Bill are the same as in the HNZPT Act (assessment of archaeological effects, Māori and other relevant values, statement on Māori consultation, effects on identified values, and other details (clause 7)). As well, the archaeologist approved to undertake archaeological investigation must meet the same criteria as under the HNZPT Act (clause 6).

Methodology

The New Zealand Archaeological Association's (NZAA) site record database (ArchSite), Auckland Council's Cultural Heritage Inventory (CHI), Auckland Unitary Plan Operative in Part (AUP (OP)) schedules and the Heritage New Zealand Pouhere Taonga (Heritage NZ) New Zealand Heritage List/Rārangi Kōrero were searched to determine whether any archaeological sites had been recorded on or in the immediate vicinity of the property.

This memo has also drawn on the historical and archaeological background research from the Archaeological Assessment Report for a proposed Subdivision at 250-256 West Hoe Heights, Ōrewa (Judge and Phear November 2022). This is based on the proximity to the West Hoe development, as it is directly across SH 1 from the current proposal site, and both are situated on a similar landform consisting of hilly terrain. As well, both the currently proposed development and the West Hoe Heights development contain streams that flow into a tidal inlet of Whangaparoa Bay.

Historical Background

Māori Settlement

Campbell and Clough (2003), Judge and Clough (2005a), and Mosen et al. (2000) have each synthesised the pre- and post-European contact histories of the wider Hibiscus Coast area. These in turn draw upon earlier work by Turton (1877), Murdoch (1991) and Grover (1996). The Māori history is shown to be complex, reflecting both the mobile nature of Māori settlement and political changes through time.

Early Māori settlement across the area was focussed primarily around the Whangaparāoa Peninsula and along the coastal margins to take advantage of the rich fishing grounds (particularly well known for shark fishing), coastal forest and fertile soils. The archaeological record currently indicates that settlement on the banks of navigable streams/rivers (including the Ōrewa River) tended to comprise short term encampments rather than permanent or semi-permanent settlements.

Early European Settlement

Early European settlement during the 1840s in Silverdale and Ōrewa areas consisted primarily of temporary camps set up for resource extraction work gangs. The greater Silverdale/Ōrewa area was exploited for its convenient source of timber and firewood for the growing settlement at Auckland (Grover 1996).

After the completion of the Mahurangi Purchase by the government in 1853-54, land in the Wade district (the anglicised version of Te Weiti) was put up for auction. Crown grants were made to settlers who sought land within marketing distance of Auckland.

In the 1850s, when the first European settlers arrived in Te Weiti and Ōrewa, the hills were covered with thick kauri trees, manuka and fern. Industrial development in the area included timber felling, saw milling and gum digging. After the bush was cleared, gumdiggers flocked to the area to prospect for kauri gum. The land was not particularly fertile and a living was hard won, so often a farmer would subsidise his family income by digging gum.

A survey plan dated to 1894 (Figure 1) shows the proposed residential development properties as being 'open undulating fern & manuka land'. The presence of largely regenerating scrub species indicates that the area had already been extensively logged – probably during the mid to late 19th century.

Archaeological and other Historic Heritage Sites

As can be seen in the maps in Figure 2, the majority of archaeological sites in the area are located to the east of the proposed development properties, in proximity to the coast. These are the result of numerous archaeological surveys and investigations relating to the wider Ōrewa area. These have ranged from small scale projects to comprehensive regional surveys. These date from the 1990s to recent times with many of the known archaeological sites having been recorded on and around the Ōrewa River. These sites relate to both the Māori occupation of the area and early European settlement (Judge & Phear). The concentration of archaeological remains across the wider Ōrewa area reflects the importance of the Ōrewa River and Whangaparāoa Bay in providing easy access to marine resources, navigable waterways and arable alluvial flats – all elements favoured by both Māori and early European settlers.

There is one archaeological site recorded on the NZAA ArchSite Database in the proposed development properties – R10/776 a shell midden associated with Māori occupation and settlement with location shown in Figure 2 and Site Record Form (SRF) appended to this memo. The SRF notes that the site is located c. 1200m directly SSW of trig point Waiwera XII at 134m A.S.L. on top of a small ridge bounded by two small streams. It was originally recorded as a small patch of fragmented pipi and cockle shell with fire-cracked rock and charcoal visible. It was noted to be eroding down either side of a ridge. It is also noted in the SRF that the site was located by an isolated farm track and it had been impacted by cattle trampling. The presence of additional subsurface remains in the area is considered possible. Based on the information provided in the SRF, the site was last visited in 1994 and the current status and condition of the site is not known.

Site R10/776 is also included on the Auckland Council Cultural Heritage Inventory (CHI Ref: 10311) see Figure 3. There are no scheduled sites or places included on the Heritage NZ List/ Rārangi Kōrero within or in proximity to the proposed development properties.

It should be noted that although only one archaeological site has been identified within the proposed development properties, the possibility that other sites associated with Māori settlement may also be present is considered likely. As can be seen on the map in Figure 4, the proposed development properties contain a number of streams, and additional sites, particularly shell middens would be expected to occur in their vicinity.

As the properties were also cleared of vegetation during the 19th century, the presence of early European settlement may also be present, although further historical and archival research will be required to determine the extent of 19th century European usage of the properties.

Findings and Statutory Requirements

The background information gathered for this memo shows that one archaeological site (R10/776 (shell midden)) has been recorded within the proposed development area and an archaeological Authority will be required to modify or destroy the site. Also, the presence of additional archaeological sites associated with Māori settlement in the proposed development properties, particularly shell midden, is considered likely, especially in the vicinity of the streams and an Authority would also be required to modify or destroy any currently unrecorded sites. As well, the research indicates that the proposed development properties were cleared of native vegetation in the 19th century and that sites associated with 19th century European settlement may also be present.

An archaeological assessment will be required to determine the effects of the proposed development on archaeological values. The assessment will require a survey of the proposed development properties to locate site R10/776 and identify if any additional sites can be detected (note- survey based on visual inspection and limited subsurface testing cannot necessarily identify subsurface archaeological remains – but in cases where archaeological sites are not able to be identified by survey they can provide information on the archaeological potential of an area).

The recorded archaeological site R10/776 shell midden is associated with Māori settlement and occupation and tangata whenua should be engaged to determine the cultural values of the development site. As well, since archaeological survey cannot always detect sites of traditional significance to Māori, such as wahi tapu, the tangata whenua should be consulted regarding the possible existence of such sites within the development area.

As the proposed development area was likely covered by bush prior to clearance in the 19th century and does not border the coast, complex sites, such as pā would not be expected. As well, the early plans accessed do not indicate the presence of a 19th century European homestead on the property and the 19th century use of the property most likely consisted of tree felling and possibly gum digging. Based on the nature of the recorded archaeological site and the likelihood of similar sites to be present, any impacts to sites that cannot be avoided can be appropriately managed through archaeological investigation under an Authority to provide information on the history of the local area.

References

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Mosen, J., S. Best, B. Druskovich and M. Felgate. 2000. Results on An Archaeological Excavation at Site R10/782, Maygrove, Ōrewa. Bioresearches report prepared for Hopper Developments Ltd.

Turton, H., 1877-78. *Māori Deed of Land Purchases in the North Island of New Zealand*. Government Printers.

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www.clough.co.nz

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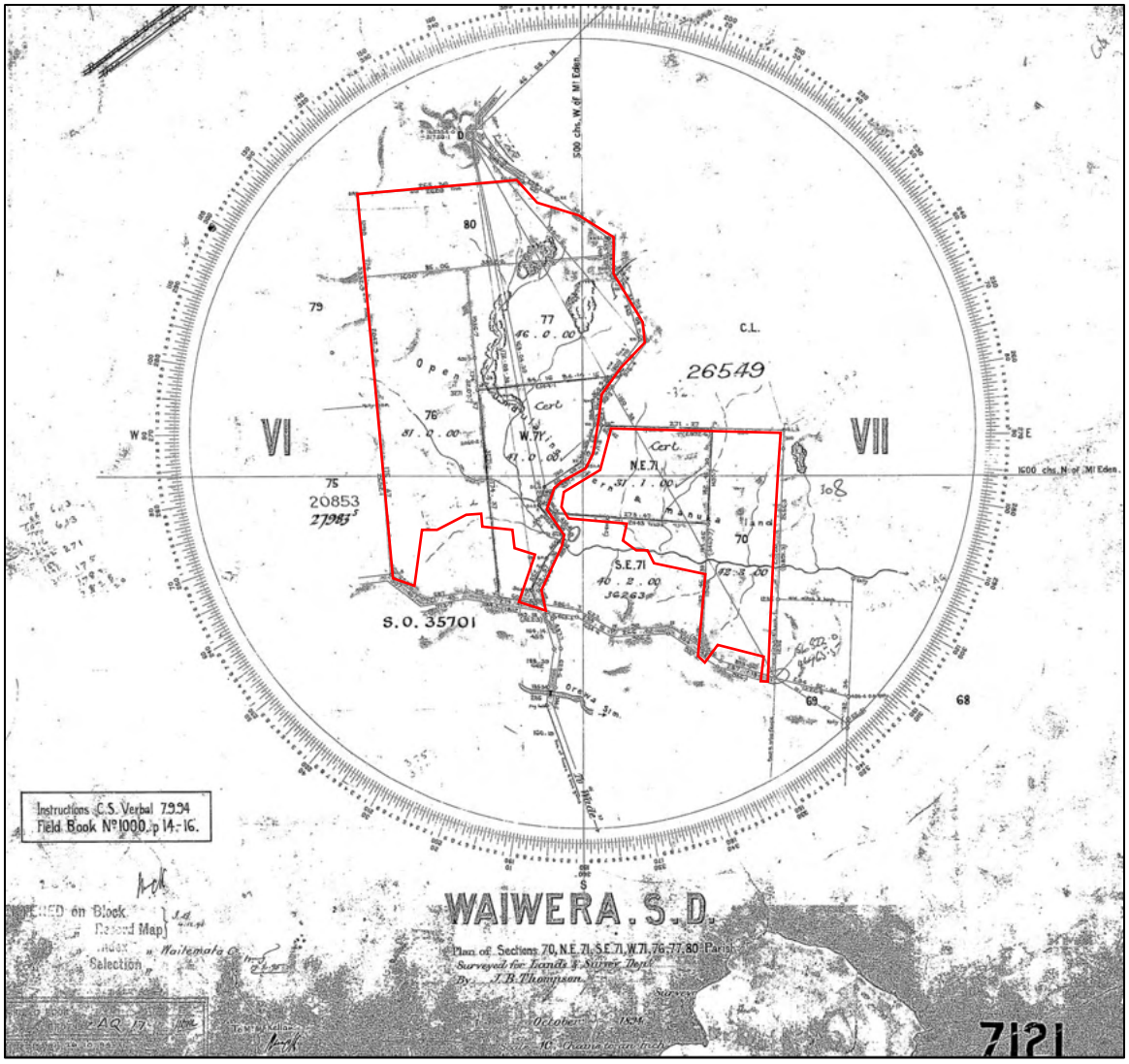

Figure 1. AK DP 7172 dated 1894 showing the proposed development area outlined in red with annotation “Open undulating fern & manuka land” (source: Quickmap)

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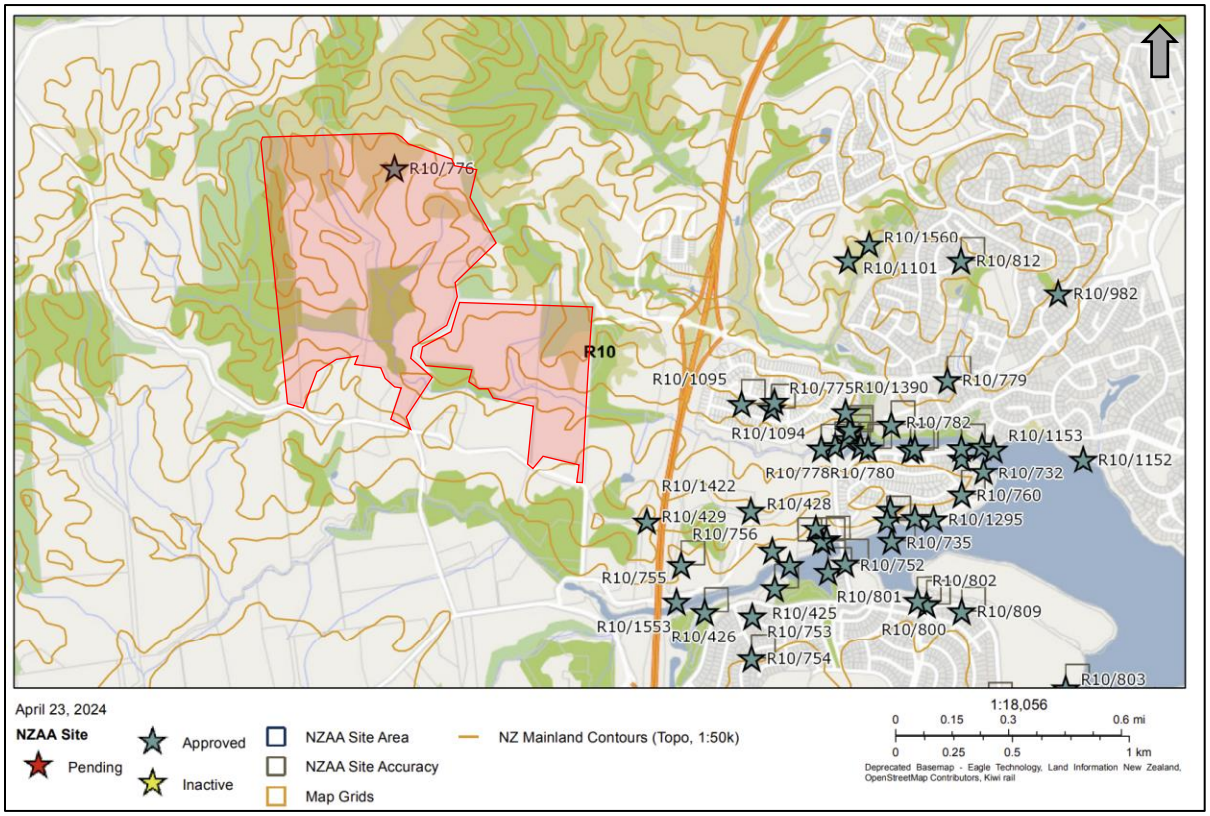

Figure 2. Map showing the archaeological site R10/776 with majority of sites in the area recorded to the east along the coastal fringe (source: NZZA Archsite Website)

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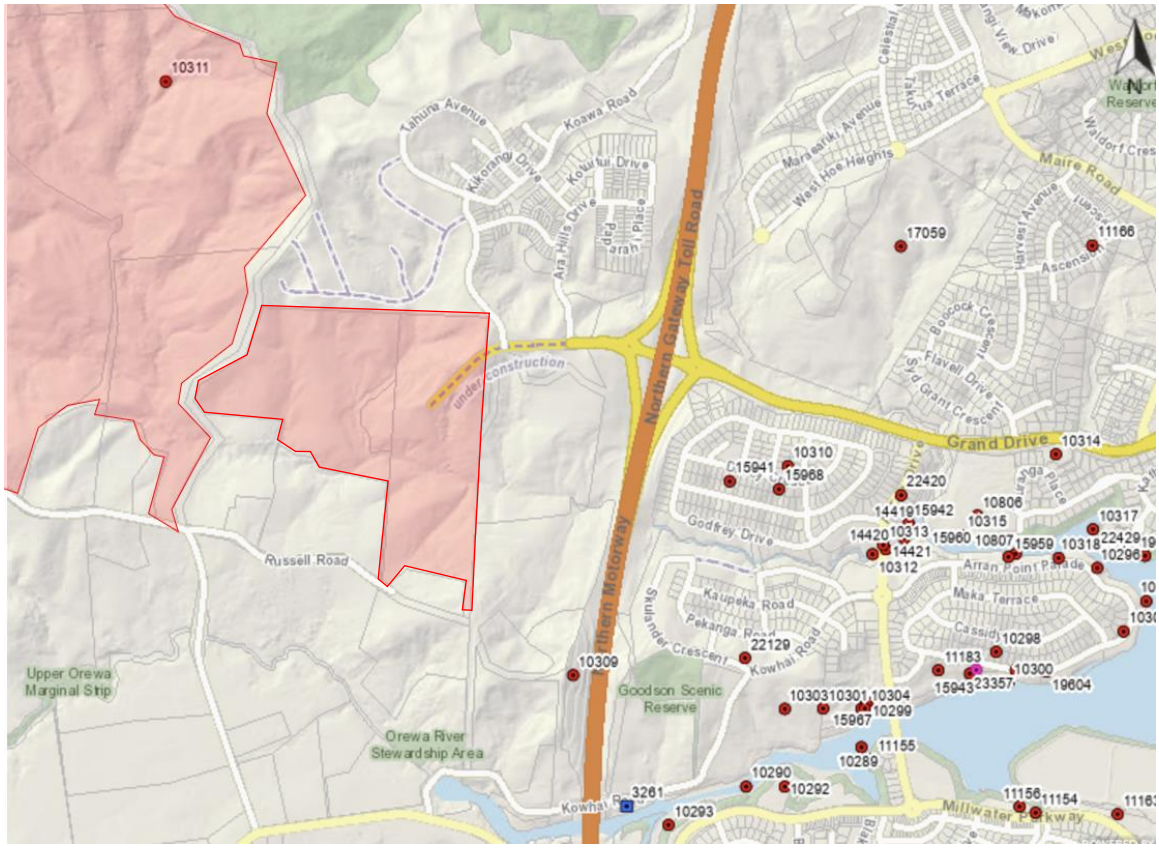

Figure 3. Map showing the location of historic heritage sites included on the Auckland CHI with the proposed development properties shaded red with red dots representing archaeological sites and blue squares historic structures (source: Auckland Council GeoMaps)

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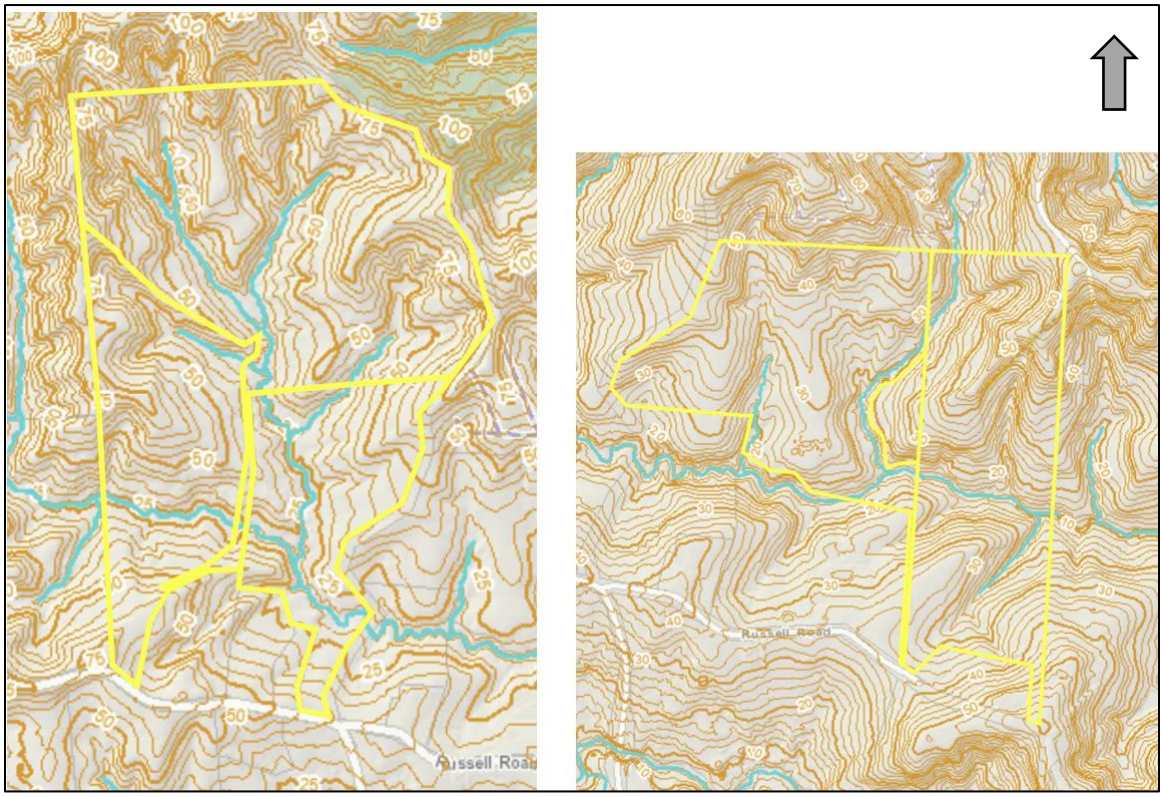

Figure 4. Maps showing the properties in the proposed development area (outlined in yellow) with contours and waterways shown (source: Auckland Council GeoMaps)

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Appendix A: Site Record Forms

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

ARCHSITE archaeological site recording scheme

Site Record Form

NZAA SITE NUMBER: R10/776

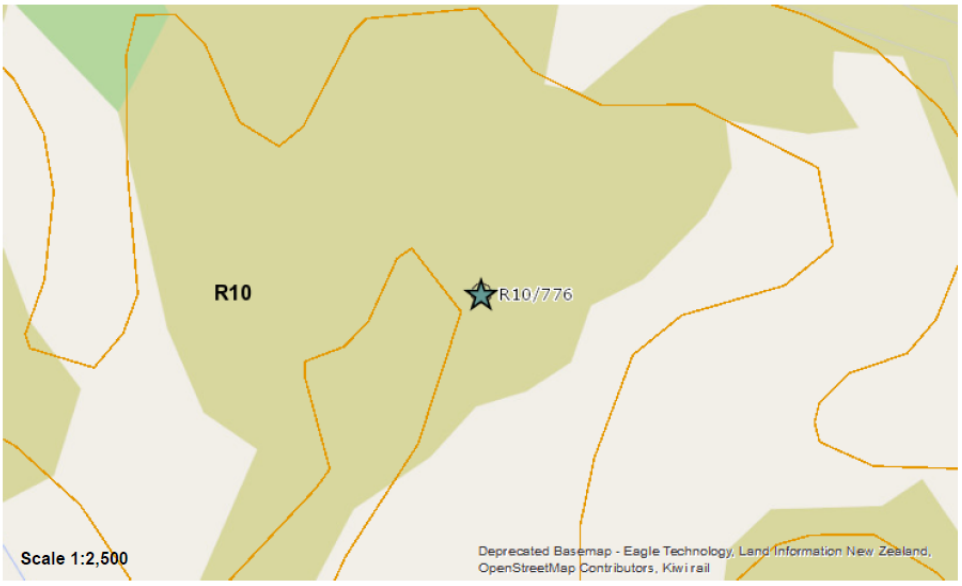
SITE TYPE: Midden/Oven

SITE NAME(s):

DATE RECORDED:

SITE COORDINATES (NZTM) Easting: 1747580 **Northing:** 5950281 **Source:** Handheld GPS

IMPERIAL SITE NUMBER: **METRIC SITE NUMBER:** R10/776



Finding aids to the location of the site

The site is located c.1200m directly SSW of trig point Waiwera XII at 134m A.S.L and on top of a small ridge bounded by two small streams. Access is via farm race running north from farm at 130 Upper Orewa Road.

Brief description

Originally recorded as a concentrated area of very crushed shell midden, charcoal and firecracked rock. Identified shell included cockle and pipi.

Recorded features

Midden

Other sites associated with this site

Printed by: ellencameron 22/04/2024

1 of 3

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: R10/776

Site description

Condition of the site

A small patch of fragmented pipi and cockle shell was found eroding out of an isolated farm track around the area of the existing grid. The surface material was well distributed by cattle trampling/farm bike etc. Possibly subsurface deposits in area.

Statement of condition

Current land use:

Threats:

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: R10/776

Supporting documentation held in ArchSite

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION
SITE RECORD FORM (NZMS260)
NZMS 260 map number R10
NZMS 260 map name Whangaparaoa
NZMS 260 map edition 1 1981

NZAA METRIC SITE NUMBER R10/776
DATE VISITED 22/6/94
SITE TYPE midden
SITE NAME: MAORI
OTHER

Grid References Easting 2658100 Northing 6512000

1. Aids to relocation of site *(attach a sketch map)*
On top of a small ridge bounded by two small streams, and crossed by deer fence.

2. State of site and possible future damage
Under pasture. Some stock damage.

3. Description of site *(Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here)*
Concentrated area of shell midden, largely pipi and cockle. Firecracked rock and charcoal also. Circular in area (c. 5m in diameter) and eroding down either side of the ridge.

4. Owner J.Hall
Address P.O Box 178
Silverdale
Tenant/Manager
Address

5. Nature of information *(hearsay, brief or extended visit, etc.)* brief visit
Photographs *(reference numbers and where they are held)*
Aerial photographs *(reference numbers and clarity of site)*

6. Reported by S. Bedford and M. Felgate
Address 42 Edenvale Cres
Mt Eden
Filekeeper
Date 14 . . 1994

7. Key words midden

8. New Zealand Register of Archaeological Sites *(for office use)*
NZHPT Site Field Code

Latitude S
Type of site
Local environment today
Land classification

Longitude E
Present condition & future danger of destruction
Security code
MJ Local body

Attachment 18

Economics Assessment

CLIENT
Vineway Ltd

1/05/2024

Economic and Property Research

Proposed Delmore Residential Development, Hibiscus Coast, Auckland

Economic Assessment

About us

Our Areas of Expertise

Economic Analysis

Our work aims to bridge the gap between land-use planning and urban economics. Our focus is on the interaction between land markets, land-use regulations, and urban development. We have developed a range of methodologies using a quantitative approach to analyse urban spatial structure and audit land-use regulations.

Property Research

We provide property and retail market research to assist with the planning and marketing of new projects. This includes the identification of new sites and market areas, assessments of market potential and positioning, and the evaluation of market feasibility of specific projects.

Development Advisory

We provide development planning and costing advisory services to support small and large-scale developments.

Contents

1. Executive Summary

The proposal is for approximately 1,200 residential dwellings that would have an average price of $850,000. This is $440,000 (or 34%) lower than the average sale price for stand-alone dwellings within the study area (currently $1,290,000). This demonstrates the proposal's comparative affordability within the Hibiscus Coast, and its overall contribution towards the supply of housing that addresses housing needs in Auckland.

The proposal is considered to make a significant contribution towards a well-functioning urban environment by adding a second major greenfield development to the study area, on Future Urban Zone (FUZ) land, which would contribute towards ensuring there is a wider range of housing available to the market, at more affordable prices.

The Auckland Plan 2050 (Auckland Plan) allocates demand for 129,000 dwellings over the 2016-2026 period, of which 24%, or 31,580 dwellings are expected to occur in greenfield (FUZ) locations. The more recent Auckland Future Development Strategy (FDS) allocates demand for 85,080 dwellings over the 2023-2033 period, of which, 11,700 (14%) dwellings are expected to occur in greenfield (FUZ) locations.

The Hibiscus Coast is identified in the Auckland Unitary Plan (AUP) as the largest greenfield growth area and is anticipated to accommodate 24% of the regions total greenfield demand. This equates to demand for 7,450 greenfield dwellings over the 2016-2026 period, or approximately 750 dwellings per annum, based on the Auckland Plan, and 2,760 dwellings over the 2023-2033 period, or for approximately 280 greenfield dwellings per annum based on the FDS.

Since the AUP became operative in 2016, only one new greenfield development has entered the market in the Hibiscus Coast, namely Ara Hills. This development has supplied only 50 dwellings per annum to the market since 2019 (or 25 dwellings per annum since 2016), falling substantially short of both the greenfield demand outlined in the Auckland Plan and FDS, in the order of 230-700 dwellings per annum, or 82-93% below the expected rate of greenfield growth for this part of the city, under the respective documents.

It is estimated that the study area requires an additional 4-7 medium-large greenfield developments, to be underway, in any one given year over this period under the Auckland Plan, and an additional 1-2 medium-large scale greenfield developments under the FDS, in order to ensure that there is sufficient supply and a competitive housing land and development market.

The proposal would contribute approximately $249.5 million to GDP and generate/support 1,870 FTE jobs. This is considered to be a net economic impact, due to the current housing shortfall and high house prices, which is reducing the total potential growth of Auckland.

The proposal is considered to make a significant contribution towards retaining population that would otherwise likely be forced to relocate to other regions across the country as a result of the ongoing high prices of houses in Auckland. This will contribute towards Auckland's long term social and economic resilience, which relies on attracting and retaining younger households, however, this will not be achieved under current market conditions.

The proposal would make a notable contribution towards primary sector GDP and FTE employment. In total, the development of the project is estimated to result in a total contribution to primary sector GDP of $55.4 million, which would support an estimated 260 FTE jobs. This is as a result of the purchasing of raw materials that are required to construct the dwellings (i.e. timber etc), which will support the ongoing employment and performance of sectors such as the 'Agriculture, forestry and logging' sector.

Overall, the proposal is considered to result in several significant regional benefits to the Auckland region, namely the provision of housing that would result in lower prices, increased product range, and a greater overall rate of construction for Auckland, and through the economic benefits generated as a result of the construction of the proposal. The proposal is therefore considered to meet the provisions of Section 17(2)(d) and 17(3) of the Fast-track Approvals Bill.

2. Introduction

This report evaluates a proposed residential development located at Russell and Upper Orewa Road against the relevant economic provisions of Section 17(2)(c) and (d) of the Fast-track Approvals Bill.

2.1 The Proposal

The proposed development (the "proposal") is located within the Future Urban Zone (FUZ) under the Auckland Unitary Plan, to the West of Ōrewa.

A concept plan is shown in Figure 1. As outlined in Figure 2, the proposal comprises approximately 1,200 residential dwellings[1], of which 1,110 or 93% dwellings are expected to be priced below $900,000. The remaining 90 or 7% of dwellings are priced below $1,200,000.

Overall, the proposal will supply housing with an average price of $850,000. This is $440,000 (34%) less expensive than the average sale price for stand-alone dwellings within the study area ($1,290,000). This demonstrates the proposal's comparative affordability within the Hibiscus Coast part of Rodney.

[1] This is the number shown on the draft scheme plan submitted with the schedule application. It is understood that final design at resource consent application stage could see this number change slightly. Vineway Ltd's application therefore seeks that if Delmore is listed on the schedule, the schedule would refer to "approximately 1,250 residential lots and dwellings". If the number of dwellings increases from 1200 to 1250 there will be an increase in the benefits outlined in this report.

Figure 1:
Delmore Residential Development Concept Plan

Source: Vineway Ltd

Figure 2:
Estimated Dwelling Yield & Price

The Proposal	Type	Number of Dwellings	Avg Lot Size (m^2)	Avg Gross Floor Area (m^2)	Gross Sale Price	Price/m^2
Land + Dwellings	Type A	240	150	85	$820,000	$9,600
	Type B	580	250	90	$830,000	$9,200
	Type C	230	350	95	$850,000	$8,900
	Type D	60	450	100	$870,000	$8,700
	Type E	40	550	110	$900,000	$8,200
	Type F	20	650	130	$970,000	$7,500
	Type G	10	750	160	$1,070,000	$6,700
	Type H	20	850	190	$1,170,000	$6,200
Total/Average		**1,200**	**365**	**95**	**$850,000**	**$9,200**

Source: UE, Corelogic

3. Study Area

Figure 3 outlines the study area adopted in this report. The study area encompasses the Hibiscus Coast, one of Rodney's urban areas, which is broadly comprised of the suburbs of Ōrewa, Silverdale and Whangaparaoa.

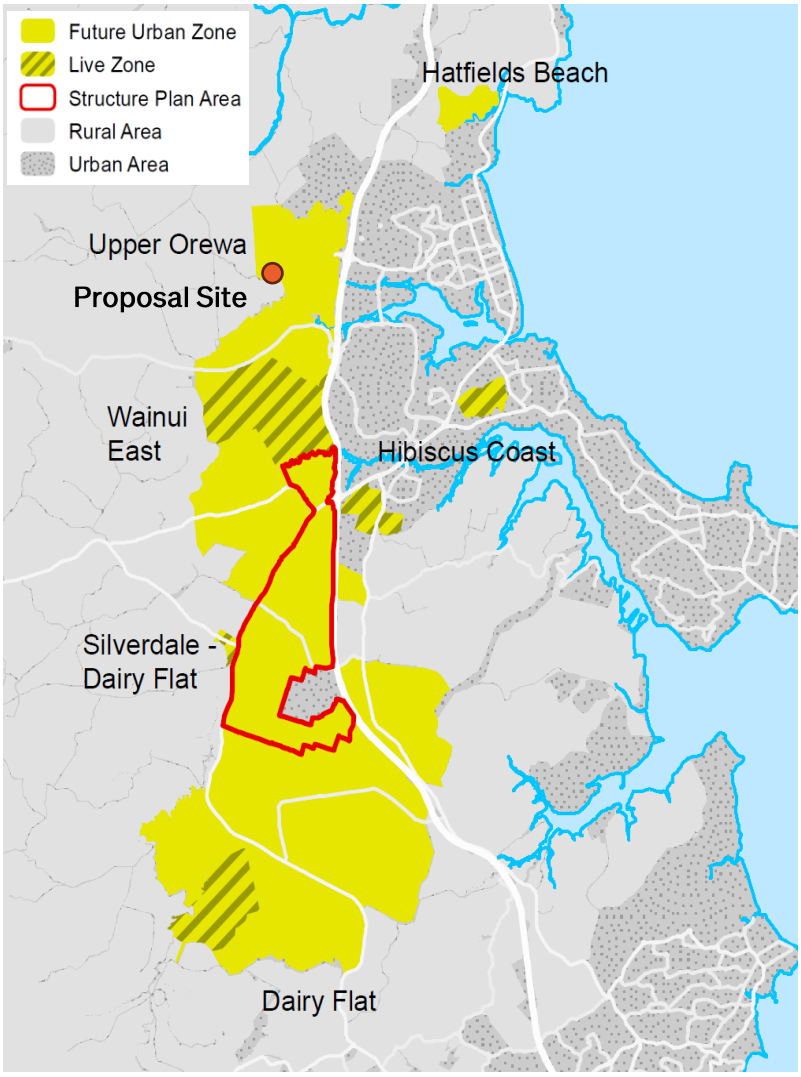
Figure 3:
Hibiscus Coast Study Area

Source: LINZ, UE

4. Greenfield Residential Capacity Analysis

This section evaluates the capacity for greenfield developments within the study area. Figure 4 shows the location of FUZ land, as at 2016, as taken from the Auckland Plan 2050 (Auckland Plan)[2], and 2023, and Figure 5 as taken from the Auckland Future Development Strategy 2023-2053 (FDS). This is the quantity of land that has been identified in the Auckland Unitary Plan for potential live urban zoning and has not yet been subject to an approved Plan Change. The majority of this land is on the western site of State Highway 1, extending from Wainui in the north, through to Dairy Flat in the south.

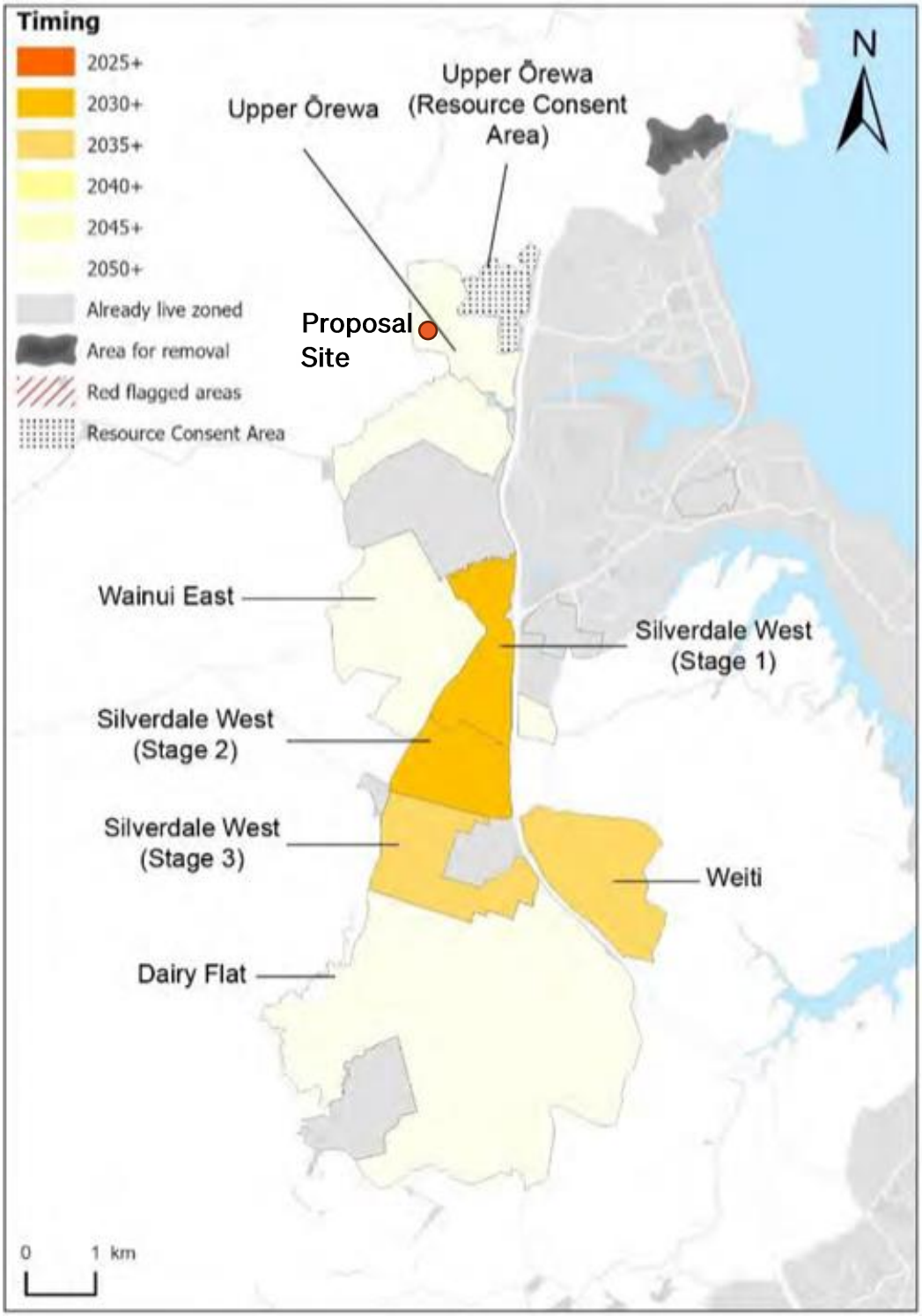
Figure 4:
Silverdale – Dairy Flat, Wainui East and Upper Ōrewa Future Urban Areas - 2016



Source: Auckland Plan 2050

[2] Auckland Plan 2050, Page 39

Figure 5:
Future Urban Zone Hibiscus Coast - 2024



Source: Future Development Strategy 2023-2053

Figures 6 and 7 outline the greenfield developments that have occurred within the study area since 2016 (i.e on FUZ land identified in the Auckland Unitary Plan and has been subject to either Plan Change to live-zone or resource consent to enable development). This is as per the definition of greenfield developments in the Auckland Unitary Plan, which defines it as “land identified for

future urban development that has not been previously developed". As such, only developments that have occurred within the FUZ since 2016 are considered to be greenfield capacity.

The main points to note from Figure 6 are:

- There has only been one new greenfield residential development that has occurred in the study area since 2016. This is Ara Hills, which started selling in 2019.
- Ara Hills will supply 700 dwellings in total, of which 470 remain to be developed.
- In total new greenfield capacity for 700 dwellings has been enabled within the study area since 2016, of which 200 dwellings have been completed.
- Ara Hills has achieved a sale rate of 50 dwellings per annum since 2019.
- In total, 25 greenfield residential dwellings have been supplied to the market per annum within the study area since 2016, or 50 per annum since 2019.

Figure 6:
Current Greenfield Residential Developments

Development	Total Dwellings	Sold	Proportion Sold	Currently Selling	Planned	Sale Rate p.a.	Dwelling Types Offered
Ara Hills	700	200	29%	40	470	50	Stand Alone, Terrace & Apartments
Total	**700**	**200**	**29%**	**40**	**470**	**50**	**-**

Source: Corelogic, Developer Websites, Trademe, UE

Figure 7 provides a breakdown of the dwelling pricing and sizes offered by Ara Hills. The sale prices are derived from Corelogic recent sales data (last two years). The main points to note are:

- The average lot sizes offered are 440m² for stand alone dwellings and 230m² for terrace houses.
- The average GFA offered is 200m² for stand alone dwellings and 170m² for terrace houses.
- Ara Hills currently achieves average prices of $1,240,000 for stand alone dwellings and $1,130,000 for terrace houses.

Figure 7:
Ara Hills Profile by Price & Size

Development	Typology	Price Range	Average Price	GFA Range (m²)	Average GFA (m²)	Lot Size Range (m²)	Average Lot Size (m²)
Ara Hills	Stand Alone	$1,060,000 - $2,250,000	**$1,240,000**	170 - 340	**200**	320 - 1,230	**440**
	Terrace	$1,080,000 - $1,230,000	**$1,130,000**	170 - 170	**170**	210 - 230	**230**

Source: Corelogic, Developer Websites, UE

Figure 8:
Location of Current Greenfield Developments

Source: LINZ, Corelogic, Developer Websites, UE

5. Greenfield Residential Demand Analysis

The following sections provide an assessment of greenfield residential demand, in terms of quantity and price, within the study area, and the wider Auckland region. The Auckland Plan and subsequently the Auckland FDS allocate a proportion of demand to greenfield land, as one of their strategic objectives. These proportions are adopted as part of this analysis. The Auckland Plan is considered to be relevant, as the AUP zoning is currently based on its allocation of greenfield/infill housing established. While the FDS adopts a different greenfield/infill allocation of demand, this has not yet been reflected in the AUP zoning, which currently relies on the distribution established under the Auckland Plan (this will occur when the AUP is reviewed and has become operative, which I understand may be around 2028). As such, both the Auckland Plan and FDS are considered in this assessment.

5.1 Recent Dwelling Sales

Figure 9 below displays the distribution of recent dwelling sales (last two years 2022-2024) by price bracket and type in the study area. The main points to note are:

- The majority of dwellings sold within the study area were stand alone dwellings, which accounted for 80% of sales. Terrace houses accounted for 15% of sales, and apartments accounted for 5%.

- The majority (51%) of stand alone dwellings were sold within the $1,000,000 – $1,500,000 price range. In addition, a considerable number of stand alone dwellings were sold for above $1,500,000 (24%).
- The majority of terrace houses were sold in the $800,000 – $1,100,000 price range (56%).

Figure 9:
Recent Sales by Price Bracket for the Study Area January 2022 – 2024

Price Bracket	Stand Alone	Terrace	Apartment	Total
Less than $500,000	2%	4%	1%	3%
$500,000-$600,000	1%	1%	5%	2%
$600,000-$700,000	1%	4%	14%	2%
$700,000-$800,000	3%	10%	6%	4%
$800,000-$900,000	7%	21%	16%	9%
$900,000-$1,000,000	9%	20%	11%	11%
$1,000,000-$1,100,000	8%	15%	8%	9%
$1,100,000-$1,200,000	10%	15%	5%	10%
$1,200,000-$1,300,000	13%	5%	11%	12%
$1,300,000-$1,400,000	13%	2%	9%	11%
$1,400,000-$1,500,000	8%	1%	3%	7%
$1,500,000-$1,600,000	8%	1%	5%	6%
$1,600,000-$1,700,000	5%	0%	3%	4%
$1,700,000-$1,800,000	4%	0%	1%	3%
$1,800,000-$1,900,000	2%	0%	2%	2%
$1,900,000-$2,000,000	1%	0%	0%	1%
$2,000,000 Plus	5%	1%	1%	5%
Total	**80%**	**15%**	**5%**	**100%**

Source: Corelogic, UE

Figure 10 outlines the average sale price of different dwelling types within the study area over the January 2022 – 2024 period. Terrace housing is shown to be the most affordable housing type with an average sale price of $960,000. Stand alone dwellings achieved the highest average sale price of $1,290,000. Apartments achieved an average sale price of $1,050,000.

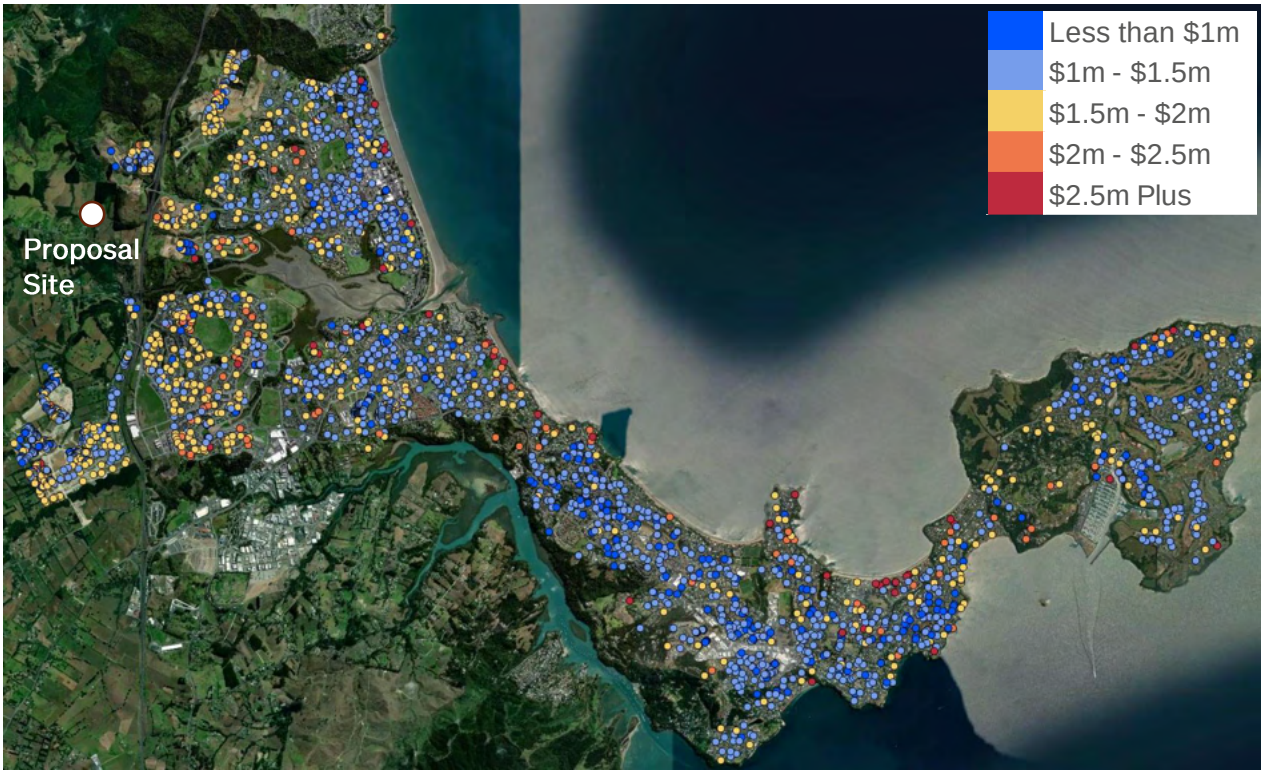
Figure 10:
Average Sale Price by Dwelling Type for the Study Area January 2022 -2024

Dwelling Type	Avg. Sale Price
Stand Alone	$1,290,000
Terrace	$960,000
Apartment	$1,050,000
Total	**$1,230,000**

Source: Corelogic, UE

Figure 11 shows the distribution of dwelling sales by price over the January 2022 - 2024 period. The highest priced locations within the study area are beachside properties located along the coast in Ōrewa and Whangaparaoa, and in new subdivisions such as Millwater. The proposal site is located on the western periphery of Ōrewa.

Figure 11:
Recent Sales by Location January 2022 - 2024



Source: Corelogic

5.2 Regional Dwelling Demand by Location

Figure 12 provides a breakdown of the location of new dwellings consented in the Auckland region over the 2016-2023 period. It shows that approximately 85% of all new dwellings consented occurred within the existing urban area (infill locations), 10% occurred within the FUZ area (greenfield area) and 5% occurred within rural areas.

Figure 12:
Auckland Region New Dwellings Consented by Location (2016-2023)

Year	New Dwellings Consented			
	Infill*	Greenfield**	Rural***	Total
2016	7,910	1,195	920	10,025
2017	8,595	1,500	770	10,865
2018	11,030	1,305	530	12,865
2019	13,140	1,445	570	15,155
2020	14,090	1,890	675	16,655
2021	17,490	2,100	940	20,530
2022	18,565	1,860	875	21,300
2023	13,585	1,335	570	15,490
Total	**104,405**	**12,630**	**5,850**	**122,885**
%	**85%**	**10%**	**5%**	**100%**

Source: Statistics NZ, UE

*SA2's within the Rural Urban Boundary.

**SA2's containing Future Urban Zone.

***SA2's outside the Rural Urban Boundary.

Figure 13 shows potential dwelling yield by FUZ area for Auckland Region. This provides a basis for understanding the regional distribution of greenfield residential demand that is anticipated by the AUP. The study area is anticipated to account for 24% of all greenfield residential demand across the region[3]. This is the highest proportion among all identified FUZ areas, indicating it is one of the main greenfield development locations identified in the AUP.

Figure 13:
Potential Dwelling Yield by FUZ Area for Auckland Region

Future Urban Area	Potential Dwelling Yield*	%
Warkworth	7,600	6%
Silverdale-Dairy Flat, Wainui East**	**32,300**	**24%**
Kumeu-Huapai, Riverhead	8,000	6%
Whenuapai, Scott Point	21,350	16%
Red Hills	12,050	9%
Puhinui	40	0%
Opaheke-Drury, Drury West	23,520	17%
Takaanini	5,300	4%
Pukekohe, Paerata	14,270	10%
Rural Settlements	12,460	9%
Total	**136,890**	**100%**

Source: Auckland Plan, Future Urban Land Supply Strategy

*As outlined on p.37 of the Auckland Plan 2050 Development Strategy Monitoring Report (Dec. 2021)

**Consistent with the study area adopted.

[3] Page 37, Auckland Plan 2050 Development Strategy Monitoring Report (December 2021)

The above analysis assists with determining whether the AUP is presently meeting its strategic objective in allocating demand to greenfield development, as outlined in the Auckland Plan and FDS.

The Auckland Plan states:

> *"Around 62 per cent of development over the next 30 years is anticipated to be within the existing urban area. The remaining development is anticipated to occur in future urban areas (32 per cent) and in rural areas (6 per cent)."*[4]
>
> *"In the future urban area more development is expected in decades two and three than in decade one, as infrastructure delivery is progressed."*[5]

The Auckland Plan (page 218) allocates 24% of housing demand over the medium term (1-10 years) to be in greenfield locations, as outlined in Figure 14. In summary, there is total dwelling demand of 129,000 dwellings, of which 24%, or 31,580 dwellings, are expected to occur in greenfield locations, over the 2016-2026 period. The main points to note are:

- Over the 2016-2026 period, regional greenfield dwelling demand is for 31,580 dwellings, or 3,160 dwellings per annum. This is equivalent to approximately 20-30 medium-large scale greenfield developments being required to be underway in any given year, for this period. This is based on an average annual supply per development of 100-150 dwellings for any single development (i.e. the typical average number of dwellings that a single development can supply to the market in one year, given the practical constraints of the development process).
- Based on the Hibiscus Coast accounting for 24% of regional greenfield demand, this equates to a need for this location to supply 7,450 dwellings over the 2016-2026 period, or for approximately 750 greenfield dwellings per annum. This is equivalent to approximately 5-8 medium-large greenfield developments required in any one given year over this period (based on an average annual supply per development of 100-150 dwellings). This indicates an additional 4-7 greenfield developments are required to meet greenfield demand.
- Based on this, there is a significant shortfall of greenfield capacity within the study area, since 2016, with only 200 greenfield dwellings sold in the study area, as identified in Section 4.
- Similarly, there is a significant shortfall of greenfield capacity being released within the region, with only 12,630 new greenfield dwellings consented since 2016. In addition, it is estimated that this would only result in 8,840 greenfield dwelling completions (based on a 70% completion rate).
- This results in a regional greenfield dwelling shortfall since 2016 of approximately 16,440 dwellings, and a Hibiscus Coast study area shortfall of 5,800 dwellings, since 2016.

[4] Auckland Plan 2050, Page 217
[5] Auckland Plan 2050, Page 217

Figure 14:
AUP Greenfield Dwelling Demand (2016-2026) under the Auckland Plan

Area	AUP Dwelling Demand 2016-2026 *	AUP Greenfield Dwelling Demand (2016-2026)		
		%of Dwelling Demand***	Number of Dwellings	Number of Dwellings p.a.
Auckland Region	129,000	24%	31,580	3,160
Hibsicus Coast**	**-**	**-**	**7,450**	**750**

Source: Auckland Plan, UE

*Outlined on Page 220 of Auckland Plan 2050.

**Based on 24% of greenfield demand allocated to the Silverdale-Dairy Flat, Wainui East future grow th area (AUP).

*** Based on Figure 44 of Auckland Plan 2050, p.218

Figure 15:
Auckland Plan 2050 Greenfield Dwelling Sufficiency (2016-2024)

Area	Greenfield Dwelling Demand*	Dwelling Completions /Sold*	Shortfall/ Surplus
Auckland Region	25,280	8,840	-16,440
Hibsicus Coast	**6,000**	**200**	**-5,800**

Source: Auckland Council Statistics NZ, Corelogic, UE

*To date (2016-2024)

The FDS assesses four growth scenarios, which allocate a range of demand to greenfield land, from 7% in Scenario A to 21% in Scenario D (in decade 1)[6]. The FDS does not identify a recommended growth scenario. For this reason, it is considered reasonable to take the average of the four scenarios (for decade 1) for the purpose of determining the proportion of demand allocated to greenfield locations over the 2023-2033 period. This results in an average of 14% of demand allocated to greenfield land, as outlined in Figure 16. In summary, the FDS outlines total dwelling demand of 85,080 dwellings, of which, 11,700 (14%) dwellings are expected to occur in greenfield locations, over the 2023-2033 period. The main points to note from Figure 16 are:

- Over the 2023-2033 period, the FDS allocates regional greenfield dwelling demand of 11,700 dwellings, or 1,170 dwellings per annum. This is equivalent to approximately 8-11 medium-large scale greenfield developments being required to be underway in any given year, for this period (based on an average annual supply per development of 100-150 dwellings).
- Based on the Hibiscus Coast accounting for approximately 24% of regional greenfield demand, this equates to a need for this location to supply 2,760 dwellings over the 2023-2033 period, or for approximately 280 greenfield dwellings per annum. This is equivalent to approximately 2-3 medium-large greenfield developments required in any one given year over this period (based on an average annual supply per development of 100-150 dwellings).
- As a result, there is also considered to be a significant shortfall of greenfield capacity within the study area under the FDS greenfield growth scenario, with only 50 dwellings sold per annum across the study area since 2019 (or 25 dwellings sold per annum since 2016), as identified in Section 4. This is significantly below the amount of growth required (of 280 dwellings per annum)

[6] Future Development Strategy 2023-2053 – Growth Scenarios Evidence Report, Table 3, Page 15.

- In summary, there is considered to be a requirement for an additional 1-2 medium-large scale greenfield developments in the study area in order to meet the greenfield dwelling demand outlined in the FDS, and to contribute towards reducing the accumulated greenfield dwelling shortfall in the Hibiscus Coast.

Figure 16:
AUP Greenfield Dwelling Demand (2023-2033) under the FDS

Area	FDS Dwelling Demand 2023-2033 *	FDS Greenfield Dwelling Demand (2023-2033)		
		%of Dwelling Demand	Number of Dwellings	Number of Dwellings p.a.
Auckland Region	85,080	14%	11,700	1,170
Hibsicus Coast**	-	-	**2,760**	**280**

Source: Auckland Plan, UE

*Outlined Appendix 4 of FDS, Appendix p.22. Inclusive of competitiveness margin.

**Based on 24% of greenfield demand allocated to the Silverdale-Dairy Flat, Wainui East future grow th area (AUP).

6. Affordability of New Greenfield & Infill Housing

Housing in new greenfield developments is typically able to be brought to the market at lower prices than new infill housing, both in terms of its nominal price and per sqm price. This is due to greenfield developments offering greater economies of scale for land development and house construction, and lower raw land prices.

Figures 17-18 show the sale price of new greenfield and infill dwellings in Auckland. Overall, greenfield dwellings are 88-89% of the price of infill dwellings (11-25% more affordable). On average, a house that costs $1.2 million in an infill location could be purchased for $1.0 million in a greenfield location. This price differential is more pronounced for small 2-3 bedroom stand-alone greenfield dwellings, which are 68-79% of the price of their infill counterparts (20-32% more affordable).

For younger singles and couples looking (that are considering starting a family) and younger families with children looking to enter the housing market, it is the small 2-3 bedroom family homes that are most important, as these houses best meet their needs. Having these available at prices that are 20-32% more affordable (i.e. $700,000 - $800,000) is therefore critical in ensuring the city is competitive in the national and international markets. It is now evident that Auckland has seen a decline in New Zealand born residents, with people relocating to more affordable locations, such as Hamilton, Tauranga, and Napier.

Consequently, Auckland now relies on wealthy international migrants for its population and economic growth. During Covid, Auckland's population decreased for two straight years (2021 and 2022) due to near zero international immigration, however by contrast during this time New Zealand's regional center's experienced strong growth. This indicates that middle-lower income New Zealand-born Aucklanders are relocating to regions due to a shortage of affordable homes. This is one of the most notable demographic changes occurring in New Zealand, and likely for this decade, and it will have potential adverse gentrification and ageing effects on the Auckland population. In particular, Auckland's long term social and economic resilience relies on attracting and retaining younger households, however, this will not be achieved under current market conditions.

Several studies confirm that greenfield housing is able to be produced at more affordable prices than infill housing. For example, a study completed by Urbis Ltd in 2011[7] found that greenfield housing was significantly less expensive than infill housing (32% cheaper in Brisbane, 10% cheaper in Adelaide, 5% cheaper in Sydney, 22% cheaper in Melbourne and 32% cheaper in Perth).

It is reasonable to expect Auckland greenfield housing to be 20-30% cheaper than infill housing if there are enough new greenfield developments occurring in each part of the city at any one time. For example, if the average dwelling price were $1,100,000 in infill locations, the average dwelling price for a comparable dwelling (size and type) in a greenfield location would be around $750,000 - $850,000. Affordable dwellings in greenfield locations would attract and retain younger households in Auckland and curb the unprecedented relocation to the regions.

FUZ land is the only opportunity for greenfield housing in Auckland over the short-medium and long term, based on the definition outlined in the AUP and Auckland Plan. An important function of FUZ land is to provide affordable housing and keep the housing market and prices in balance. Well-functioning residential land markets require a balance of infill housing, to enable higher densities and efficient use of existing infrastructure capacity, and greenfield housing, to enable affordable housing to place downward pressure on prices and ensure all residents have access to suitable affordable housing. Currently, Auckland does not achieve this balance, and this will be exacerbated by the outcome of the Housing and Business Development Capacity Assessment (HBA) 2023, Auckland PC78 and FDS (if adopted/applied as they are), which seek to further prioritize infill housing over greenfield housing.

Figure 17:
Average Sale Price ($m) of New Build Properties between January 2020 - December 2022

Stand Alone						
Locations	**1-bed**	**2-bed**	**3-bed**	**4-bed**	**5+bed**	**Average**
Greenfield	-	$0.7	$0.8	$1.1	$1.5	$1.0
Infill	-	$0.8	$1.1	$1.4	$1.6	$1.2
GF %Infill	**-**	**79%**	**76%**	**84%**	**91%**	**79%**
Terrace						
Locations	**1-bed**	**2-bed**	**3-bed**	**4-bed**	**5+bed**	**Average**
Greenfield	-	$0.7	$0.9	$1.2	-	$1.0
Infill	-	$0.8	$1.0	$1.2	-	$1.0
GF %Infill	**-**	**96%**	**94%**	**104%**	**-**	**98%**
Apartments						
Locations	**1-bed**	**2-bed**	**3-bed**	**4-bed**	**5+bed**	**Average**
Greenfield	$0.6	$0.7	-	-	-	$0.7
Infill	$0.6	$0.8	-	-	-	$0.8
GF %Infill	**92%**	**84%**	**-**	**-**	**-**	**88%**
Total						
Locations	**1-bed**	**2-bed**	**3-bed**	**4-bed**	**5+bed**	**Average**
Greenfield	$0.6	$0.7	$0.9	$1.2	$1.5	$1.0
Infill	$0.6	$0.8	$1.0	$1.3	$1.6	$1.2
GF %Infill	**92%**	**86%**	**84%**	**93%**	**91%**	**89%**

Source: CoreLogic

[7] National Dwelling Cost Study, prepared for the National Housing Supply Council, 2011, Urbis.

Figure 18:
Average Sale Price/m^2 of New Build Properties between January 2020 - December 2022

Stand Alone						
Locations	**1-bed**	**2-bed**	**3-bed**	**4-bed**	**5+ bed**	**Average**
Greenfield	-	$7,000	$5,500	$5,400	$4,800	$5,700
Infill	-	$10,300	$7,100	$6,400	$5,400	$7,300
GF%Infill	**-**	**68%**	**77%**	**84%**	**89%**	**80%**
Terrace						
Locations	**1-bed**	**2-bed**	**3-bed**	**4-bed**	**5+ bed**	**Average**
Greenfield	-	$8,100	$6,900	$9,200	-	$8,100
Infill	-	$9,600	$7,200	$8,300	-	$8,400
GF%Infill	**-**	**84%**	**96%**	**111%**	**-**	**97%**
Apartments						
Locations	**1-bed**	**2-bed**	**3-bed**	**4-bed**	**5+ bed**	**Average**
Greenfield	$10,800	$8,700	-	-	-	$9,800
Infill	$11,400	$10,300	-	-	-	$10,900
GF%Infill	**95%**	**84%**	**-**	**-**	**-**	**90%**
Total						
Locations	**1-bed**	**2-bed**	**3-bed**	**4-bed**	**5+ bed**	**Average**
Greenfield	$10,800	$7,900	$6,200	$7,300	$4,800	$7,867
Infill	$11,400	$10,100	$7,200	$7,400	$5,400	$8,900
GF%Infill	**95%**	**78%**	**86%**	**99%**	**89%**	**88%**

Source: CoreLogic

6.1 Auckland Median House Price Growth 2003-2023

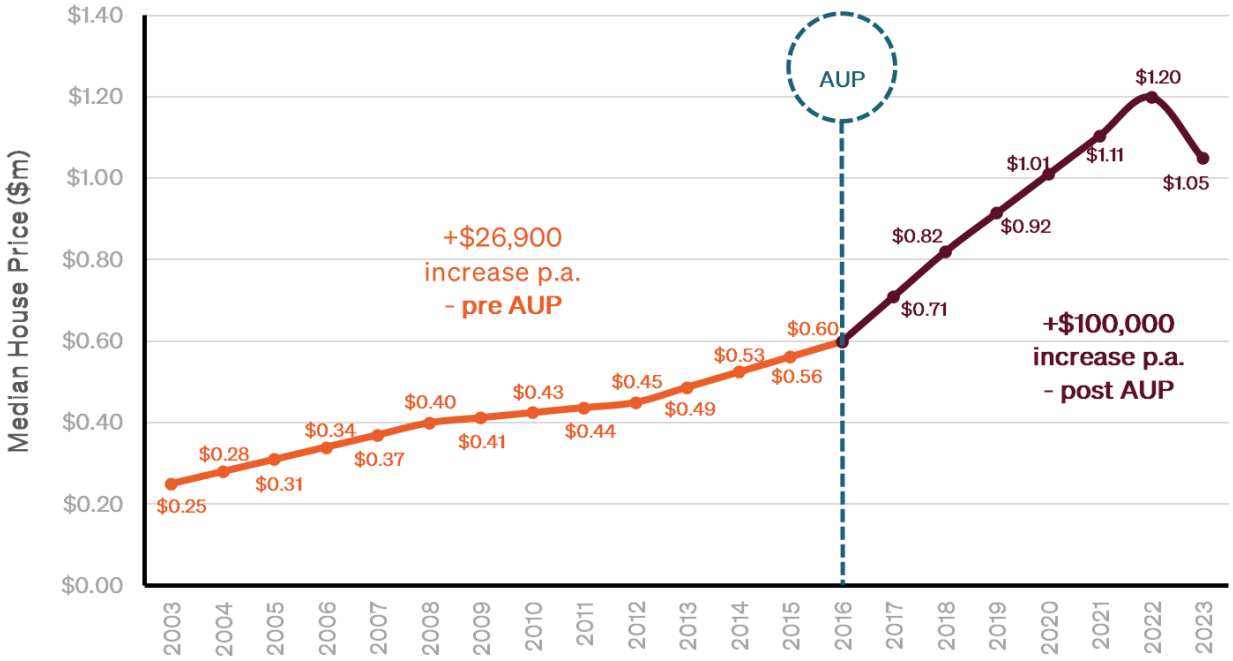
Figure 19 shows the median house price in Auckland has increased since 2003 and now sits above $1 million. This has had significant adverse social and economic effects.

Since the AUP became operative in part in 2016, the annual average house price increased from approximately $26,900p.a. pre-AUP (i.e. prior to 2016) to approximately $100,000p.a. post-AUP. The main driver of house price growth has been the imbalance between infill and greenfield housing. The Auckland Plan anticipated 32% of growth in greenfield locations, however since the AUP became operative, only 10% of growth has been in FUZ greenfield locations[8]. This has meant greenfield development has not been sufficient to provide enough low-priced housing to keep prices affordable, and some greenfield developments have, in the absence of competition, focused solely on high-priced housing.

As discussed above, the ongoing high prices of houses in Auckland are historically unprecedented and have resulted in Auckland's first population decline since its inception 200 years ago, for both 2021 and 2022. During this time the other regions across New Zealand experienced strong growth confirming this was unique to Auckland.

[8] Based on an assessment of new dwellings consented. Refer Section 5.2.

Figure 19:
Auckland Median House Price Growth 2003-2023

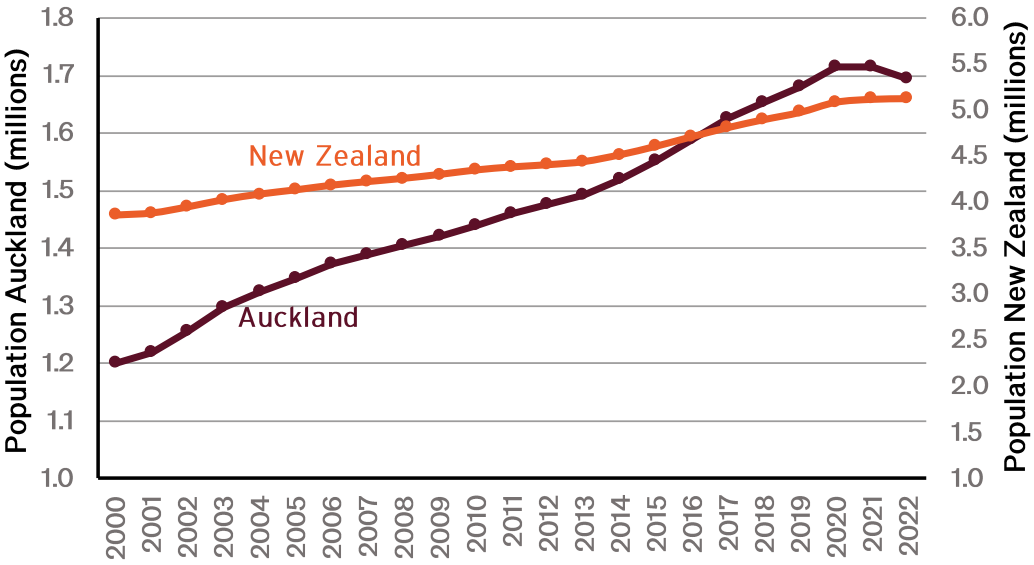


Source: REINZ

7. Auckland Growth

Figure 20 compares the population growth in Auckland and New Zealand. New Zealand has experienced strong population growth over the past two decades, which continued through the Covid-19 period, including years ending March 2021 and 2022. New Zealand's population increased by 21,600 for the year ending March 2021 and by 12,600 for the year ending March 2022. By comparison the Auckland population has declined over the last two years, by 12,800 people for the year ending March 2021 and by 9,000 for the year ending March 2022. This is the first decline Auckland has seen since 1861 and this exodus has led to the rise of the regions. This is likely to be the defining national demographic trend of the 2020s and of central importance for places that are the recipients of the outflow from Auckland.

Figure 20:
NZ and Auckland Growth 2000 – 2022

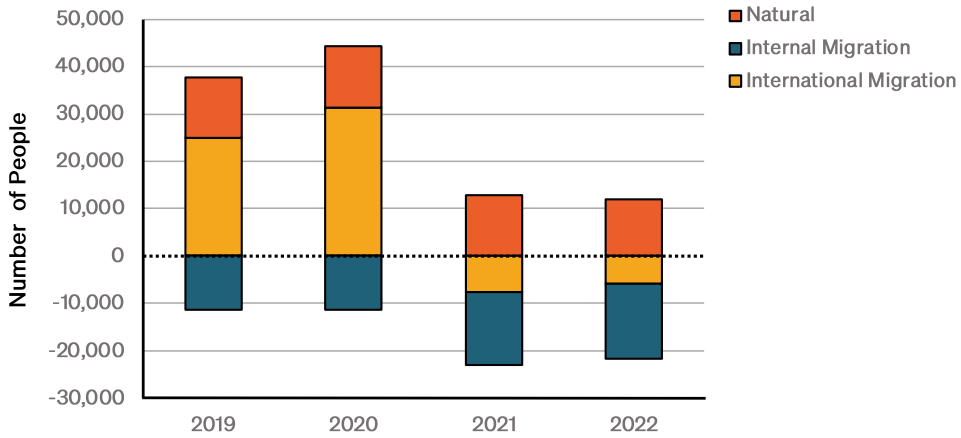


Source: Statistics NZ

A city's growth is comprised of natural population growth (births minus deaths), international migration (the net in/outflow to overseas countries) and internal migration (the net in/outflow from other cities in New Zealand).

As shown in Figure 21, Auckland's natural growth has been steady, at around 12,900 per annum (shown in red) over the 2019 – 2022 period. However, the internal migration (shown in blue) has been in decline with around 11,400 people leaving Auckland for the 2019 and 2020 years, increasing to 15,400 in 2021 and 15,900 in 2022. Overall, the New Zealand-born population has been in decline and this rate of decline is increasing. This trend is expected to continue. By contrast, the international migration (shown in yellow) in Auckland has been historically strong, and recently this was 25,000 for 2019 and 31,300 for 2020. With restrictions on international migration over the Covid period, Auckland's only source of population growth was curtailed, and the total population went into decline.

Figure 21:
Composition of Auckland's population growth 2019 – 2022



Source: Statistics NZ

It is therefore considered reasonable to conclude that the above relocation of Aucklanders is a result (in many cases) of the increasing house prices across the region, which is a consequence of Auckland not providing sufficient lower priced greenfield housing, which is fundamental required to place downward pressure on house prices, as demonstrated in Sections 5.2 and 6.

8. Access to Employment Nodes & Services

The study area has had significant employment growth between 2016 - 2023. As shown in Figure 22 below, employment through this period has increased by 36%. This is tracking considerably higher than the population growth of 22% over the same period, which demonstrates that the study area is a key employment node in North Auckland.

Strong employment growth in the study area is expected to continue, supported by approximately 350ha of net developable industrial land being identified in the Silverdale West - Dairy Flat Industrial Area Structure Plan 2020[9]. This will provide significant additional employment for the future residents of the study area, which approximately 10,000 – 15,000 new jobs, which will enable residents to live close to their place of work.

Figure 22:
Employment and Population Growth (2016-2023)

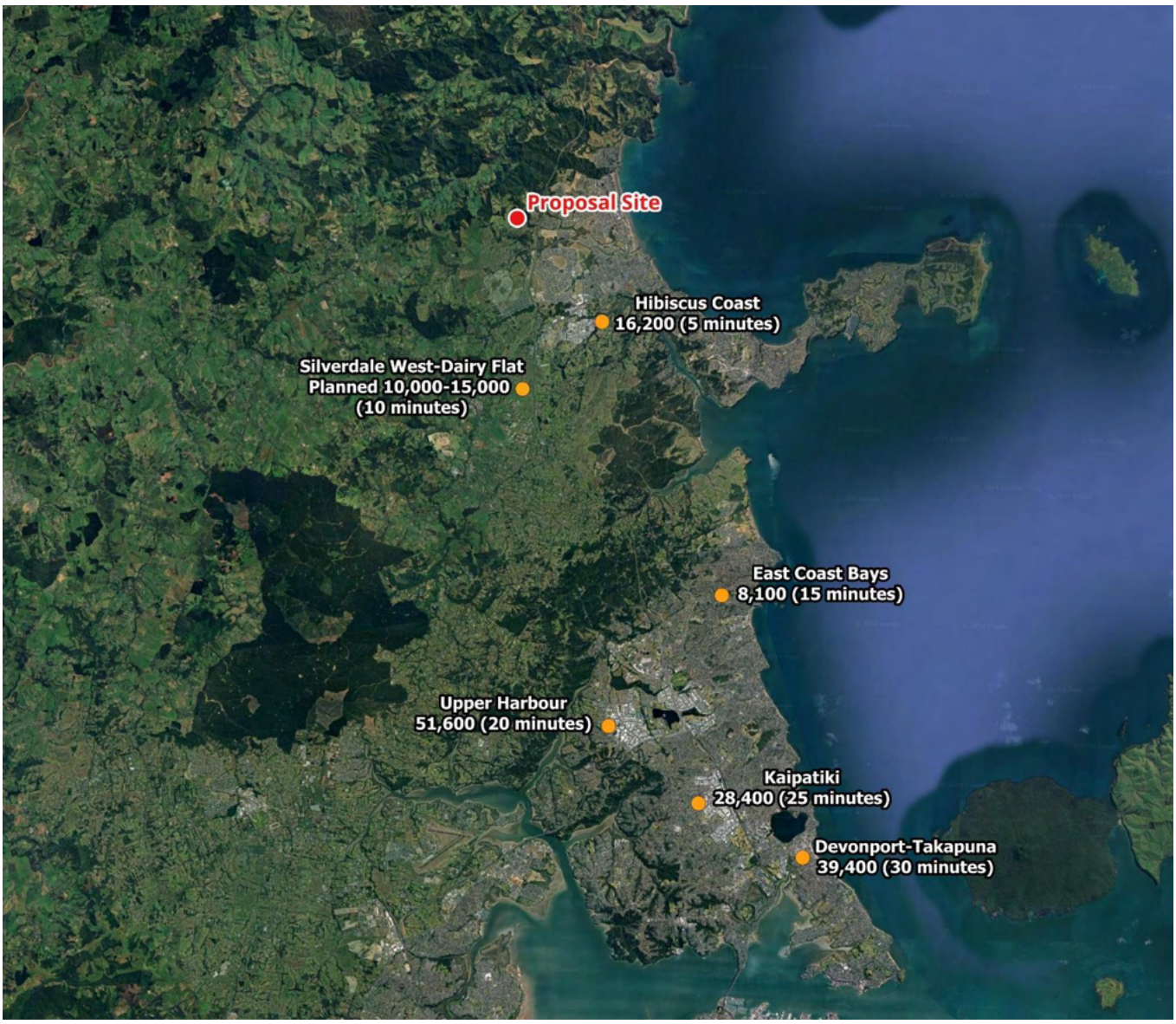
Hibiscus Coast	Employment		Growth (2016 - 2023)	
	2016	2023	Nominal	%
Employment	11,930	16,230	4,300	36%
Population	50,700	62,120	11,420	23%

Source: Statistics NZ, UE

Figure 23 demonstrates that there is significant employment in close proximity to the proposal site, with future residents having access to approximately 140,000 jobs within a 30-minute drive time. This includes the major employment nodes of Silverdale, Albany (Rosedale), Wairau and Takapuna/Devonport.

[9] Silverdale West Dairy Flat Industrial Area Structure Plan 2020.

Figure 23:
Employment Within a 30-Minute Drivetime



Source: Statistics NZ

9. Economic Contribution to GDP & Employment

This section assesses the impact of the project and the proposed shift to urban use on employment and GDP. This assessment confirms that the proposal will "deliver significant economic benefits" for the Auckland region, Rodney, and the study area, and is consistent with Section 17(3)(d) of the Fast-track Approvals Bill.

9.1 Employment & GDP Contribution from Construction

The national 'value-added per employee' for each sector has been used to estimate the full-time equivalent (FTE) employment for this proposal. This methodology includes both direct and indirect impact of the proposal.

Figure 24 outlines the FTEs and value-added to the construction sector GDP that the proposal would generate. It is estimated that the development of the site would generate 1,870 FTE jobs and contribute $249.5 million to the construction sector's GDP.

The employment number can be interpreted as the number of FTE jobs created on an annualised basis, i.e. if construction takes 10 years and is split evenly between the years then approximately 187 FTE jobs would be created in each year.

Figure 24:
Value-Added GDP & FTE Employee Estimates

Construction Phase	Lot Type	Count	Avg Lot Size (m^2)	Avg Dwelling Size (m^2)	Value ($M)	Value Added GDP ($M)	FTE Employees
Land + Dwelling	Type A	240	150	85	$157.4	$48.4	360
	Type B	580	250	90	$387.1	$119.0	890
	Type C	230	350	95	$154.4	$47.5	360
	Type D	60	450	100	$43.8	$13.5	100
	Type E	40	550	110	$31.7	$9.7	70
	Type F	20	650	130	$12.4	$3.8	30
	Type G	10	750	160	$7.7	$2.4	20
	Type H	20	850	190	$16.8	$5.2	40
Total/Average	**-**	**1,200**	**365**	**95**	**$811.4**	**$249.5**	**1,870**

Source: UE, Statistics NZ

Figure 25 compares the economic impact of the existing use (the 'Base Case' scenario) and the proposed development.

Under the Base Case scenario, the site is currently being used for lifestyle residential with site size restricted to a minimum of 2 ha. This results in a total of 38 lots.

This is estimated to contribute $11.7 million to GDP and supports approximately 90 FTE jobs.

In contrast, proposal will develop approximately 1,200 lots + dwellings, contributing an estimated $249.5 million to GDP and support approximately 1,870 FTE jobs.

Overall, the proposal will result in a net addition of 1,162 lots, contributing approximately $237.8 million to GDP and supporting approximately 1,780 additional FTEs, when compared to the Consented Baseline scenario.

Figure 25:
GDP and FTE Comparison Base Case vs The Proposal

Scenario	No. of Lots	Value ($M)	Value Added GDP ($M)	FTE Employees
The Proposal	1,200	$811.4	$249.5	1,870
Base Case	38	$38.0	$11.7	90
Net Benefit	**1,162**	**$773.4**	**$237.8**	**1,780**

Source: UE, CoreLogic, Statistics NZ

Figure 26 shows the estimated national 'value added per FTE employee'. The value added per employee figures are used to estimate the FTE employees created by the construction of the proposal. Figure 26 shows that the construction sector has a $23.2B contribution to national GDP and a workforce of 175,000 FTEs. This results in a value added of $133,000 per FTE employee.

Figure 26:
Industry GDP and Value Added per Employee

Sector	Value Added GDP ($M)	FTE Workers	Value Added GDP Per Employee
Construction	$23,200	175,000	$133,000

Source: Statistics NZ

9.2 Flow-on Effect of the Proposal on the Primary Industries

The contribution of the proposal to GDP and FTE employment is estimated using the value-added approach[10]. This is further refined to estimate the direct and indirect contributions to GDP based on an evaluation of the interrelationship between different sectors of the economy (using input-output tables sourced from Statistics NZ), with a particular focus on the proposal's impact on primary industries.

Figure 27 outlines the value-added GDP and breaks this down into direct and indirect impacts and FTE employment. Some of the key points to note are:

- The direct impact on the construction sector of the development is estimated to be $117.2 million in GDP and will support approximately 1,045 FTE jobs. This includes building construction and related services.
- The indirect impact on the construction sector of the development on primary industries is estimated to be $55.4 million in GDP and will support approximately 260 FTE jobs. This includes jobs in the 'Agriculture, forestry and logging' sector resulting from the purchasing of raw materials to construct the proposed dwellings (e.g. timber).
- In total, the development is estimated to contribute approximately $249.5 million to GDP and support approximately 1,870 FTE jobs in the regional economy during this phase.

Figure 27:
Economic Impact of The Proposal on Primary Industries

Impact	Sector	Multiplier	Project Value ($M)	GDP ($M)	FTE
Direct	Construction	1.00	$381.2	$117.2	1,045
Indirect	Primary	0.47	$180.2	$55.4	260
	Other	0.66	$249.9	$76.8	565
Total Impact	-	**2.13**	**$811.4**	**$249.5**	**1,870**

Source: Statistics NZ, UE

[10]The value added of an industry, also referred to as gross domestic product (GDP)-by-industry, is the contribution of a private industry or government sector to overall GDP. The components of value added consist of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus. Value added equals the difference between an industry's gross output (consisting of sales or receipts and other operating income, commodity taxes, and inventory change) and the cost of its intermediate inputs (including energy, raw materials, semi-finished goods, and services that are purchased from all sources).

9.3 Employment & GDP Generation from Ongoing Expenditure

Figure 28 provides an estimate of the ongoing expenditure expected upon the completion of the development. The main points to note are:

- Upon completion of the proposal, the average household expenditure is forecast to be approximately $41,700 per household, per annum. This generates a value-added to GDP of approximately $23,900 per annum. These values have been used for both scenarios.
- The total ongoing household expenditure from the residents of the proposal is estimated to be approximately $50.0 million per annum. This generates a value-added to GDP of approximately $28.7 million per annum, supporting approximately 330 FTE jobs.
- The total ongoing household expenditure from the residents of the Base Case Scenario is estimated to be approximately $1.6 million per annum. This generates a value-added to GDP of approximately $0.9 million per annum, supporting approximately 10 FTE jobs.
- The proposal results in a net additional $27.8 million in annual value added contribution to GDP, and an additional 320 FTEs supported.

Figure 28:
Employment & GDP Generation from Ongoing Household Expenditure

Ongoing Economic Impact	Number of Households	Average HH Spend ($p.a.)*	Value Added GDP (p.a.)	HH Expenditure Per Annum ($M)	Value Added GDP Per Annum ($M)	FTE Employees (p.a.)
The Proposal	1,200	$41,700	$23,900	$50.0	$28.7	330
Base Case	38	$41,700	$23,900	$1.6	$0.9	10
Net Benefit	**1,162**	**-**	**-**	**$48.5**	**$27.8**	**320**

Source: UE, Statistics NZ

*Upon completion of proposed development (approximately 2035).

Figure 29 shows the estimated national 'value-added per FTE employee'. These value-added per employee figures are used to estimate the FTE employees created from the ongoing household expenditure from future residents of the proposed development. The sectors that have been included contribute $86.8 billion to national GDP and employ 1,002,000 FTEs. This results in a value-added of $87,000 per employee.

Figure 29:
Industry GDP and Value-added per Employee

Sector	Value Added GDP ($M)	FTE Workers	Value Added GDP Per Employee
Retail Trade	$13,800	163,000	$85,000
Accommodation and Food Services	$6,800	104,000	$66,000
Transport, Postal and Warehousing	$13,400	83,000	$162,000
Financial and Insurance Services	$17,400	58,000	$303,000
Education and Training	$13,100	245,000	$53,000
Health Care and Social Assistance	$18,300	163,000	$112,000
Arts and Recreation Services	$4,000	186,000	$21,000
Total	**$86,800**	**1,002,000**	**$87,000**

Source: Statistics NZ

10. Fast-track Approvals Bill Economic Considerations

This section assesses the proposal against the relevant economic matters related to regional or national significance in the Fast-track Approvals Bill.

The relevant sections for an economic analysis are outlined as follows.

> **Section 17(2):** "*The joint Ministers must consider the following criteria:*
>
> > *(a) Whether referring the project is consistent with the purpose of this Act:*[11]
> >
> > *...*
> >
> > *(d) Whether the project would have significant regional or national benefits:*
>
> **Section 17(3):** *"In considering under subsection (2)(d) whether the project would have significant regional or national benefits, the joint Ministers may consider whether the project—*
>
> > *...*
> >
> > *(c) will increase the supply of housing, address housing needs, or contribute to a well-functioning urban environment (within the meaning of policy 1 of the National Policy Statement on Urban Development 2020):*
> >
> > *(d) will deliver significant economic benefits:*
> >
> > *(e) will support primary industries, including aquaculture:*
> >
> > *...*
> >
> > *(j) is consistent with local or regional planning documents, including spatial strategies."*

Sections 17(3)(c,d,e,j) are each addressed below.

Section 17(3)(c): Contribution towards Well-Functioning Urban Environment

As outlined in Section 17(3)(c), the proposal would make a regionally significant contribution to increasing the supply of housing to ensure housing needs are met. It would also contribute towards a well-functioning urban environment in a way that is of regional significance. The reasons for this are summarised below.

Policy 1 of the National Policy Statement on Urban Development (NPS-UD) is as follows:

> **Policy 1:** *"Planning decisions contribute to well-functioning urban environments, which are urban environments that, as a minimum:*
>
> > *(a) have or enable a variety of homes that:*
> >
> > > *(i) meet the needs, in terms of type, price, and location, of different households...*

[11] The purpose of the Act is "to provide a fast-track decision-making process that facilitates the delivery of infrastructure and development projects **with significant regional or national benefits".**

(c) have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; and

(d) support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; ….”

The study area has been identified as the major greenfield growth area within the AUP, accounting for 24% of the regions total greenfield demand. This requires the supply 7,450 dwellings over the 2016-2026 period, or for approximately 750 greenfield dwellings per annum based on the Auckland Plan greenfield dwelling demand, and 2,760 dwellings over the 2023-2033 period, or for approximately 280 greenfield dwellings per annum based on the FDS greenfield dwelling demand.

Since the AUP became operative in 2016, only one new greenfield development has entered the market in this location, namely Ara Hills. This development has supplied only 50 dwellings per annum to the market since 2019 (or 25 dwellings per annum since 2016), falling substantially short of both the greenfield demand outlined in the Auckland Plan and FDS, in the order of 230-700 dwellings per annum, or 82-93% below the expected rate of greenfield growth for this part of the city. It is estimated that the study area requires approximately an additional 4-7 medium-large greenfield developments in any one given year over this period under the Auckland Plan greenfield demand, and an additional 1-2 medium-large scale greenfield developments under the FDS greenfield demand, in order to ensure that there is sufficient supply and a competitive housing land and development market.

More generally, the proposal would contribute to the regional shortfall in greenfield housing expected to be supplied to the market since 2016.

Similarly, the proposal will contribute towards addressing the significant shortfall of greenfield capacity being realised within the region, since 2016. In particular, only 1,260 new greenfield dwellings consented per annum since 2016, well below (60%) the expected rate of 3,160 per annum.

As a consequence, the average house price in Auckland has increased substantially since the adoption of the AUP (2016), with the annual average house price growth increasing by approximately $26,900 p.a. pre-AUP (i.e. prior to 2016) to approximately $100,000 p.a. under the AUP. The main driver of this house price growth has been the predominance of new infill housing supply relative to new greenfield housing. This is because greenfield housing has prices that are 20-30% below that of infill housing.

The proposal would add a second major greenfield development to the study area, which would contribute towards ensuring there is a wider range of housing available to the market, at more affordable prices.

The proposal is considered to make a regionally significant contribution to addressing housing needs, not just because of the number of houses it will provide in a high demand area, but because of the anticipated price of the housing it will provide. The anticipated prices of the housing provided would provide housing for households that would otherwise likely relocate outside of Auckland, due to the increasing unaffordability of new housing being supplied to the market. This is supported by the 2023 HBA, which concludes that Auckland has sufficient capacity to meet demand in terms of the quantity of houses that can be built, however, there is insufficient development capacity to meet demand in terms of the price of houses that can be built (predominantly in the sub-$900,000 price range[12]). In particular, that there is the insufficient

[12] HBA, Page 114

capacity of lower priced or affordable houses, and that this issue is permanent and will not change over time.

> *"The housing sufficiency analysis for the 2023 assessment suggests that affordability will deteriorate further in the future if recent trends in household incomes and housing prices continue. Figure 68 illustrates the match (or mismatch) between supply and demand across the distribution of dwelling values in 2022, and projected for 2025, 2032, and 2052. Bars below the zero line represent a shortfall in dwelling units in that dwelling value band, while bars above the line represent excess supply. It is important to note that even in 2022 there is a significant segment of low-income households that cannot afford market provided housing, and the shortage of housing in this market segment is projected to grow from 2022 to 2052."*(HBA, page 114).
>
> *"If the supply of affordable housing (housing priced at $770,000 or less) grows at a rate lower than 4.5 per cent, the mathematical model fails to find a finite solution, that is, the housing unaffordability situation of Auckland becomes permanent."* (HBA, page 81).

The proposal would provide approximately 1,110 new affordable dwellings to the market at $900,000 or less, which is less than the average sale price of stand alone dwellings in the study area over the 2022-2024 period. This is considered to make a significant contribution towards retaining population that would otherwise be forced to relocate to other regions across the country that can meet their housing needs, as a result of the ongoing high prices of houses in Auckland.

As a result, the proposed project is considered to meet Policy 1 of the NPS-UD, and therefore meet Section 17(3)(c) of the Fast Track Approvals Bill.

Section 17(3)(d): Significant Economic Benefits

As outlined in Section 9 of this report, the proposal would result in a direct contribution to GDP of approximately $117.2 million and support approximately 1,045 FTE jobs in the construction related sectors. In addition, the proposal would result in an indirect economic impact of a contribution to GDP of approximately $249.5 million and support an additional 822 FTE jobs in supporting industries. This brings the total economic impact of the project to an estimated $249.5 million in contribution to GDP and 1,870 FTE jobs being supported/generated. This is considered to be a significant economic benefit resulting from the proposed project. Further, this is considered to be a net economic impact, due to the current housing shortfall and high house prices, which is reducing the total potential growth of Auckland.

The proposed project is therefore considered to meet Section 17(3)(d) of the Fast Track Consenting Bill.

Section 17(3)(e): Contribution towards Supporting Primary Industries

As outlined in Section 9 of this report, the proposal would result in a notable contribution towards Primary sector GDP and FTE employment. In total, the development of the project is estimated to result in a total contribution to Primary sector GDP of $55.4 million, which would support an estimated 260 FTE jobs. This is as a result of the purchasing of raw materials that are required to construct the dwellings (i.e. timber etc), which will support the ongoing employment and performance of sectors such as the 'Agriculture, forestry and logging' sector.

As a result, the proposed project is considered to make a notable contribution towards Primary Industries, and therefore meets Section 17(3)(e) of the Fast Track Consenting Bill.

Section 17(3)(j): Consistent with Local or Regional Planning Documents

As outlined in Section 10 of this report, the proposal is considered be consistent with provisions B2.4.1.(4) and B2.4.2.(11)(a) of the AUP, by increasing the supply of affordable housing in the Hibiscus Coast, which would meet the needs of households on lower-moderate incomes that currently do not have their housing needs met. As a result, the proposal is considered to meet Section 17(3)(j) of the Fast Track Consenting Bill, in terms of the AUP provisions.

Overall, the proposal is considered to result in several significant regional benefits, and therefore meet Section 17(2)(d) of the Fast Track Consenting Bill.

11. Conclusion

The proposal would result in several significant regional benefits to the Auckland region, namely related to providing housing that is considered to result in the retention of population, and through the economic benefits generated as a result of the construction of the proposal.