Waimakariri District Council
215 High Street
Private Bag 1005
Rangiora 7440, New Zealand
Phone 0800 965 468

DISTRICT PLAN REVIEW

Proposed Waimakariri District Plan - Submission

Clause 6 of Schedule 1, Resource Management Act 1991

Submitter details

*(Our preferred methods of corresponding with you are by **email** and **phone**).*

Full name: Mark and Melissa Prosser C/o. McCracken and Associates Ltd

Email address: office@rgmc.co.nz

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(if different from above)

Please select one of the two options below:

☒ I **could not** gain an advantage in trade competition through this submission *(go to Submission details, you do not need to complete the rest of this section)*

☐ I **could** gain an advantage in trade competition through this submission *(please complete the rest of this section before continuing to Submission details)*

Please select one of the two options below:

☐ I **am** directly affected by an effect of the subject matter of the submission that:

A) Adversely affects the environment; and

B) Does not relate to trade competition or the effect of trade competition.

☐ I **am not** directly affected by an effect of the subject matter of the submission that:

A) Adversely affects the environment; and

B) Does not relate to trade competition or the effect of trade competition.

2106170979 46 - Version 1.0 - August 2021

Submission details

The specific provisions of the proposal that my submission relates to are as follows: *(please give details)*

The Rural Lifestyle Zone proposed for our property at Mandeville, and statements of Plan objectives and policies for the Mandeville rural residential area and the Large Lot Residential Zone. Please refer to the attached reports for full details of the property, the matters covered by the submission, and the reasons. The attached reports are listed in the appendices.

My submission is that: *(state in summary the Proposed Plan chapter subject and provision of your submission. Clearly indicate whether you support or oppose the specific provisions or wish to have amendments made, giving reasons) (please include additional pages as necessary)*

The zoning of the subject property should be changed to Large Lot Residential Zone together with amendments to statements of objectives and policy, plus the adoption of an Outline Development Plan, to enable the development and subdivision of the property for rural-residential purposes. Please refer to the attached reports for further details., and an explanation of the reasons for this submission.

I/we have included **7 additional pages and 8 appendices.**

I/we seek the following decision from the Waimakariri District Council: *(give precise details, use additional pages if required)*

That the submission be accepted in full and given effect to as follows:

1. **Zoning** – Amend the zoning of the property from Rural Lifestyle Zone to Large Lot Residential Zone.
2. **Outline Development Plan** – Adopt and include in the District Plan the ODP attached as part of this submission (refer Appendix 9), together with any amendments that may be identified as desirable during the submission hearing process.
3. **Policy** – UFD-P3, the policy on identification and extension of Large Lot Residential Zone areas. This submission supports Policy UFD-P3, Part 2 which enables a new LLR Zone development to be include in the District Plan even though that has not been included in the Rural Residential Development Strategy or the District Plan Review as notified. The request for re-zoning in this submission is consistent with this policy.
4. **Objective for Subdivision Design – SUB-01** – This submission supports objective SUB-01 in principle, but seeks a small amendment to recognize that rural residential is a desirable housing choice and part of a flexible and diverse housing market, and which should be included in the subdivision design objectives. The decision sought is to amend objective SUB-01, item 2, to read:

   "2. Consolidates urban and rural residential development and maintains rural character except where required for, and identified by the District Council, for urban or rural residential development."

   This amendment would be consistent with objective RESZ-05, and would remove an inconsistency in the application of District Plan objectives.
5. **Objectives and Policies for Outline Development Plans** – This submission supports the approach to the preparation and use of ODP's and specifically:
   - **SUB**-P6, criteria for ODP's
   - **RESZ**-P12, policy for the use of ODP's
   - **LLRZ** – P5, policy to ensure that in the Large Lot Residential Zone an ODP is developed in accordance with SUB-P6 and incorporated in the District Plan.

Submission at the Hearing

☒ I/we wish to speak in support of my/our submission

☐ I/we do not wish to speak in support of my/our submission

☒ If others make a similar further submission, I/we will consider presenting a joint case with them at the hearing

Signature

Of submitters or person authorised to sign on behalf of submitter(s)

Signature  Date 25 November 2021

(If you are making your submission electronically, a signature is not required)

Important Information

1. The Council must receive this submission before the closing date and time for submissions.

2. Please note that submissions are public. Your name and submission will be included in papers that are available to the media and public. Your submission will only be used for the purpose of the District Plan review process.

3. Only those submitters who indicate they wish to speak at the hearing will be emailed a copy of the planning officers report (please ensure you include an email address on this submission form).

If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least 1 of the following applies to the submission (or part of the submission):

- It is frivolous or vexatious
- It discloses no reasonable or relevant case
- It would be an abuse of the hearing process to allow the submission (or the part) to be taken further
- It contains offensive language
- It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

Send your submission to: Proposed District Plan Submission
Waimakariri District Council
Private Bag 1005, Rangiora 7440

Email to: developmentplanning@wmk.govt.nz

Phone: 0800 965 468 (0800WMKGOV)

You can also deliver this submission form to one our service centres:

Rangiora Service Centre: 215 High Street, Rangiora

Kaiapoi Service Centre: Ruataniwha Kaiapoi Civic Centre, 176 Williams Street, Kaiapoi

Oxford Service Centre: 34 Main Street, Oxford

Submissions close 5pm, Friday 26 November 2021

Please refer to the Council website waimakariri.govt.nz for further updates

WAIMAKARIRI DISTRICT COUNCIL

SUBMISSION ON THE PROPOSED WAIMAKARIRI DISTRICT PLAN REVIEW (2021)

BY M. AND M. PROSSER (OHOKA FARM HOLDINGS LIMITED)

REPORT ON PLANNING ISSUES

Introduction

1. The submitters are the owners of a block of land situated on the northern boundary of Mandeville. It is shown on the attached site plan (Appendix 2) and draft Outline Development Plan (Appendix 9) and has road frontages to Ashworths Road to the north and Dawsons Road to the west. It is described as Lot 6 DP 2038 and Lot 1-9 DP 314202 and comprises approximately 115 hectare in area.

2. The submission asks that the part of this property shown on the attached site plan and draft ODP (approximately 70 hectares) be accepted by the Council as an appropriate extension to the Mandeville rural-residential area and be included within the Large Lot Residential Zone in this review of the Wamakariri District Plan. The subdivision and development of the land would be subject to an Outline Development Plan, and a draft ODP has also been proposed as part of the submission.

Background

3. The planning provision for rural residential development in Greater Christchurch, and especially within Waimakariri District, has been a contentious planning issue since before the district was formed by amalgamating councils in 1989. Rangiora County and Eyre County Councils provided a lead by zoning areas for rural residential settlement at about 1.0 ha average lot size as a strategy to reduce the pressure for 10 acre (4ha) subdivisions of productive farm land in those districts. One of the favoured locations was Mandeville.

4. After the first few developments in the 1980's and 1990's policy changes with regard to on-site effluent treatment and disposal and water supply wells for drinking water motivated a policy shift from on-site systems to requiring Council or collective provided services, with increasing standards required to be met by developers and subdividers. These policy evolutions can be seen in the form of Mandeville today, with areas of 1.0ha lots, others an average of 5000m2 but with some smaller, and the San Dona area with lots up to about 1.5ha. Also, a mixture of servicing arrangements.

5. Mandeville has continued to be popular for rural residential density housing, which led the Council to impose a Mandeville Growth Boundary by Plan Change 32 in 2012. The reasons were summarised in the decision on submissions to the Plan Change as follows:

- The need to address peripheral and piecemeal development;
- The need to manage adverse effect on the environment;
- The need to ensure integrated management of growth and maintain and enhance the characteristics of Mandeville;
- The need to assess how well the current plan provisions provide for continued growth at Mandeville given recent private plan changes and resource consents;
- Development that occurs on the periphery of the Mandeville settlement may have cumulative effects on the environment, particularly the ability for such development to integrate into the existing settlement and avoid Mandeville losing its relationship with the Rural zone;
- The Mandeville Community Survey and the Residential 4 Zone survey identified that the Mandeville community highly value the amenity and character of the environment;
- The eastern districts sewerage scheme will bring the opportunity for existing and new subdivision and development to be provided with cost effective reticulation, however, the opportunity for new household growth provided by this scheme needs to be weighed against the resulting effects on the rural character of the Mandeville settlement;
- In assessing the preferred growth areas within Mandeville the RRDP signals that specific controls are necessary to manage the spatial extent and layout of future development in Mandeville;
- A GAP analysis showed that current plan provisions were not necessarily achieving the objectives relating to rural character (14.1.1), residential zones (17.1.1) and promotion of alternative transport modes (13.1.1 and 11.1.1).

Some of these concerns are still relevant today, both in regard to the expansion of rural residential opportunities generally, and in regard to the future development of Mandeville. They can be seen in some of the objectives and policies of the Proposed District Plan Review, in particular UFD-P3 Part 2, LLRZ-01 and LLRZ-P1.

The Waimakariri Rural Residential Development Strategy

6. In 2019 additional rural residential growth at Mandeville was considered during the preparation of the draft Rural Residential Development Strategy. The Strategy described the selection process which was followed, resulting in five preferred sites/locations being identified. Possible locations were tested against seven criteria and excluded from consideration if they were:
    1. Within high flood hazard area
    2. Within areas yet to be developed inside of the existing infrastructure boundary of the District's main eastern towns
    3. On the direct edges of main towns outside of the Infrastructure boundary thereby foreclosing more intensive long term urban developments
    4. Not connected to existing rural residential nodes or small settlements
    5. Not able to economically connect to the network scheme for wastewater
    6. Within the Christchurch International Airport noise contour

7. Within areas that would compromise the operational capacity of the Rangiora Airfield

8. The submitters participated in the public consultation for the Waimakariri Rural Residential Development Strategy, and sought Council support for their property to be identified in the Strategy as being suitable for development as a well-managed rural residential extension to Mandeville. The submitters understand that an extension of the rural residential area north of Mandeville, including their land, satisfied these criteria, but that Mandeville was excluded because of two "special circumstances". The assessment summary report records:

    - *Does not trigger any Preliminary Criteria*
    - *However removed under special circumstances as Mandeville has the Mandeville Growth Boundary around it which was put in there during Council Plan Change 32 in 2012 in order to address sprawl issues in Mandeville. Given this was only 6 years ago, there is no argument that the basis for this growth boundary has changed. Also Mandeville is affected by undercurrents/groundwater resurgence, along with high groundwater levels and overland flows.*

9. The submitters do not accept this reasoning, and believe that the current District Plan Review process is the appropriate opportunity to now revisit the policy decisions and plans for the future of Mandeville as a small settlement in this part of the District.

10. With regards to possible undercurrents and ground water resurgence, the submitters can now show that the proposed site is not seriously affected. This aspect of the site suitability has been investigated in detail, and it is understood to be amenable to site design and subdivision layout so that it will not be a barrier to a rural residential development. This is covered in the attached Site PSI Inspection and Natural Hazards Risk Assessment reports (Appendix 5 and 6). These reports confirm the physical suitability of this land for rural residential development from the point of view of possible contamination and natural hazard risk. The reports conclude:

    "…it is concluded that the NESCS dos not apply and the land is suitable for the proposed zone change."

    And:

    "The natural hazards have been assessed with risk levels found to be acceptable or tolerable and can be managed as part of a future subdivision and developed with normal good practice design and development controls. Given this, we have found no risk from natural hazards that would be of concern for rezoning the land and future residential development."

Potential Environmental Effects from Growth of Mandeville

11. Having regard to the nine reasons given by the Council for the establishment of the Mandeville Growth boundary by PC32 in 2012, and the selection criteria for identifying new rural residential locations as part of the Rural Residential Development Strategy in 2019, and the justification given then for the decision to not provide for any extension to Mandeville, the

submitters believe that an objective consideration of the pros and cons of the Council now agreeing to an extension to Mandeville clearly favour the submitters proposal.

12. It is submitted that the concerns expressed over the past ten years can be managed to avoid adverse environmental effects and other negative outcomes by way of the proposed ODP. It is further submitted that the development of the subject property will be able to be integrated into the form of the Mandeville Settlement, is not piecemeal development, and will support the newly established commercial and community service activities at Mandeville, and maintain the relationship with the surrounding rural area.

13. The proposed development is able to be serviced to the standards required, and will bring the opportunity to further support the upgrading of utility services, and the protection of ecosystems on the adjoining part of the property which has not been included in the development proposals. Further details of the servicing and land drainage/waterway enhancement possibilities are attached as Appendix 7. The report concludes: *"Rezoning can be provided with the necessary services and there are no servicing constraints to the rezoning."*

Potential Effects of Mandeville Settlement Character and Rural Character

14. A recent report "Waimakariri District – Rural Character Assessment" (6 June 2018) is helpful in assessing the potential character effects that could arise from the development of the submitter's land for rural residential activity. The report identifies the "character areas" that make up the rural areas of Waimakariri District, and identifies areas that may be capable of, and suitable for, rural residential development. It considers the provisions of the CRPS and the Waimakariri District Plan.

15. The report identifies the rural context of Mandeville settlement as "Lower Plains", which is *"…. Defined by its increasingly finer grained settlement pattern and human induced characteristics that overlay the rural environment"* (page 11). The report identifies that the "lower plains" character area does have the potential to absorb further rural residential development without adverse landscape character effects, and identifies Mandeville as a suitable rural residential node which can be accommodated within *"….a matrix of less dense rural development or land uses."* The submitters believe that their proposed rural residential development is consistent with these findings.

16. It is submitted that potential sprawl and adverse impacts on the character of Mandeville Settlement that might arise from the rural residential development of the submitter's property can be managed through the details of the Outline Development Plan and conditions imposed on subdivision consents. The submitters have prepared an ODP as part of their submission and recommended that to the Council in order to achieve a beneficial physical outcome for both the environment and the community. This conclusion is confirmed in the Elliot Sinclair Urban Design report and the Rough, Milne and Mitchell Landscape report (Refer Appendices 3 and 4) This concludes;

"At a broad scale, the proposed site presents a logical expansion of the Mandeville settlement, given the majority of site infills a gap between existing developments in the absence of a natural barrier and extends the built form of Mandeville out to a road boundary. In my opinion any landscape or visual issues/effects will be avoided and or mitigated through an appropriately designed ODP and supporting design guidelines.

Given the recent establishment of a commercial centre, the existing infrastructure including recreation facilities, it makes geographic sense to extend the spatial footprint of the township in appropriate and managed locations. This parcel of land present such and opportunity.

The draft ODP illustrates how the site could be developed to sensitively integrate with its setting while maintaining rural character and amenity.
The enhancement of the waterways with indigenous riparian planting and provision for pedestrian access along these would have positive effects."

Need for additional RR Opportunties

17. Figure 3 in the Draft Rural Residential Development Strategy, illustrates the difficulty of predicting the demand for rural residential housing opportunities. Looking at the four years prior to 2019 it can be said that demand for rural residential lots in Waimakariri District is between 20 and 50 households per year, but on a rising trend. The report (page 9) estimates a zoned capacity at that time of around 260 lots, against an estimated need for about 385 further lots over the next 10 years. Having regard for the trend line in figure 3 this may well be an under-estimate.

18. In addition, the demand for rural residential lots seems to be quite fickle as to location. The draft Strategy (page 4) notes that out of the eight locations proposed in the 2010 Rural Residential Development Plan only three of those eight areas proceeded to rezoning and subsequent development. Those three were Mandeville, Ohoka and South-east Woodend, all situated towards the east of the district.

19. The submitters have sought expert advice as to the current supply and demand for rural residential housing opportunities in the Waimakariri District. A report prepared by Bayleys REA is attached (Appendix 8), which confirms that there is serious unmet demand. It can be concluded that both the RRDS and the District Plan review are under providing for the future demand for rural residential lots.

Statutory Context

20. The statutory framework for the Council to consider the alternative policy positions on the future growth and consolidation of Mandeville, being the status quo of the Mandeville Growth

Boundary versus the submitters' proposal, is provided for in Part 2 and s74 of the RMA. The purpose of the RMA is the sustainable management of natural and physical resources, including

"the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –

a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment."

It is submitted that the submitters' proposed development will make better provision for people and the community and their social, economic and cultural wellbeing, including health and safety, by providing a well-designed rural residential development integrated with the existing Mandeville settlement. Any potential adverse effects can be avoided, remedied or mitigated.

Conclusion

21. It is submitted that:

    a) The provision for rural residential growth set out in the Proposed District Plan Review is likely to fall short of the number of new lots required.

    b) The changes that have occurred at Mandeville over the past nine years, since the adoption of the Mandeville Growth Boundary (Plan Change 32) mean that it is desirable to reassess the boundary now. These changes include the development of most of the available land and the establishment of a commercial/service hub.

    c) The proposed site brings the advantages of an experienced developer who is motivated and resourced to ensure a good outcome and will be able to manage the environmental and amenity effects of the development.

    d) Mandeville has a track record of providing rural residential lots that are popular in the housing market.

    e) The proposed site is of sufficient scale (80-100 lots) for an ODP to be developed and agreed upon which will manage environmental and amenity effects. This will be an integrated development, not piecemeal or small scale.

    f) The proposed development will provide support for the upgrading of utility service and adjacent roads. (Refer attached servicing report – Appendix 7). The proposed development would provide support for the range of community facilities and amenities at Mandeville and in the wider locality.

22. The submitter thanks the Council for its consideration of this submission. The submitters and their advisors are prepared to meet with Council officers to clarify or resolve any matters.

APPENDICES:

1 Title – Refer Appendix 5

2 Site Plan

3 Urban Design Statement

4 Landscape Assessment (2021)

5 Preliminary Site Investigation – Elliot Sinclair, 2021

6 Natural Hazards Report – Elliot Sinclair, 2021

7 Servicing Report – (Elliot Sinclair, 2021

8 Assessment of Rural-Residential Land – Bayleys Ltd 2021

9 Outline Development Plan - Elliot Sinclair, 2021

APPENDIX 2

SITE PLAN


Dawsons Rd
Ashworths Rd
Ashworths Rd
Aschens Rd
Aschens Rd
Ashworths Rd
Dawsons Rd
Site
Ripple Creek - Equine Services
Marine Services
San Dona Lodge
Siena Pl
thermomix consultant Emily Bosworth
Dawsons Rd
Siena Pl
Sillano Pl
Warwick

APPENDIX 3

URBAN DESIGN STATEMENT

Urban Design Summary Report

eliot sinclair

2 Ashworths Road, Ohoka

Prepared for Ohoka Farm Holdings Ltd.

502044

Urban Design Summary Report

2 Ashworths Road, Ohoka

Prepared for Ohoka Farm Holdings Ltd.

502044

Quality Control Certificate

Eliot Sinclair & Partners Limited

eliotsinclair.co.nz

Action	Name	Signature	Date
Prepared by:	Kess Aleksandrova Landscape Architect MLA(Hons) NZILA Reg kess.aleksandrova@eliotsinclair.co.nz		23.07.2021
Reviewed by:	Jade McFarlane Landscape Architect/Urban Designer | Associate BLA(Hons) NZILA Reg jade.mcfarlane@eliotsinclair.co.nz		23.07.2021
Directed and approved for release by:	Bruce Sinclair Surveyor | Principal BSc MS+SNZ RPSurv LCS bruce.sinclair@eliotsinclair.co.nz		26.07.2021
Status:	Draft		
Release date:	27.07.2021		
Reference no:	502044		
Distributed to:	Ohoka Farm Holdings Ltd. Waimakariri District Council		

Limitations

This report has been prepared for Ohoka Farm Holdings Ltd. according to their instructions and for the particular objectives described in this report. The information contained in this report should not be used by anyone else or for any other purposes.

Contents

1. Introduction

Eliot Sinclair and Partners has been approached by Ohoka Farm Holdings Ltd. to provide an Outline Development Plan and Urban Design summary report that investigates the background and options for the Application Site (the Site) at 2 Ashworths Road and 9 Achens Rd, and its suitability for a change in zoning from rural to rural residential as part of the Waimakariri District Plan Review.

The Site is located 1.2 km from Ohoka Township. The Site is currently zoned as rural, and it is abutted by residential 4a to the west, rural land uses to the north and east, and by rural residential land use to the south. The Site currently has a rural land use and is 77.94 hectares in area. The portion at 2 Ashworths Road is approximately 72.65 hectares in size, and the portion at 9 Achens Road is 5.29 hectares. The portion of land at 9 Achens Rd shown as a stormwater management area (SMA) is part of the ODP area and therefore part of the submission, however the current rural zoning will remain over this portion.

2. Proposal description

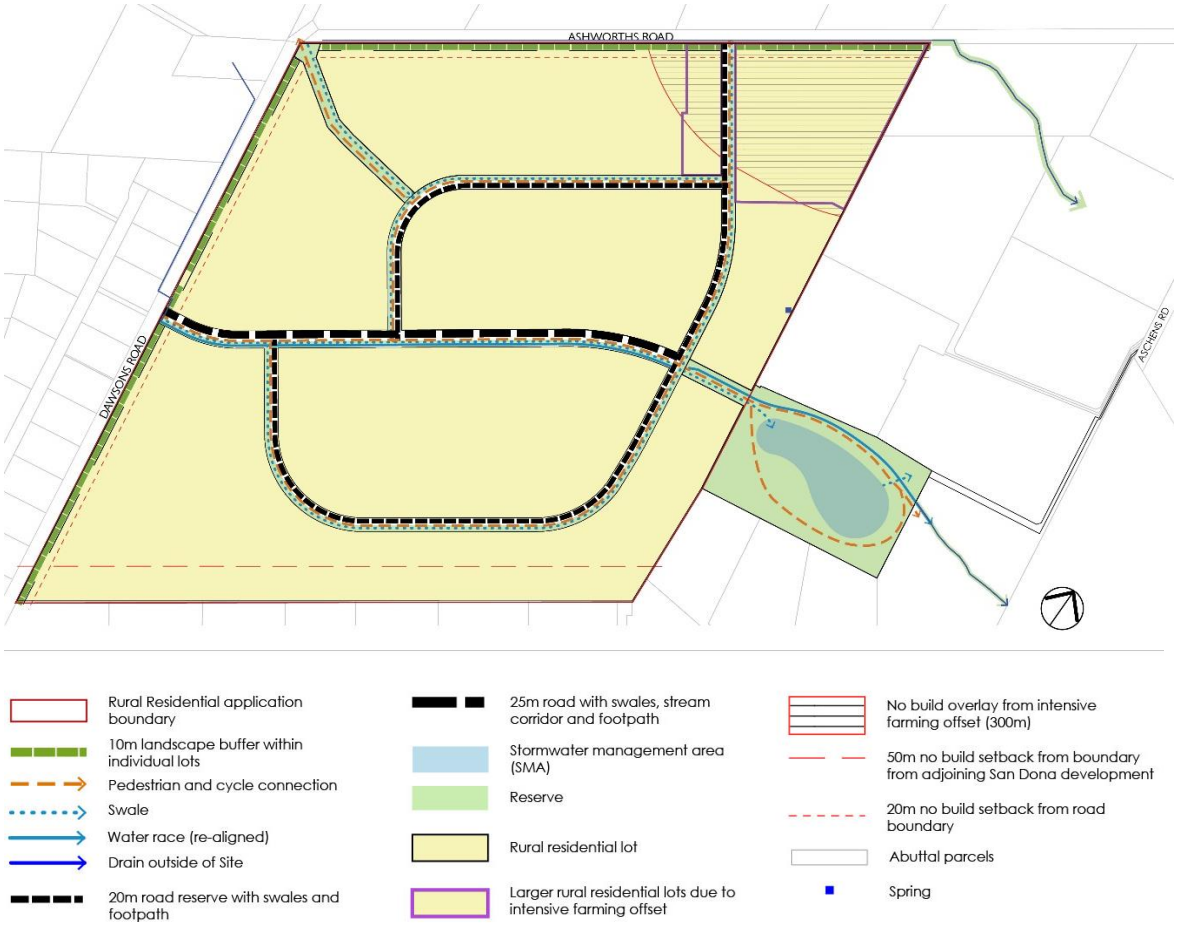

Figure 1. Draft Outline Development Plan

2.1. Land Use

- This development requires a zone change from rural to rural residential.
- The minimum average allotment size proposed within the ODP area will be 5,000 m².
- Considered location and alignment of allotments and the roading network in relation to the Site contours, which fall to the east, ensures stormwater is directed to the SMA area identified in Figure 1, which will be located outside of the zone change area.
- A 50m building setback adjacent to the San Dona development to the south is proposed to ensure existing properties are substantially distanced from any new dwellings within the proposed rural residential area.
- Larger allotments affected by the 300m intensive farming setback to the north of the Site can be subdivided at a later date when the nearby intensive farming is no longer operational. This will avoid any reverse sensitivity issues.
- A 10m landscape buffer within individual allotments is proposed along the Ashworths Rd and Dawsons Rd frontages. This will visually soften the interface between the proposed rural residential allotments and the existing rural properties across the road.
- The building setbacks and landscape buffers described above are proposed to be complemented by specific fencing typology controls that achieve a rural aesthetic, such as post and rail or post and wire fencing.

2.2. Connectivity

- Two entrances into the development, off Ashworths Rd and Dawsons Rd respectively, creates an easily accessible development.
- The main road corridor has a legal width of 25m and is designed to allow for minor swales either side of the carriageway, as well as a separate naturalised water race corridor and a footpath.
- The other road corridors have a legal width of 20m wide to allow for swales either side and a footpath on one side of the carriageway.
- The development layout allows for a connected pedestrian network with a combination of on-road and off-road linkages.
- The pedestrian link to the north west of the development improves permeability and enhances the active transport network.

2.3. Green Network

- A 10m planted buffer within all allotments fronting onto Ashworths and Dawsons Rd will add to the visual amenity and biodiversity of the Site, as well as visually softening these interfaces.
- The green link at the north west corner of the Site function as an access reserve incorporating a swale and a shared pedestrian cycleway, increasing the visual permeability of the development.
- The 20m road reserves will allow for swales either side of all roads.
- The additional width of the main road will allow for an open space corridor next to the roadside swale, creating a significant visual, pedestrian, and ecological feature through the central spine of the development. Located on the south side of the main road carriageway, it will be beneficial if this green corridor is uninterrupted by driveways to retain its value as a recreational and amenity corridor within the road reserve.
- The water race corridor is proposed to be planted with native riparian plant species, enhancing its ecological value.
- The proposed SMA reserve will also be planted with native riparian vegetation.

- The SMA reserve will have a dual function of a recreational space as well as stormwater conveyance and treatment.
- Street trees will provide a further ecological and visual asset to the development.
- Active and passive recreational opportunities will be available throughout the Site via the pedestrian network and reserve.

2.4. Blue Network

- Roads are located either in areas where current flood modelling projects the most water during high rainfall events, or in locations best aligned to convey stormwater efficiently.
- The natural contours of the Site are taken into account, ensuring the swales present throughout the development will convey water effectively with minimal earthworks.
- The carriageways will also provide secondary overland flow paths during high rainfall events.
- The green link at the north west of the development will convey stormwater to the internal roadside swale network.
- The existing water race will be naturalised and realigned alongside the main road, providing improved ecological and aesthetic value to the development.
- A roadside swale will run alongside the water race to avoid mixing of water from different sources, and all water from swales will be treated in the SMA before entering the water race to the south east of the Site.

3. Summary

The re-zoning of the Site from rural to rural residential would enable a well-connected and visually appropriate development that would improve the ecological value of the Site. The ground conditions and water table have been considered to create an ODP that works in with the Site's contours, which enables a considered approach to stormwater management at the development stage.

APPENDIX 4

LANDSCAPE ASSESSMENT

PROPOSED MANDEVILLE EXPANSION

GRAPHIC ATTACHMENT TO LANDSCAPE REPORT

Prepared for Mark Prosser by Rough and Milne Landscape Architects Ltd | November 2021

rough & milne landscape architects

DOCUMENT INFORMATION

project
Proposed Mandeville Expansion

project no.
19076

address
Corner of Dawsons & Ashworths Roads

client
Mark Prosser

status
FOR CLIENT REVIEW

revision
A PLAN CHANGE 25th NOVEMBER 2021

reviewed by
AUTHOR: FM

CHECKED BY: TM

PEER REVIEWED: NA

document
GRAPHIC ATTACHMENT TO ACCOMPANY A LANDSCAPE REPORT (A4 WRITTEN REPORT)

prepared by
ROUGH & MILNE LANDSCAPE ARCHITECTS LTD.

disclaimer
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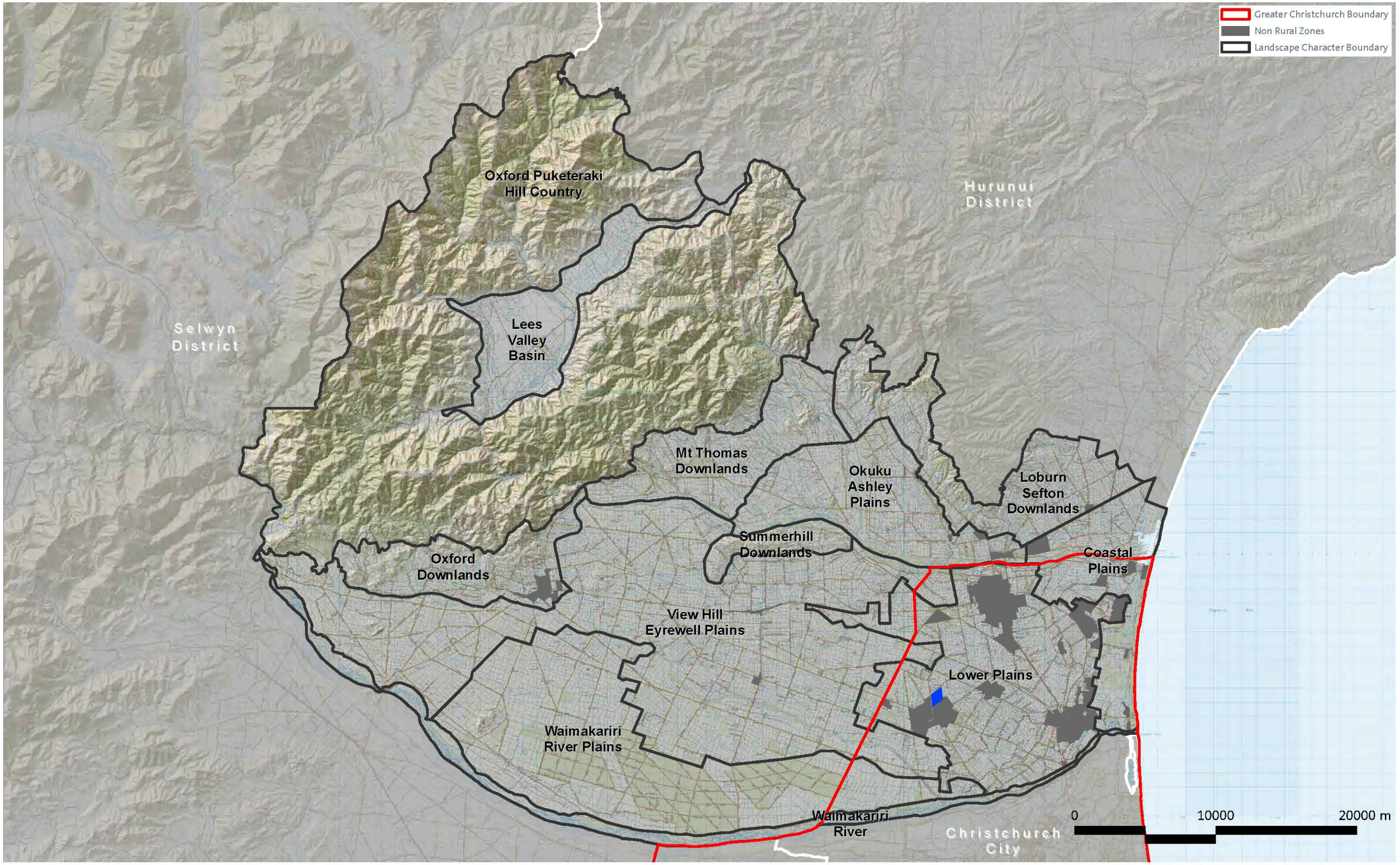
CONTENTS

NB: This document is intended to be printed A3 Landscape format



Not to scale

Rural Character Areas

rough & milne landscape architects

Data Source: Waimakariri District – Rural Character Assessment prepared by Boffa Miskell (6 June 2018)

The Site

N

PROPOSED MANDEVILLE EXPANSION
NOVEMBER 2021

SHEET 4

Ashley
Waikuku Beach
Waikuku
Rangiora
Colostream
Rangiora
Springbank
Cust
Fernside
Pegasus
Woodend
Tūtaepatu Lagoon
Southbrook
Tuahiwi
Woodend Beach
L O W E R P L A I N S
West Eyreton
Flaxton
Ohoka
Wilsons Siding
The Pines Beach
Mandeville North
Swannanoa
Mandeville
Ohapuku
Kaiapoi
Kairaki
Waimakariri River
Stewarts Gully
Brooklands
Clarkville
Kainga
Brooklands Lagoon
Eyreton
Bridgend
Christchurch City
Coutts Island
0 2000 3000 4000 5000 m
Chaneys

Not to scale

Lower Plains Character Areas

rough & milne landscape architects

Data Source: Waimakariri District – Rural Character Assessment prepared by Boffa Miskell (6 June 2018)

The Site

N

PROPOSED MANDEVILLE EXPANSION
NOVEMBER 2021

SHEET 5

LEGEND

- Proposed ODP Boundary
- Proposal Site (Lot 6 DP2038)
- Commercial / Business Area
- Residential 4A Zone
- Residential 4B Zone
- San Dona Development (1.5ha lots)
- Mandeville Growth Boundary - Refer WDC policy 18.1.3.1

0 500 1000 1500 m

Not to scale

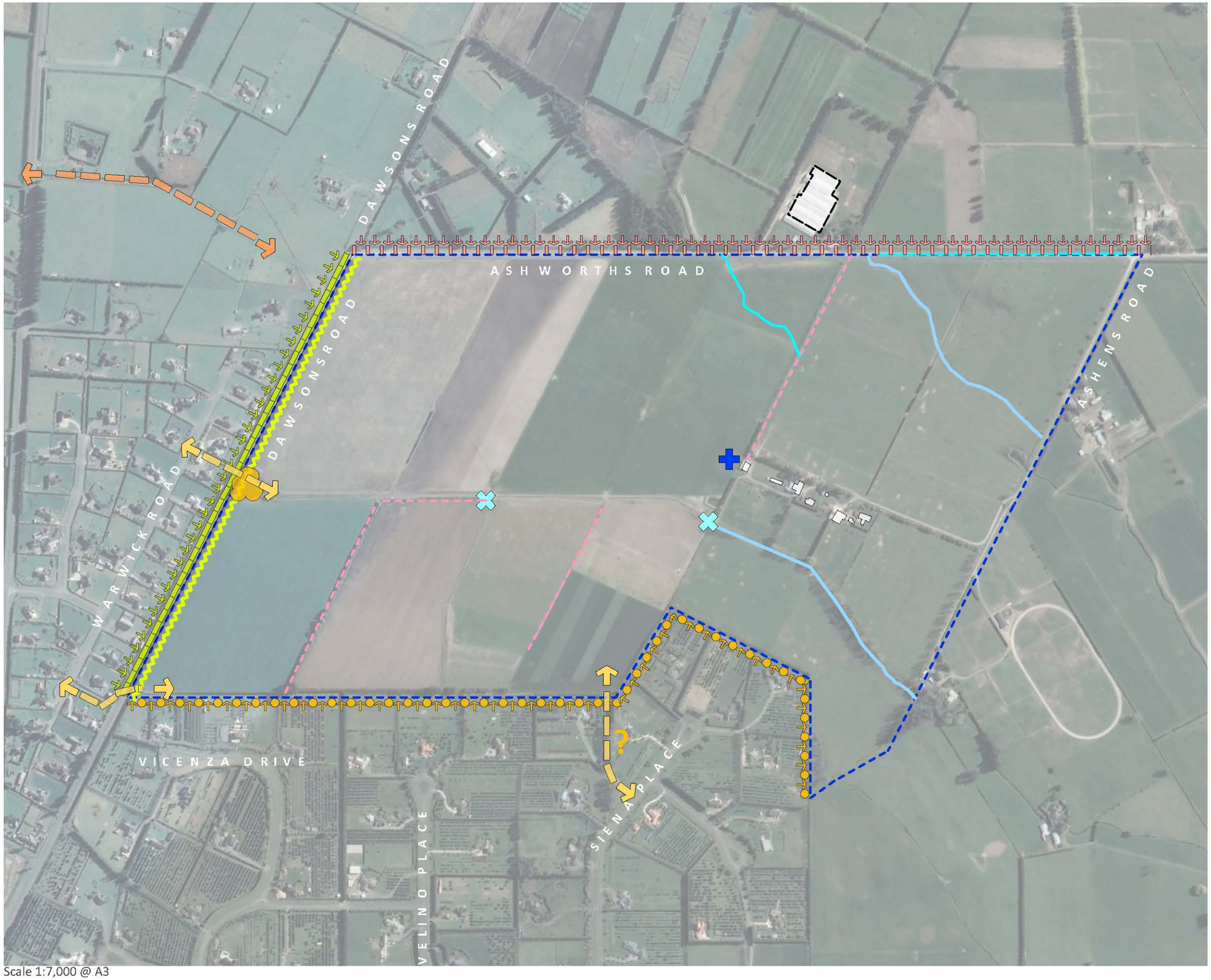
Mandeville Zoning Plan

rough & milne landscape architects

Data Source: Aerial photographs sourced from Google Earth (imagery date - 21/08/18)
Zone Boundaries sourced from Waimakariri District Council (WDC)

PROPOSED MANDEVILLE EXPANSION
NOVEMBER 2021

SHEET 6



LEGEND

- Site Boundary
- Leyland cypress shelterbelt along western boundary
- Formed Pedestrian / Cycleway linkages
- Easement linkages
- Existing well
- Existing spring
- Existing shelterbelt + hedgerows
- Existing waterway
- Existing swales / ditches
- Restricted Views into Site
- Partial / Open Views into Site
- Open Views into Site
- Existing stand of pine trees
- Existing buildings
- Existing chicken farm

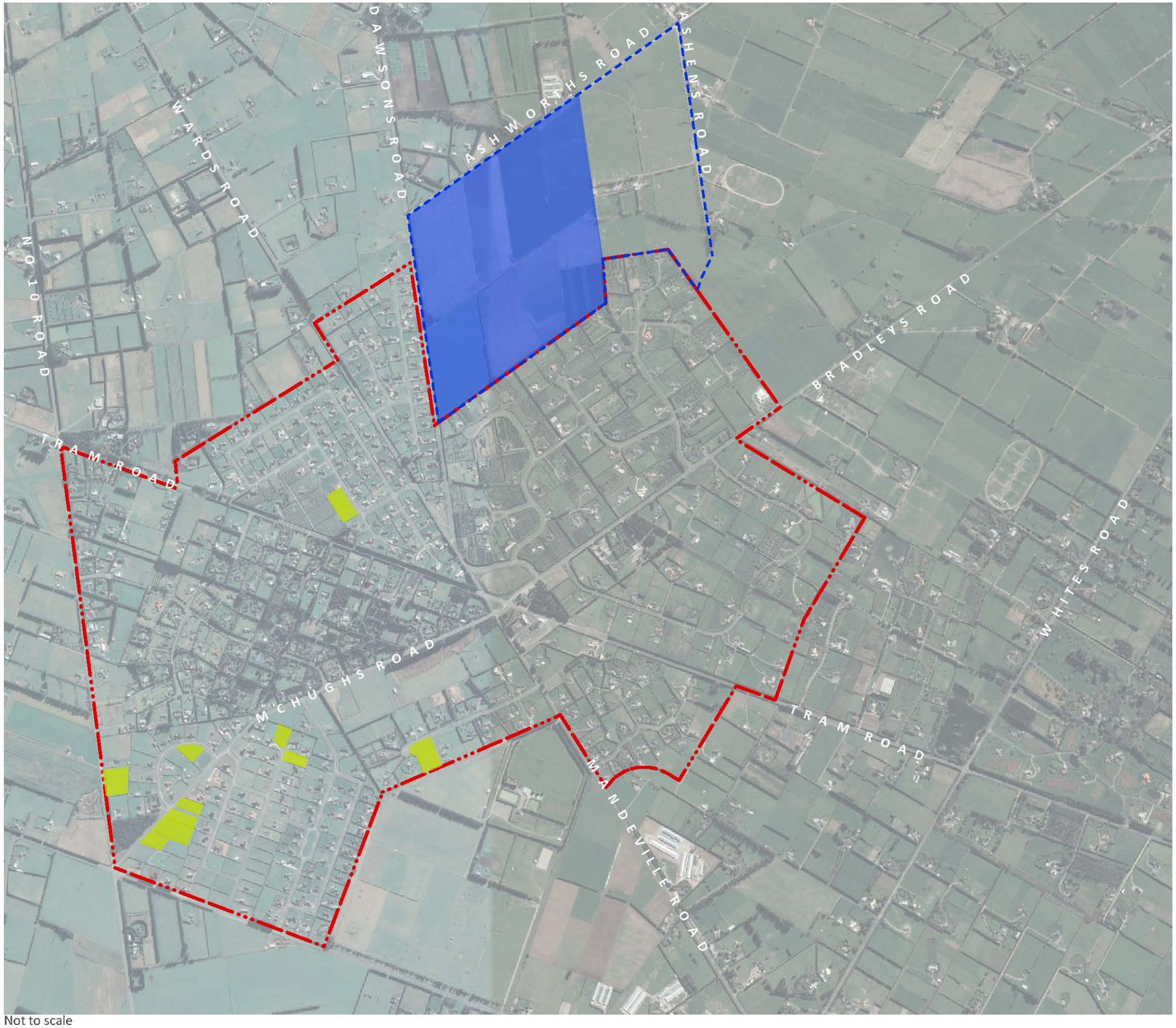
0 200 300 400 500 m

Scale 1:7,000 @ A3

Site Context Plan

rough & milne landscape architects

Data Source: Aerial photographs sourced from Google Earth (imagery date - 21/08/18)



LEGEND

- Proposed ODP Boundary
- Proposal Site (Lot 6 DP2038)
- Undeveloped Lots remaining at 21-08-18
- Mandeville growth boundary - Refer WDC policy 18.1.3.1

0 500 1000 1500 m

Not to scale

Undeveloped Land Plan

rough & milne landscape architects

Data Source: Aerial photographs sourced from Google Earth (imagery date - 21/08/18)
Zone Boundaries sourced from Waimakariri District Council (WDC)

N

PROPOSED MANDEVILLE EXPANSION
NOVEMBER 2021

SHEET 8

Site Photograph 1: Laneway between Dawsons Road & Warwick Road

Site Photograph 2: Residential 4a Zone interface with Dawsons Rd adjacent to the site. Looking south

Site Photograph 3: Residential 4a Zone interface with Dawsons Rd adjacent to the site. Looking north

Site Photograph 4: The leyland shelterbelt + pine trees on the site's western boundary with Dawsons Road

Site Photographs

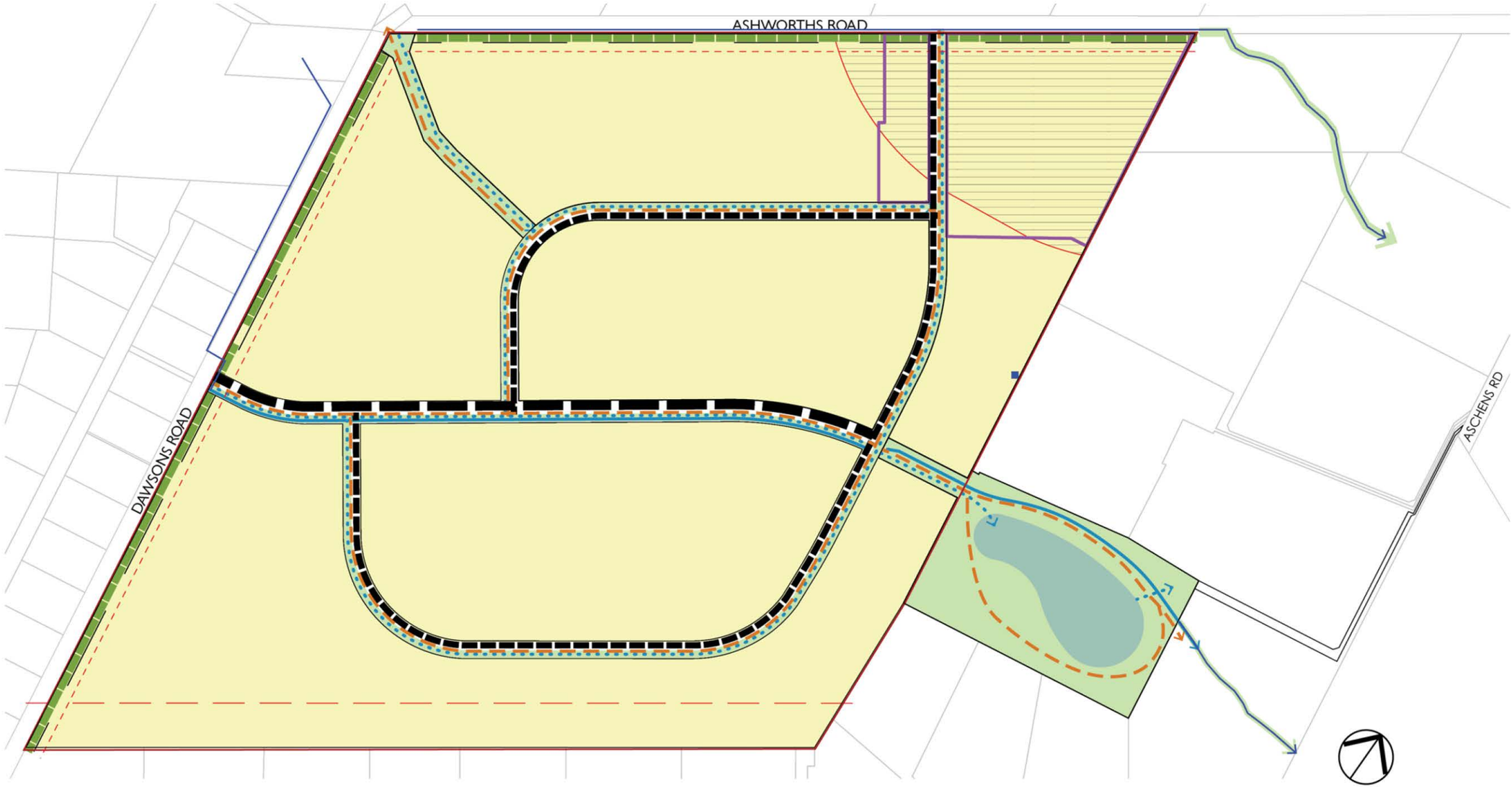
Site Photograph 5: The chicken farm on the northern side of Ashworths Rd opposite the northeast corner of the site

Site Photograph 6: From Ashworths Rd looking northeast towards the existing poplar shelterbelt on the eastern boundary of the site

Site Photograph 7: Looking south from Ashworths Rd towards existing building immediately east of the site inside the ODP boundary

Site Photograph 8: From Ashworths Rd, looking southwest across the site to the leyland shelterbelt on the western boundary in the background

Site Photographs



LEGEND

- Rural Residential application boundary
- 10m landscape buffer within individual lots
- Pedestrian and cycle connection
- Swale
- Water race (re-aligned)
- Drain outside of Site
- 20m road reserve with swales and footpath
- 25m road reserve with swales, stream corridor and footpath
- Stormwater management area (SMA)
- Reserve
- Rural residential allotment
- Larger rural residential lots due to intensive farming offset
- No build overlay within intensive farming offset (300m)
- 50m no build setback from boundary from adjoining San Dona development
- 20m no build setback from Ashworths and Dawsons Road boundary
- Abuttal parcels
- Spring

Scale 1:5,000 @ A3

Outline Development Plan

APPENDIX 5

PRELIMINARY SITE INVESTIGATION

Preliminary Site Investigation (PSI)

2 Ashworths Road and 9 Aschens Road, Ohoka

Prepared for Ohoka Farm Holdings Ltd

502044

eliot sinclair

Preliminary Site Investigation (PSI)

2 Ashworths Road and 9 Aschens Road, Ohoka

Prepared for Ohoka Farm Holdings Ltd

502044

Quality Control Certificate

Eliot Sinclair & Partners Limited

eliotsinclair.co.nz

Action	Name	Signature	Date
Prepared by:	William Keay Geotechnical Engineering Technician MSc (Geography) CAPM		19 July 2021
Reviewed by:	Kristel Franklin Engineering Geologist MSc (HAZM) BSc (Geology) CMEngNZ PEngGeol SQEP		19 July 2021
Directed and approved for release by:	Bruce Sinclair Surveyor | Principal BSc MS+SNZ RPSurv LCS		19 July 2021
Status:	Final		
Release date:	19 July 2021		
Reference no:	502044		
Distributed to:	Ohoka Farm Holdings Ltd		

Limitations

This report has been prepared for Ohoka Farm Holdings Ltd according to their instructions and for the particular objectives described in this report. The information contained in this report should not be used by anyone else or for any other purposes.

Contents

Executive Summary

Site Address	2 Ashworths Road and 9 Aschens Road	
Legal Description	Lot 6 DP 2038 (72.6537ha) Lot 8 DP 314202 (5.2935ha)	
Owner	Ohoka Farm Holdings Ltd	
Local authority	Waimakariri District Council	
Proposed activity	Re-zone from rural to rural residential	
Adopted NESCS land-use scenarios	Rural-residential/lifestyle block (25% produce consumption) for rural-residential lots Recreational for recreational and utility reserve areas	
Records reviewed	Waimakariri District Council Property File	No HAIL activities identified
	ECan Listed Land Use Register (LLUR)	No HAIL activities identified
	ECan Resource consent database	No HAIL activities identified
	ECan GIS/aerial images	Borrow pit identified on aerial image from early 1970s; the pit appears to be backfilled since the late 1970s; possibly (HAIL G3) Horse racetrack identified on aerial images between early 1990s and 2018 (potentially HAIL G5 if coal ash is spread)
Site walkover	A site walkover was undertaken in November 2019. The walkover confirmed that the land-use has not significantly changed since the latest reviewed aerial image from 2019.	
Investigation of backfilled access ramp/borrow pit (possibly HAIL G3)	Three test pits were undertaken to investigate the backfilled area identified on an aerial image from the early 1970s. The excavated material of Test Pit 1, which was dug in the location of the access ramp, comprised loose river-run gravel. The side walls collapsed due to the loose nature of the gravel. The test pit was terminated once groundwater was encountered at approximately 1.4m bgl. Test Pit 2 and Test Pit 3 comprised sandy gravel. No anthropogenic material was observed in the three test pits and the excavated material did not show any olfactory or visual signs of contamination. The material was assessed as non-HAIL.	
Racetrack (possibly HAIL I)	Correspondence from the contractor who removed the racecourse states that the track was formed with sand and crusher dust. The track was removed by ploughing and levelling. Assessed as non-HAIL.	
Conclusion	No HAIL activities have been identified in the council records, during the site walkover, subsequent correspondence, and three investigative test pits within the area of historical backfill. Consequently, the NESCS does not apply. Site suitable for re-zoning from rural to rural residential.	

Risk assessment	Within the limitations of the Accidental Discovery Protocol, it is considered that the likelihood of any activity described in the HAIL having been undertaken is low. It is considered highly unlikely that there will be a risk to human health if the activity (subdivision) proceeds.

1. Introduction

Eliot Sinclair was commissioned to complete a Preliminary Site Investigation (PSI) at 2 Ashworths Road and 9 Aschens Road, Ohoka. The PSI has been prepared in accordance with regulations of the NESCS[1] and supports the submission to WDC.

Refer to the site location plans attached in Appendix A. The proposed outline development plan is attached as Appendix B.

2. Objective and Scope

The NESCS requires that a PSI report is prepared in accordance with MfE's Contaminated Land Management Guidelines (CLMG) No. 1 and 5[2]. The scope of the investigation comprises:

- Reviewing Environment Canterbury's Listed Land Use Register (LLUR) and resource consent database.
- Reviewing the property file and any hazardous goods records.
- Reviewing historical and recent aerial images of the area taken between 1940 and 2018.
- Conducting a site inspection and interview with the owner who is familiar with the history of the site.
- Investigating identified potential HAIL G3 (backfilled borrow pit) and HAIL I activities (horse racetrack)
- Compilation of the findings in accordance with the NESCS and MfE's CLMG 1 and 5.

3. Site Identification

The site comprises two land parcels, as summarised in Table 1. The environmental setting is summarised in Table 2. Records of the title are attached in Appendix C.

Table 1. Street address, legal description, and owner

Street address	2 Ashworths Rd, Ohoka	9 Aschens Road, Ohoka
Legal description	Lot 6 DP 2038	Lot 8 DP 314202
Parcel area	72.6537 ha	5.2935 ha
Owner	Ohoka Farm Holdings Ltd	Ohoka Farm Holdings Ltd

[1] Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

[2] Ministry for the Environment (MfE) 2011. Contaminated Land Management Guidelines No. 1. Reporting on Contaminated Sites in New Zealand. and No. 5: Site Investigation and Analysis of Soils (Revised 2011).

Table 2. Environmental setting

Environmental setting	
Current land-use	Production land, grazed, cropped and irrigated
Neighbouring land-use	N: rural production land and rural residential (lifestyle block, 25% produce) E: rural production land and rural residential (lifestyle block, 25% produce) S: rural residential (lifestyle block, 25% produce) W: residential (10% produce consumption)
Adopted NESCS land-use scenario	Residential 10% produce consumption
Topsoil	YBST: Regional (southern and western part) and GLEY: Regional (northern and eastern part). Source: ECan GIS
Surface water	A drain traverses the central southwest area of the site; further drains run along Ashworths Road near the northern boundary and along the eastern boundary.
Groundwater	ECan GIS indicates that the depth to groundwater is between 1 and 5m (the 1m, 2.5m and 5m depth to groundwater contour line traverse the site). Well M35/0350 is located in the southeastern corner of the site. The summary records for L35/0925 (on site) indicate an initial water level of 2m below measuring point. Groundwater generally flows in a northeast direction.
Topography	The site is flat with a general fall to the east. The western boundary along Dawsons Road is approximately 41m asl, which is 6m higher than the eastern boundary (35m asl). Source: LiDAR data accessed on ECan GIS.

4. Waimakariri District Council Property File

The property file was accessed on 3 December 2019. It contains a letter to residents about Mandeville flood mitigation works and a lodgement of resource consent with ECan to use the land for farming.

The property file holds no information on HAIL activities occurring on the site or having occurred on the site in the past.

5. Environment Canterbury Listed Land Use Register (LLUR)

The two land parcels are not recorded on ECan's LLUR.

Search records are attached in Appendix D.

6. Environment Canterbury Resource Consent Database

ECan's resource consent database holds three records for the site. A further 16 consents have been granted within a 200m radius of the site. The consents generally permit the taking of groundwater and the discharge of treated domestic wastewater.

None of the consents reviewed are considered HAIL activities. A copy of the search records is attached in Appendix E.

7. Historical Aerial Images

Thirteen historical and recent aerial images were reviewed to identify visible HAIL activities between the 1940s and 2018. Annotated aerial images are attached in Appendix F and summarised in Table 3. Note that the images have been inspected at a higher resolution than shown in this document.

The reviewed images identified a small backfilled borrow pit near the central eastern boundary and a horse track. The horse track was removed pre-2019; the backfilled borrow pit remains on site.

Table 3. General landuse and identified potential HAIL activities on aerial images

Aerial Imagery Year	General landuse	Potential HAIL activities
1940-1944	The general landuse is grazing	none
1960-1964	The general landuse is grazing and/or cropping	none
1965-1969	The general landuse is grazing and/or cropping	none
1970-1974	The general landuse is grazing and/or cropping A borrow pit and associated access to the borrow pit has been excavated near the central eastern boundary	none
1975-1979	The general landuse is grazing and/or cropping The borrow pit and access area to the borrow pit has been backfilled and remains filled to date	Possibly HAIL G3
1980-1984	The general landuse is grazing and/or cropping	Possibly HAIL G3
1985-1989	The general landuse is grazing and/or cropping	Possibly HAIL G3
1990-1994	The general landuse is grazing and/or cropping A horse racetrack is visible in the SE corner of the site. Racetracks can be HAIL I when covered with coal ash, which this track was not. Refer to Section 8.	Possibly HAIL I and G3
1995-1999	The general landuse is grazing and/or cropping A horse racetrack is visible in the SE corner of the site	Possibly HAIL I and G3
2000-2004	The general landuse is grazing and/or cropping A horse racetrack is visible in the SE corner of the site	Possibly HAIL I and G3
2004-2010	The general landuse is grazing and/or cropping A horse racetrack is visible in the SE corner of the site	Possibly HAIL I and G3
2010-2015	The general landuse is grazing and/or cropping A horse racetrack is visible in the SE corner of the site	Possibly HAIL I and G3
28/2/2019	The general landuse is grazing and/or cropping The horse racetrack has been removed A pond surrounded by a bund has been excavated near the central eastern boundary, adjacent to the north of the backfilled borrow pit	Possibly HAIL I and G3

8. Site Walkover

A site walkover inspection by an Eliot Sinclair environmental scientist was undertaken on 28 November 2019. The following was noted:

- The site is generally flat, surrounded by shelter belts and mostly covered with grass (Photo 1, Photo 2 in Appendix G). Some areas are cropped (Photo 3).
- A pond is located near the central eastern boundary of the site. The pond is surrounded by an earthbund (Photo 4, Photo 5).

The walkover confirmed that that the horse track has been removed and that the general use of the land has not changed since the latest reviewed aerial image from 2019.

A letter supplied by Gilchrist Brothers Ltd (Appendix H) indicates that the racetrack was formed with sand and crusher dust. This is supported by aerial images showing a reflecting (white or light grey) surface from sand and crusher dust, rather than a dark surface from the spreading of coal ash.

The letter also states that the contractor ploughed and levelled the paddock to remove the racetrack. Subsequently, the paddock was sowed (oats) for a season and grassed in the following seasons. The owner had no issues growing oats or grass in this paddock. Based on the site inspection and the attached correspondence the racetrack is considered non-HAIL.

9. Test Pits in Backfilled Borrow Pit Area

On 24 June 2020, three test pits were excavated in a backfilled borrow pit identified on an aerial image from 1970-1974. The location of the access area and borrow pit was geo-referenced and overlaid onto a recent aerial image from 2016 (source: ECan GIS). In addition, the area was surveyed to ensure the test pits were excavated at the intended location. A site plan with the location of the three test pits is shown in Figure 1.

Figure 1. Location of three investigative test pits in a backfilled borrow pit identified on an aerial image from 1970-1974. The trees have been removed since the photo was taken (10/04/2016). Image source: ECan GIS.

The material in the Test Pit 1 comprised visually clean river-run gravel. The side walls of Test Pit 1, which was excavated in the borrow pit access area, collapsed due to the presence of loose gravels. The test pit was terminated at approximately 1.4m bgl when groundwater was encountered.

Test Pit 2 and Test Pit 3 comprised visually clean sandy gravel. The material was more compact than in Test Pit 1. Refer to Photo 6 to Photo 11 in Appendix G.

No olfactory or visual signs of contamination were noticed, and the excavated material did not comprise anthropogenic material. Accordingly, the material observed is assessed as non-HAIL.

10. Conclusion

The reviewed council records indicate that the site has been grazed and/or cropped since the 1940s. Apart from the centre pivot irrigation and associated well structures the site remains to be without built structures to date.

Two potential HAIL activities (backfilled borrow pit and racecourse track) have been investigated and were assessed to be non-HAIL.

Based on the above, it is concluded that the NESCS does not apply and the land is suitable for the proposed zone change.

The reviewed records and investigations are summarised in Table 4.

Table 4. Summary of reviewed council records reviewed, site walkover, correspondence with the landowner and investigation of backfill area.

Information sources reviewed	HAIL activities
Waimakariri District Council Property File	No HAIL activities identified
Environment Canterbury's Listed Land Use Register (LLUR)	No HAIL activities recorded
Environment Canterbury resource consent database	No HAIL activities identified
Environment Canterbury GIS/aerial images	Potential HAIL G3 (backfilled borrow pit) investigated and assessed to be non-HAIL
	Racecourse track (potential HAIL I) correspondence with the landowner indicates that the track was formed with crusher dust and sand (not coal ash). Assessed to be non-HAIL
Site walkover inspection in November 2019	No HAIL activities identified
Horse racetrack	Assessed as non-HAIL.
Backfilled borrow pit	No anthropogenic material, olfactory or visual signs of potential contamination. Assessed as non-HAIL.

11. Risk Assessment/Site Characterisation

This PSI report is based on a review of Council records including historical aerial images and Eliot Sinclair's site inspections on 28 November and 6 December 2019, and test pits in the borrow pit on 24 June 2020.

In accordance with NESCS Regulation 6 (3) no activity or industry described in the HAIL:

- is being undertaken on the site,
- has been undertaken in the past, or
- is more likely than not to have been undertaken on the site.

There is no information that indicates that the site has been used for a HAIL activity or may have been affected by HAIL activities on neighbouring land. Within the limitations of the Accidental Discovery Protocol, it is considered that the likelihood of any activity or industry described in the HAIL having been undertaken is low.

Accordingly, it is considered highly unlikely that there will be a risk to human health if the activity (subdivision) proceeds.

12. Recommendations

No works proposed.

13. Disclaimer

The comments made in this report are based on Council records accessed in December 2019, a site walkover inspection on 28 November 2019 and test pit excavations on 24 June 2020. It is possible these may not provide a complete or accurate assessment of the entire site. As a result, Eliot Sinclair provides this information on the basis that it does not guarantee that the information is complete or without error and accepts no liability for any inaccuracy in, or omission from, this information.

All reasonable effort has been made to ensure that the conclusions drawn in this report are correct at the time of reporting. However, activities described on the HAIL may change in the future as knowledge about potentially hazardous activities develops.

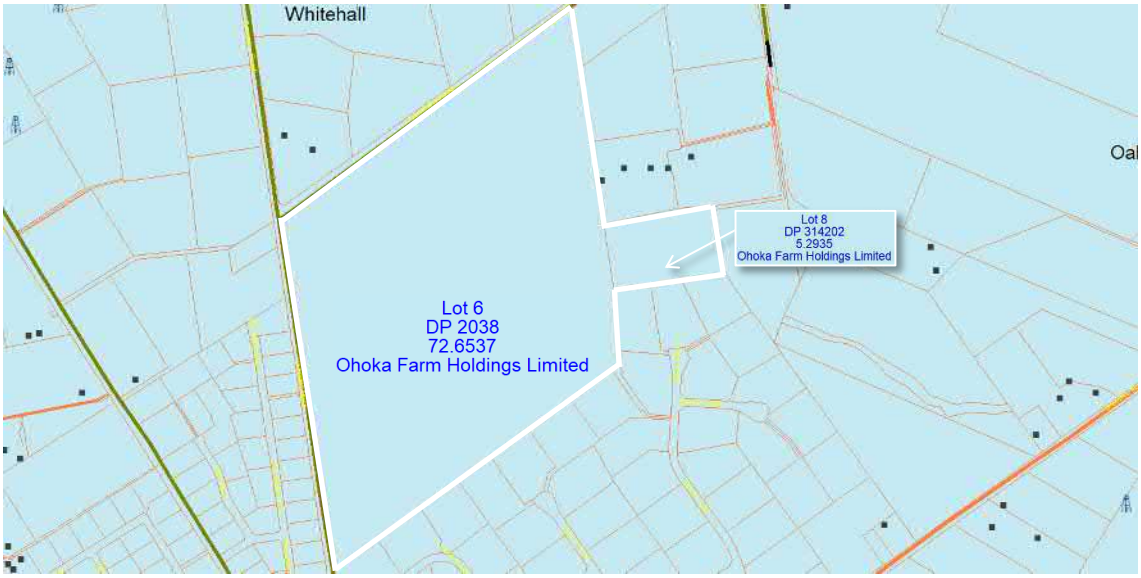
It is possible there may be unidentified subsoil conditions that are not obvious from the information obtained by our desktop investigation and site inspection, and that differ from the conclusions of this report. Should unusual geotechnical conditions be encountered then Eliot Sinclair should be advised so that they can review any new information and to advise if the recommendations of this report are still valid.

This report has been prepared for the benefit of Ohoka Farm Holdings Ltd. No liability is accepted by this company or any employee of this company with respect to the use of this report by any other party or for any other purpose other than what is stated in our scope of work.

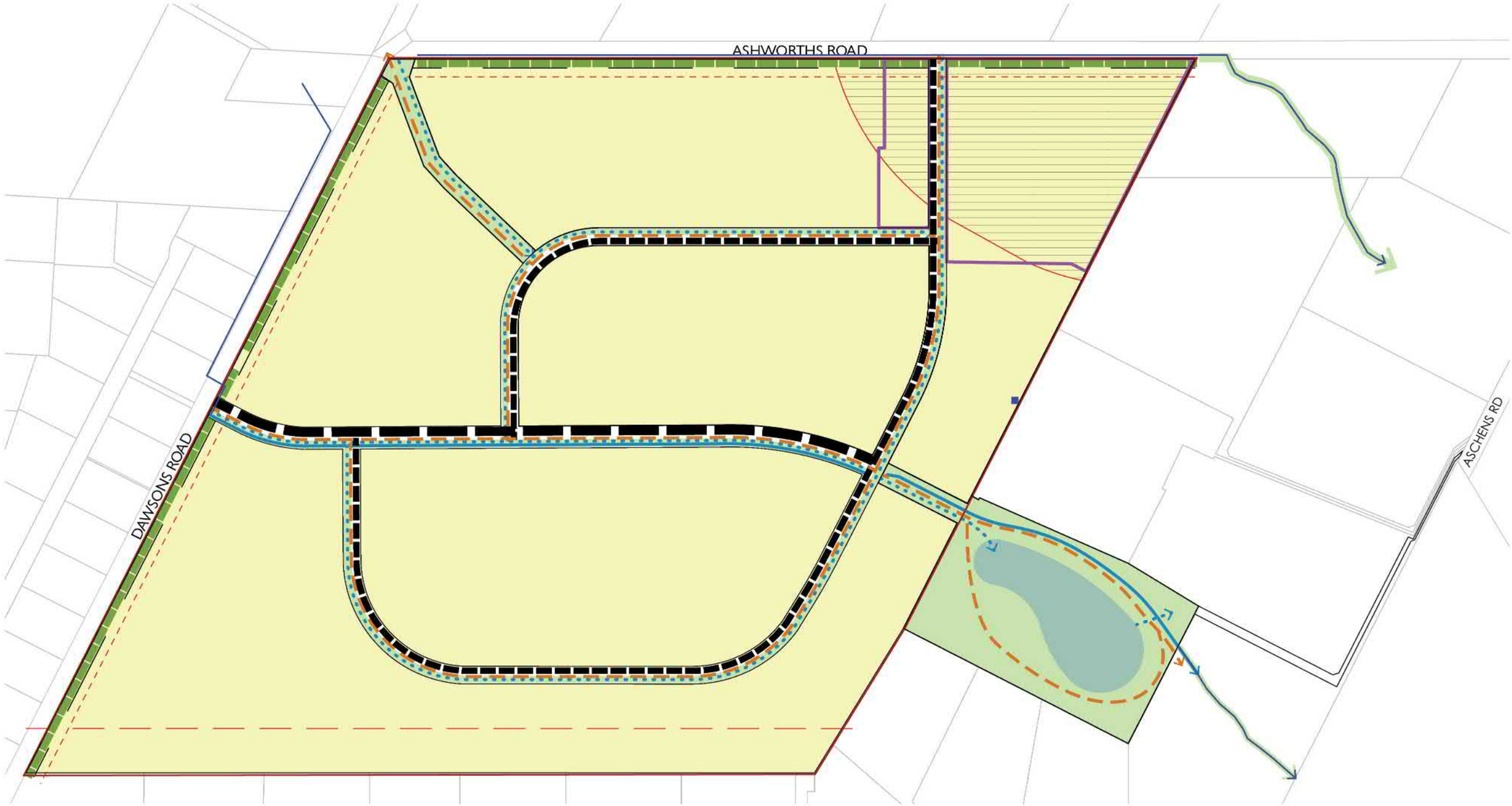
This report is not intended to relieve contractors of their responsibilities under the Health and Safety at Work Act 2015. Site conditions relevant to construction works should be assessed by contractors who can make their own interpretation of the factual data provided. They should perform any additional tests as necessary for their own purposes, at their own expense.

Appendix A. Site Plans

d



Appendix B. Proposed Outline Development Plan



LEGEND

- Rural Residential application boundary
- 10m landscape buffer within individual lots
- Pedestrian and cycle connection
- Swale
- Water race (re-aligned)
- Drain outside of Site
- 20m road reserve with swales and footpath
- 25m road with swales, stream corridor and footpath
- Stormwater management area (SMA)
- Reserve
- Rural residential lot
- Larger rural residential lots due to intensive farming offset
- No build overlay from intensive farming offset (300m)
- 50m no build setback from boundary from adjoining San Dona development
- 20m no build setback from road boundary
- Abuttal parcels
- Spring

NOTES

Lot 6 DP 2038 CB 21K/781 72.6111 Ha

Lot 8 DP 31402 RT 56165 5.2887 Ha

Site area - 77.8998 Ha

N

ASHWORTHS RD DEVELOPMENT

INDICATIVE ODP | 502044

L1 | 1:5000 @ A3 | Revision A

15.06.2021

eliot sinclair

Appendix C. Record of Titles

ORDER TITLE

Quickmap Title Details

Information last updated as at 01-Dec-2019

RECORD OF TITLE
DERIVED FROM LAND INFORMATION NEW ZEALAND
FREEHOLD

Identifier	**CB21K/781**
Land Registration District	**Canterbury**
Date Issued	21 October 1980

Prior References

CB224/50

Type	Fee Simple
Area	72.6537 hectares more or less
Legal Description	Lot 6 Deposited Plan 2038

Registered Owners

Ohoka Farm Holdings Limited

556578.1 Land Improvement Agreement pursuant to Section 30(3) of the Soil Conservation and Rivers Control Act 1941 - 16.7.1985 at 11.33 am

Appurtenant hereto is a right to drain water created by Easement Instrument 6444034.5 - 2.6.2005 at 9:00 am

The easement created by Easement Instrument 6444034.5 is subject to Section 243 (a) Resource Management Act 1991

HISTORIC ORDER TITLE

ORDER TITLE

Quickmap Title Details

Information last updated as at 02-Feb-2020

RECORD OF TITLE
DERIVED FROM LAND INFORMATION NEW ZEALAND
FREEHOLD

Identifier	**56165**
Land Registration District	**Canterbury**
Date Issued	21 June 2005

Prior References

CB414/39

Type	Fee Simple
Area	5.2935 hectares more or less
Legal Description	Lot 8 Deposited Plan 314202

Registered Owners

Ohoka Farm Holdings Limited

Outstanding Agreement 52393 (89/531) to clean cut the creek or stream - 23.5.1878 at 12:00 pm

556578.1 Land Improvement Agreement pursuant to Section 30 (3) of the Soil Conservation and Rivers Control Act 1941 - 16.7.1985 at 11.33 am

6444034.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - Produced 2.6.2005 at 9:00 am and entered 21.6.2005 at 9.00am

6444034.3 Consent Notice pursuant to Section 221 Resource Management Act 1991 - Produced 2.6.2005 at 9:00 am and entered 21.6.2005 at 9.00am

Subject to a right to drain water over part marked L on DP 314202 created by Easement Instrument 6444034.5 - Produced 2.6.2005 at 9:00 am and entered 21.6.2005 at 9.00am

The easement created by Easement Instrument 6444034.5 is subject to Section 243 (a) Resource Management Act 1991

Subject to a right to convey electric power in gross over parts marked D & I on DP 314202 to Mainpower New Zealand Limited created by Easement Instrument 6444034.6 - Produced 2.6.2005 at 9:00 am and entered 21.6.2005 at 9.00am

The easement created by Easement Instrument 6444034.6 is subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 6444034.7 - Produced 2.6.2005 at 9:00 am and entered 21.6.2005 at 9.00am

Subject to a right of way, right to drain sewage, right to convey water, electric power and telecommunications over parts marked D and I on DP 314202 created by Easement Instrument 6444034.8 - Produced 2.6.2005 at 9:00 am and entered 21.6.2005 at 9.00am

The easements created by Easement Instrument 6444034.8 are subject to Section 243 (a) Resource Management Act 1991

Appurtenant hereto is a right of way, right to drain sewage, right to convey water, electric power and telecommunications created by Easement Instrument 6444034.8 - Produced 2.6.2005 at 9:00 am and entered 21.6.2005 at 9.00am

Appendix D. Listed Land Use Register (LLUR)

Lot 6 DP 2038

(Having trouble finding your address?)

OVERVIEW | FINDING YOUR ADDRESS | SEARCH SUMMARY

Thank you for your enquiry.

The Listed Land Use Register does not currently have any information about a Hazardous Activities and Industries List site on this land parcel.

If you would like a property statement, please fill in your details below.

Records Found

No records found.

Lot 8 DP 314202

(Having trouble finding your address?)

OVERVIEW | FINDING YOUR ADDRESS | SEARCH SUMMARY

Thank you for your enquiry.

The Listed Land Use Register does not currently have any information about a Hazardous Activities and Industries List site on this land parcel.

If you would like a property statement, please fill in your details below.

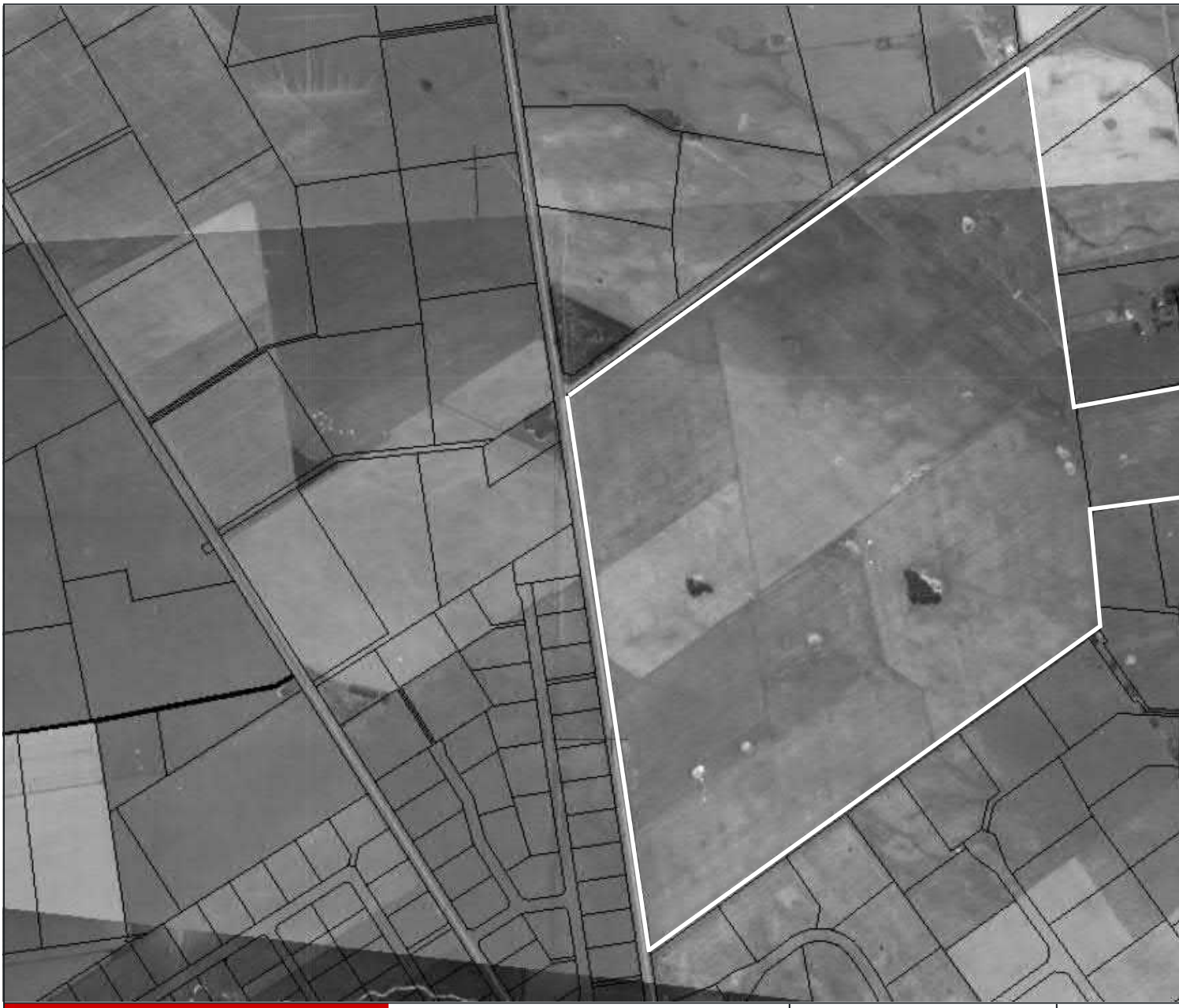
Records Found

No records found.

Appendix E. Environment Canterbury Resource Consent Database

ConsentNo	ConsentType	ConsentSource	ConsentStatus	Location	GivenEffectTo	Expires	GIS_Catchment	GIS_SWAllocationZone
CRC130148	Permitted Activity (s15)	NA	Issued - Inactive	238 Wards Road, MANDEVILLE NORTH			6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC890839B	Water Permit (s14)	New Consent	Terminated - Expired	Aschens Rd, OHOKA		April 30, 1999	6640460 - Ohoka Creek	Ohoka Creek
CRC133098	Discharge Permit (s15)	Full Transfer	Issued - Active	187 Dawsons Road, MANDERVILLE	May 28, 2010	May 27, 2045	6640440 - Cust River	Cust Main Drain
CRC094138	Discharge Permit (s15)	New Consent	Terminated - Replaced	242 Wards Road, MANDEVILLE	August 28, 2009	June 23, 2044	6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC102459	Land Use Consent (s9)	New Consent	Terminated - Expired	242 Wards Road, MANDEVILLE		March 9, 2013	6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC101954	Land Use Consent (s9)	New Consent	Terminated - Expired	237 Wards Road, OHOKA		January 19, 2013	6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC890840	Discharge Permit (s15)	New Consent	Terminated - Surrendered	Aschens Rd, OHOKA		April 30, 1999	6640460 - Ohoka Creek	Ohoka Creek
CRC063338	Water Permit (s14)	Part Transfer Site2Site (-)	Issued - Active	590 No 10 Road, RANGIORA	October 22, 2006	March 16, 2034	6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC102168	Discharge Permit (s15)	New Consent	Terminated - Surrendered	238 Wards Road, MANDEVILLE	March 17, 2010	February 10, 2045	6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC103391	Land Use Consent (s9)	New Consent	Terminated - Expired	253 Wards Road, MANDEVILLE		June 23, 2013	6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC094138.1	Discharge Permit (s15)	Full Transfer	Terminated - Surrendered	242 Wards Road, MANDEVILLE	August 28, 2009	June 23, 2044	6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC063336	Land Use Consent (s9)	New Consent	Terminated - Expired	590 No 10 Road, RANGIORA		April 12, 2009	6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC090828	Permitted Activity (s15)	NA	Issued - Inactive	253 Wards Road, MANDEVILLE			6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC101650	Discharge Permit (s15)	New Consent	Terminated - Replaced	237 Wards Road, MANDEVILLE	April 7, 2010	December 11, 2044	6650300 - Waimakariri Water Race	Waimakariri Water Race
CRC143136	Land Use Consent (s13)	New Consent	Terminated - Annulled	22 Aschens Road, Rangiora			6640460 - Ohoka Creek	Ohoka Creek
CRC176565	Land Use Consent (s9)	New Consent	Terminated - Replaced	715 Mill Road, Ohoka	December 4, 2017	June 30, 2025	6640460 - Ohoka Creek	Cust Main Drain, Ohoka Stream
CRC186098	Discharge Permit (s15)	Full Transfer	Issued - Active	237 Wards Road, MANDEVILLE	April 7, 2010	December 11, 2044	6650300 - Waimakariri Water Race	Ohoka Stream
CRC191029	Land Use Consent (s9)	Full Transfer	Issued - Active	715 Mill Road, Ohoka	December 4, 2017	June 30, 2025	6640460 - Ohoka Creek	Cust Main Drain, Ohoka Stream
CRC150686	Discharge Permit (s15)	New Consent	Terminated - Surrendered	Ashworths & Aschens Road, Ohoka		August 29, 2029	6640460 - Ohoka Creek	Ohoka Creek

Appendix F. Historical Aerial Images



Eliot Sinclair
surveyors | engineers | planners

1940-1944 Aerial Image

Ohoka Farm Holdings Ltd

2 Ashworths Road and 9 Aschens Road, Ohoka

Scale: NTS

Source: ECan GIS

20 Troup Drive, PO Box 9339, Towe

Eliot Sinclair
surveyors | engineers | planners

1960-1964 Aerial Image

Ohoka Farm Holdings Ltd

2 Ashworths Road and 9 Aschens Road, Ohoka

Scale:
NTS

Source:
ECan GIS

20 Troup Drive, PO Box 9339, Tower Ju

Eliot Sinclair
surveyors | engineers | planners

1965-1969 Aerial Image

Ohoka Farm Holdings Ltd

2 Ashworths Road and 9 Aschens Road, Ohoka

Scale: NTS

Source: ECan GIS

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1970-1974 Aerial Image

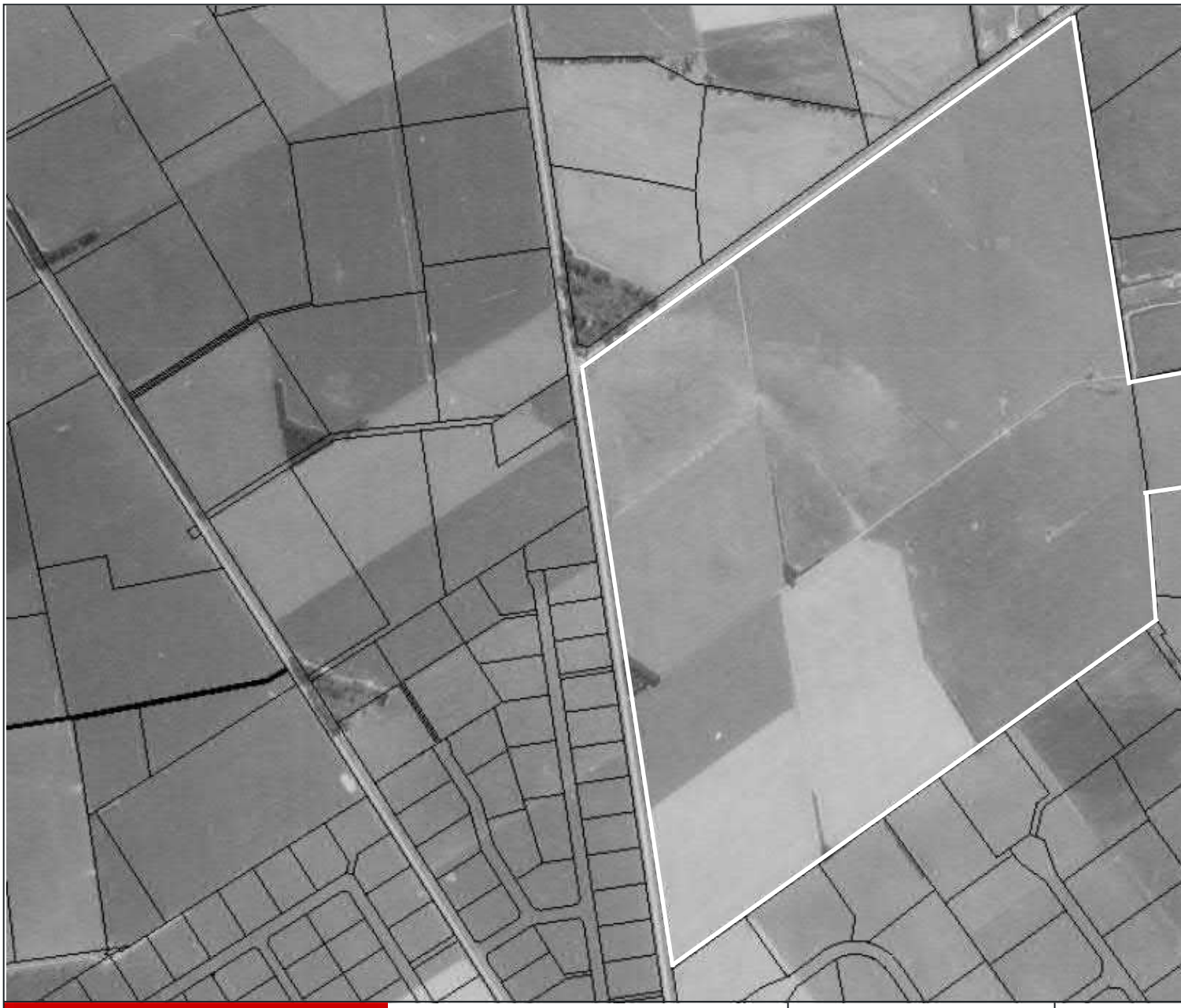
Ohoka Farm Holdings Ltd

2 Ashworths Road and 9 Aschens Road, Ohoka

Scale: NTS

Source: ECan GIS

20 Troup Drive, PO Box 9339, Tower



Eliot Sinclair
surveyors | engineers | planners

1975-1979 Aerial Image

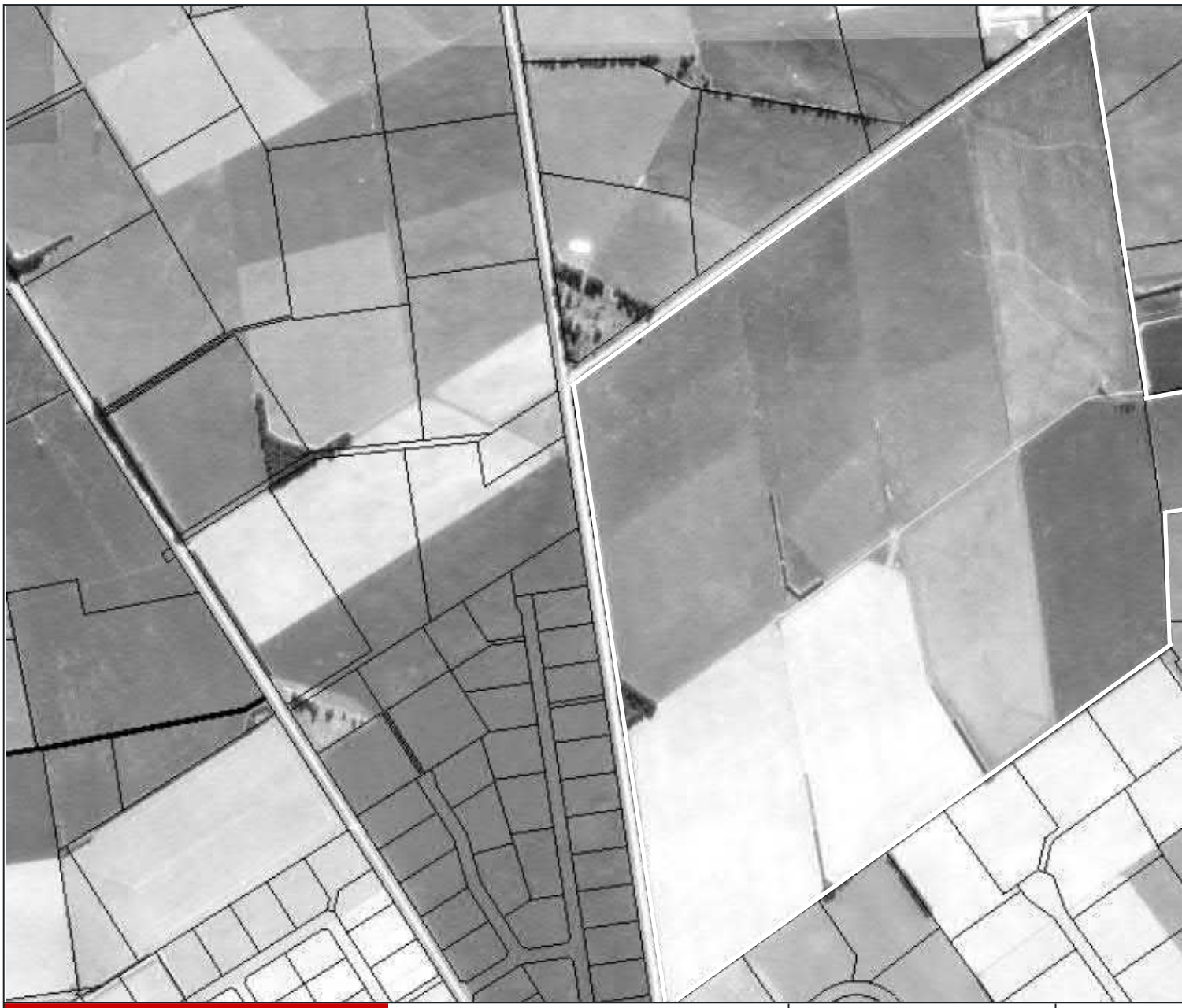
Ohoka Farm Holdings Ltd

2 Ashworths Road and 9 Aschens Road, Ohoka

Scale: NTS

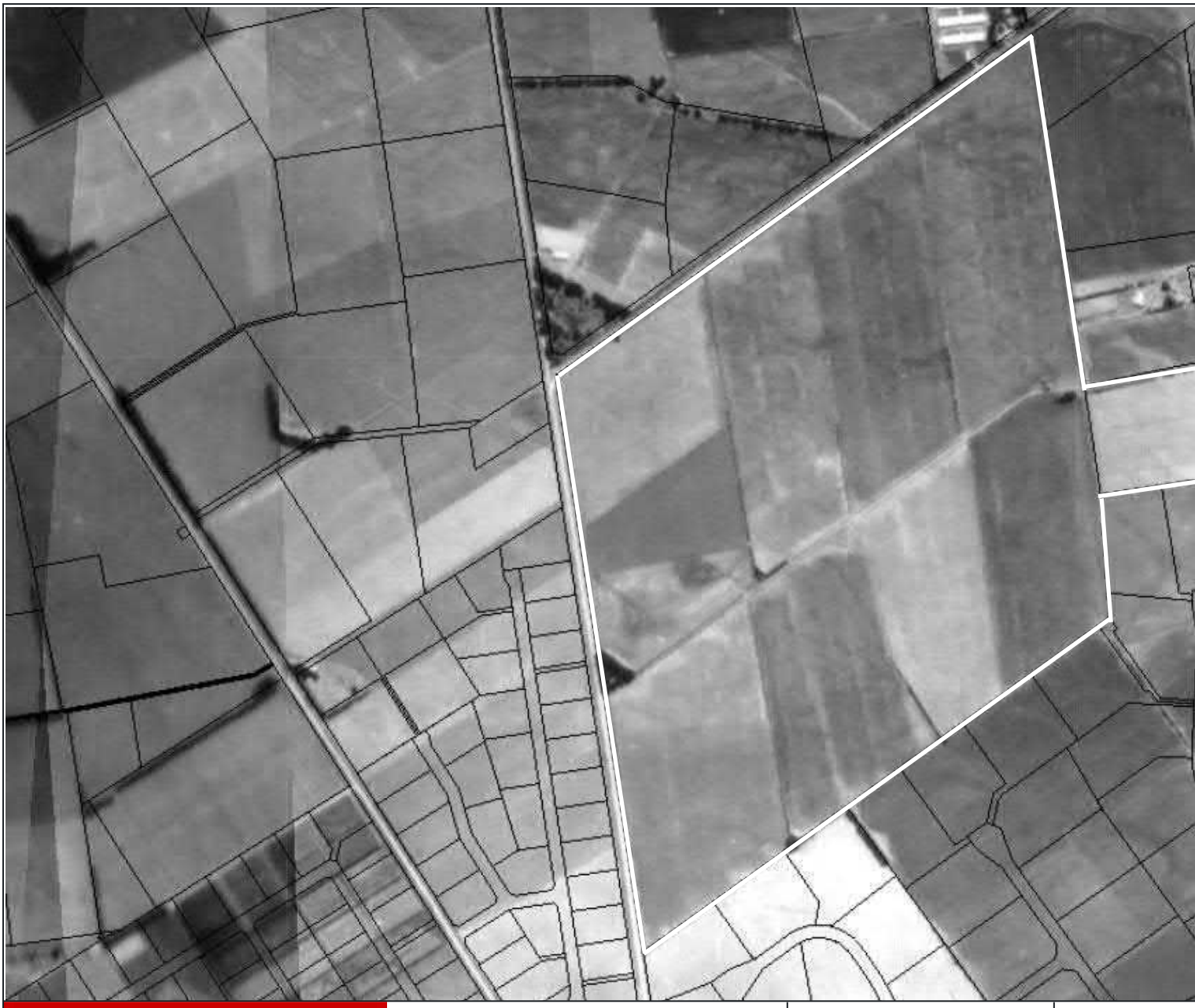
Source: ECan GIS

20 Troup Drive, PO Box 9339, Tower



Eliot Sinclair surveyors | engineers | planners	1980-1984 Aerial Image	Ohoka Farm Holdings Ltd 2 Ashworths Road and 9 Aschens Road, Ohoka	Scale: NTS Source: ECan GIS

20 Troup Drive, PO Box 9339, Tower



Eliot Sinclair
surveyors | engineers | planners

1985-1989 Aerial Image

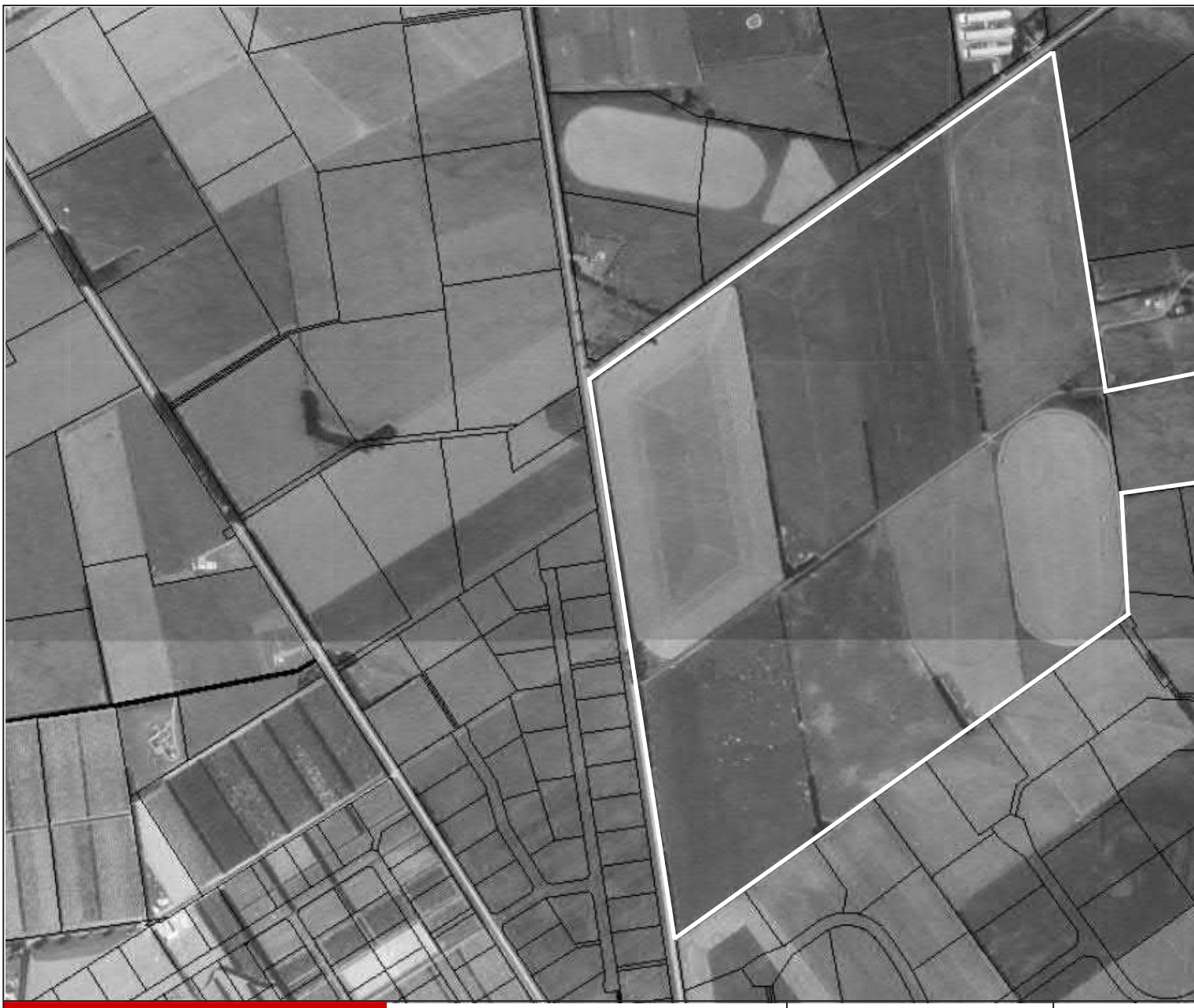
Ohoka Farm Holdings Ltd

2 Ashworths Road, and 9 Aschens Road, Ohoka

Scale: NTS

Source: ECan GIS

20 Troup Drive, PO Box 9339, Tower Ju



Eliot Sinclair
surveyors | engineers | planners

1990-1994 Aerial Image

Ohoka Farm Holdings Ltd

2 Ashworths Road, and 9 Aschens Road, Ohoka

Scale: NTS

Source: ECan GIS

20 Troup Drive, PO Box 9339, Tower Ju

Eliot Sinclair
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1995-1999 Aerial Image

Ohoka Farm Holdings Ltd

2 Ashworths Road and 9 Aschens Road, Ohoka

Scale: NTS

Source: ECan GIS

20 Troup Drive, PO Box 9339, Tower

Eliot Sinclair
surveyors | engineers | planners

2000-2004 Aerial Image

Ohoka Farm Holdings Ltd

2 Ashworths Road and 9 Aschens Road, Ohoka

Scale: NTS

Sources: ECan GIS

20 Troup Drive, PO Box 9339, Tower

Eliot Sinclair
surveyors | engineers | planners

2004-2010 Aerial Image

Ohoka Farm Holdings Ltd

2 Ashworths Road and 9 Aschens Road, Ohoka

Scale: NTS

Sources: ECan GIS

20 Troup Drive, PO Box 9339, Tower

Eliot Sinclair
surveyors | engineers | planners

2010 - 2015 Aerial Image

Ohoka Farm Holdings Ltd

2 Ashworths Road and 9 Aschens Road, Ohoka

Scale: NTS

Source: ECan GIS

20 Troup Drive, PO Box 9339, Tower

Eliot Sinclair
surveyors | engineers | planners

28/2/2019 Aerial Image

Ohoka Farm Holdings Ltd

2 Ashworths Road, and 9 Aschens Road, Ohoka

Scale: NTS

Source: Google Ea

20 Troup Drive, PO Box 9339, T

Appendix G. Site Walkover Photos 28 November 2019

Photo 1: Looking SE

Photo 2: View looking W towards the centre of the site

Photo 3: Looking NW

Photo 4: Pond on the site.

Photo 5: Fenced-off area with historic borrow pit and pump shed

Investigative Dig in Backfilled Borrow Pit 24 June 2020

Photo 6: Location of Test Pit 1

Photo 7: Detail of Test Pit 1 - note groundwater at the base of the pit and collapsing side walls

Photo 8: Overview of Test Pit 2

Photo 9: Detail of Test Pit 2

Photo 10: Overview of Test Pit 3

Photo 11: Detail of Test Pit 3

Appendix H. Racetrack Removal

To whom it may concern

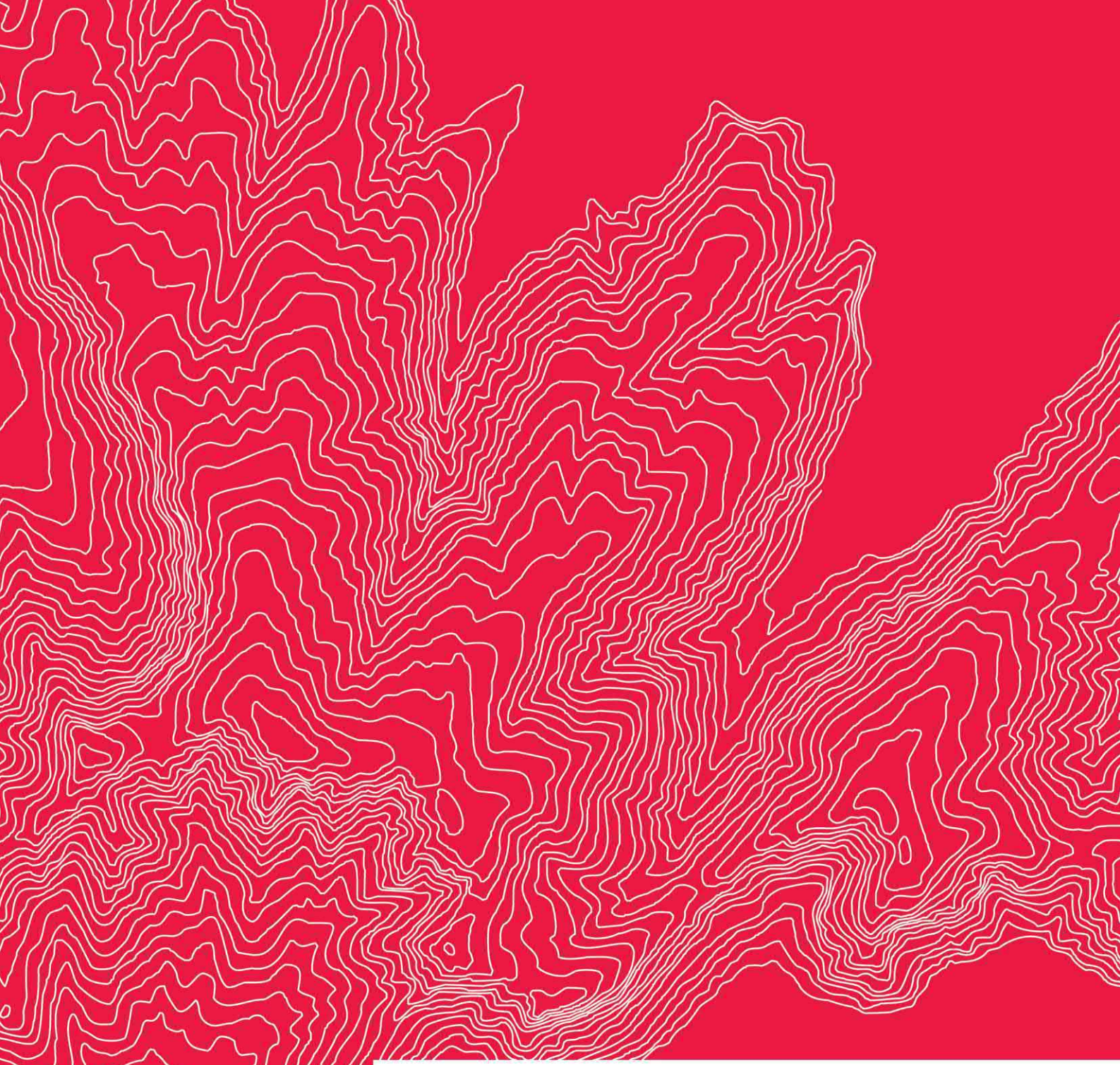
Gilchrist Brothers Limited were engaged to fully cultivate and level paddock "D11" on Mark Prosser's property at Ashworths Road, Ohoka. This paddock was a horse race track used by the previous owner. We ploughed and levelled the paddock sowing it into oats. Once the oats were grazed, it was direct drilled into grass pasture. The old horse track was formed with mainly sand and crusher dust. The job was a lot easier than I expected due to it being formed with sand. We have had no issues growing oats or grass in this paddock.

Regards

Andrew Gilchrist

APPENDIX 6

NATURAL HAZARDS REPORT



Natural Hazards Risk Assessment

eliot sinclair

2 Ashworths Road, Ohoka

Prepared for Ohoka Farm Holdings Ltd

502044

Natural Hazards Risk Assessment

2 Ashworths Road, Ohoka

Prepared for Ohoka Farm Holdings Ltd

502044

Quality Control Certificate

Eliot Sinclair & Partners Limited

eliotsinclair.co.nz

Action	Name	Signature	Date
Prepared by:	Christopher O'Connell Geotechnical Engineer BE(Hons) Civil MEngNZ		19 July 2021
Reviewed by:	John Aramowicz Geotechnical & Civil Engineer | Director BE(Hons) Mining CMEngNZ CPEng		19 July 2021
Directed and approved for release by:	Bruce Sinclair Surveyor | Principal BSc MS+SNZ RPSurv LCS		19 July 2021
Status:	Final		
Release date:	19 July 2021		
Reference no:	502044		
Distributed to:	Ohoka Farm Holdings Ltd		

Limitations

This report has been prepared for Ohoka Farm Holdings Ltd according to their instructions and for the particular objectives described in this report. The information contained in this report should not be used by anyone else or for any other purposes.

Contents

1. Introduction

Eliot Sinclair & Partners Ltd was engaged by Ohoka Farm Holdings Ltd to assess the risk of Natural Hazards at 2 Ashworths Road and 9 Aschens Road, Ohoka ('the site') and to report on the geotechnical suitability for the proposed rezoning to rural-residential land.

This report addresses the risk of *natural hazards* as they relate to the subdivision consent application under Section 106 of the Resource Management Act (RMA)[1] as a guide to land suitability for re-zoning.

We have also undertaken a Preliminary Site Investigation (PSI) reference 502044 dated 19 July 2021.

2. Reporting Requirements

The scope of the report is governed by the need to address requirements set out in the following documents:

- Resource Management Act (RMA), 1991: Section 106 – Natural Hazards
- Ministry of Business, Innovation and Employment, 2012: Repairing and Rebuilding Houses Affected by the Canterbury Earthquakes – Part D: Subdivisions
- Waimakariri District Plan Policy 8: Natural Hazards and Rule 27: Natural Hazards[2].
- Waimakariri District Council: Engineering Code of Practice[3].

3. Scope of Work

The scope of work for this assessment comprised:

- Review available data from the New Zealand Geotechnical Database[4] (NZGD), Canterbury Maps[5] and the Institute of Geological & Nuclear Sciences' (GNS) Active Faults Database[6].
- Walkover inspection on 28 November 2019.
- Undertake twenty shallow hand auger test holes and Scala penetrometer tests to investigate the nature of the shallow soils and soil bearing capacity across the site+56.
- Assess the risk of material damage from potential natural hazards.
- Prepare a Natural Hazards Assessment report to comment on the hazards relevant to the site, to summarise the general geotechnical conditions encountered across the site and to provide geotechnical recommendation that should be addressed at the time of future development/subdivision.

4. Proposed Rezoning Submission

The proposed rezoning intends to rezone the site from Rural to proposed Rural – Residential.

5. Site Description

The site is legally described as:

- 2 Ashworths Road: Lot 6 DP 2038, approximately 72.65 hectares
- 9 Aschens Road: Lot 8 DP 314202 approximately 5.29 hectares

[1] Resource Management Act – retrieved in October 2019 from http://www.legislation.govt.nz/
[2] Waimakariri District Council Plan – Retrieved in October 2019 from https://waimakariri.isoplan.co.nz/eplan/#Rules/0/35/1/0
[3] Waimakariri District Council Engineering Code of Practice. 3 July 2008. Retrieved in October 2019 from https://www.waimakariri.govt.nz/ data/assets/pdf_file/0013/10156/Engineering-Code-of-Practice-full-document-updated-27-May-2016.PDF
[4] New Zealand Geotechnical Database (NZGD). Retrieved in February 2019 from https://www.nzgd.org.nz/
[5] Canterbury Maps. Retrieved in February 2019 from https://mapviewer.canterburymaps.govt.nz
[6] Geological and Nuclear Sciences. (2004). Active Faults Database. Retrieved in February 2019 from http://maps.gns.cri.nz/website/af/viewer.htm

The site is bounded by Ashworths Road to the north, Dawsons Road to the west and rural/rural residential properties on all other sides, as shown in Figure 1.

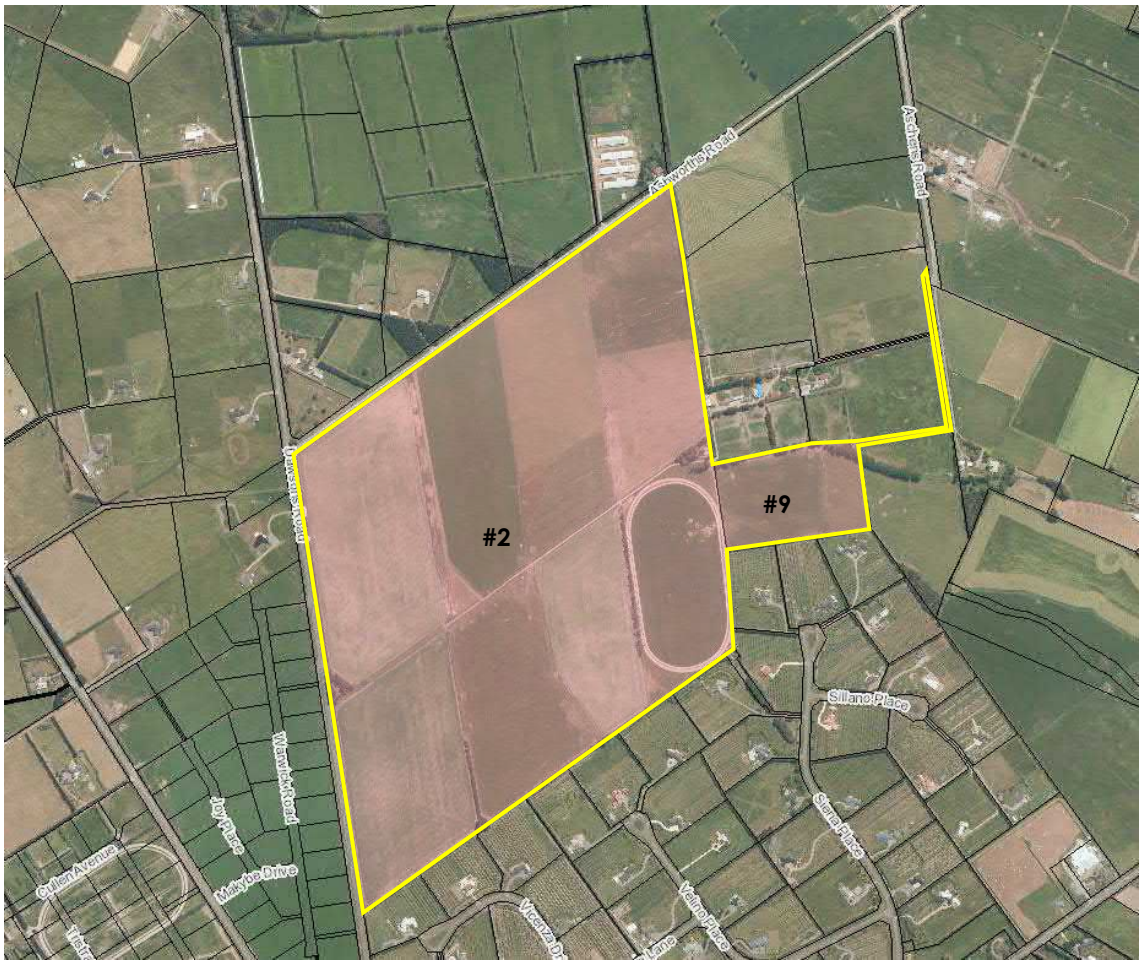


Figure 1. Figure 1: Site location – 2 Ashworths Road and 9 Aschens Road

The land is currently being used for agricultural purposes. The site is generally flat and covered in short grass and shrubs with a 5m fall from west to east giving an average slope of around 0.6%.

An open stormwater drain is present along the north and west boundaries of 2 Ashworths Road and runs parallel to Ashworths and Dawsons Road respectively. A pond is located near the eastern boundary of 2 Ashworths Road.

It is proposed to develop the area shown on Figure 1 into roughly 120 rural residential allotments of approximately 0.5ha each.

Refer to Appendix A for a proposed development scheme plan.

6. Geology

Published geology[7] indicates the site is underlain by river deposits, described as "Unweathered, brownish-grey, variable mix of gravels/sands/silt/clay in low river terraces; locally up to 2m silt cap (Q2a)".

[7] Forsyth, P.J., Barrell, D.J.A., Jongens, R. (2008) (compilers), Geology of the Christchurch Area, Institute of Geological and Nuclear Sciences 1:250 000 geological map 16. 1 sheet. Lower Hutt, New Zealand. GNS Science. ISBN 987-0-478-19649-8

The closest active faults mapped on the GNS Active Faults Database are located approximately 10km to the northwest (Ashley Gorge Fault) and 10km to the northeast (Loburn Fault).

7. Standard of Investigation

Section 16.2 of MBIE's guidelines[8] requires appropriate geotechnical investigations be carried out to enable the ground forming materials to at least 15m depth to be characterised, unless the ground is known to be of acceptable quality from lesser depths, for example in areas known to be underlain by competent gravels or deep groundwater profiles.

Based on our desktop study, including Environment Canterbury well records, the underlying geological profile is expected to comprise silty topsoil and silt overlying various layers of gravel, with groundwater approximately 3 to 5m bgl on the Canterbury Maps Piezometric Contour Map. Waimakariri District Council's liquefaction hazard mapping[9] indicates the site has a low risk of liquefaction.

Therefore, additional deep geotechnical investigation is not considered a requirement for this Natural Hazard Risk Assessment.

8. Shallow Geotechnical Testing

Eliot Sinclair & Partners undertook shallow geotechnical testing comprising of a hand auger and Scala penetrometer across the site on 22 and 28 November 2019. The purpose of the geotechnical testing was to confirm the nature of the shallow soil strata and the inferred soil bearing capacity. Please refer to the Site Investigation Records attached in Appendix B.

The hand augers generally encountered silty topsoil to 0.2 to 0.3m below ground level over in-situ silts and silty gravels to 0.3 to 0.6m bgl where hand testing was terminated due to practical refusal on inferred gravels.

Scala penetrometer resistances below the topsoil layer were low and variable and indicate that in wet, winter conditions, in-situ silts (where present) will provide an index ultimate static bearing capacity of only q_u=100kPa. However, below the in-situ silts the Scala penetrometer resistances increased due to the inferred gravels that provide an ultimate static bearing capacity of at least 300kPa. Scala penetrometer testing terminated between 0.35m and 1.15m bgl on inferred compact gravels.

9. Natural Hazards Risk Assessment

9.1. Introduction

To determine whether there is a significant risk due to natural hazards, decision-makers are guided by the matters set out in RMA Section 106(1A). An assessment of the risk from natural hazards requires a combined assessment of:

- The likelihood of natural hazards occurring (whether individual or in combination).
- The material damage that would result from natural hazards to land where the consent is sought, other land, or structures.
- Any likely subsequent use of the land where the consent is sought that would accelerate, worsen, or result in material damage of the kind referred to in the previous point.

[8] Repairing and Rebuilding Houses Affected by the Canterbury Earthquakes, Ministry of Business, Innovation & Employment, December 2012

[9] Waimakariri District Council Natural Hazards Liquefaction Susceptibility L1. 19/05/2016. Retrieved in May 2019 from: https://www.waimakariri.govt.nz/__data/assets/pdf_file/0024/18186/15-062A-LiquefactionMap.pdf

Decision-makers are required to consider the magnitude of risk of natural hazards, including natural hazards that have a high impact but low probability of occurrence. This will align assessments with the definition of 'effect' in Section 3 of the RMA.

The RMA defines natural hazards as: *Any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire, or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment.*

While this report has not been prepared for subdivision consent, the RMA requirements have been adopted as a guide to demonstrate the suitability of the site for the proposed rural-residential zoning request.

9.1.1. Earthquakes

New Zealand is a seismically active region, and it is possible the site will be subject to strong ground shaking. New buildings and infrastructure will need to be designed, consented, and built to normal acceptable industry standards and New Zealand Building Code compliance.

No known active faults intersect the land, so the risk of fault rupture at the site is deemed to be acceptable in that the same situation applies for all nearby developed areas that are also not on known active faults.

9.1.2. Subsidence (liquefaction and soft/compressible ground)

The soils across the site comprise various layers of gravel with groundwater likely to be present around 3 to 5m bgl. Based on Waimakariri District Council's liquefaction hazard mapping, the site is considered to be at low risk of liquefaction and therefore a low risk of liquefaction-induced settlement. Normal foundation design to an acceptable industry standard and the New Zealand Building Code will be appropriate for this site.

9.1.3. Inundation

The Waimakariri District Council District Plan Hazard Map shows minor areas of the site have a medium flood hazard with flood depths of approximately 0.20 to 0.42m above ground level. Refer to Figure 2.

The Waimakariri District Council's in-house flood hazard map shows much of the site has a low (green) flood hazard depth of 0.10 to 0.25m and isolated areas have a medium (blue) flood hazard depth of 0.25 to 0.50m above existing ground level. Refer to Figure 3.

The site is located outside the Ashley River Flood Plains and therefore it is unlikely the site will be inundated from a breakout of the Ashley River.

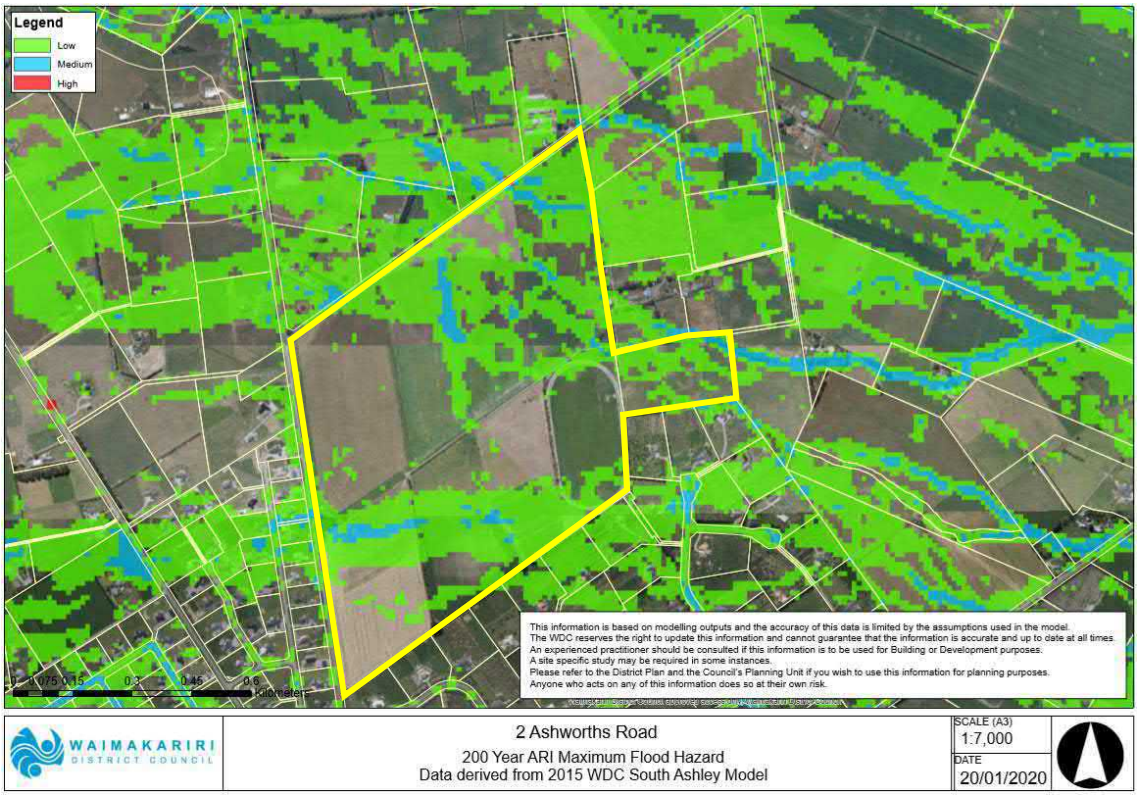
The roading required in the proposed development will be designed to manage any inundation and flood flows across the site.

9.1.4. Erosion and Sedimentation

The site is currently vegetated with mainly grass and at the time of our site walkover inspection we did not find any obvious evidence of erosion or sedimentation processes. Given this, we believe the development of the land will not increase the risk of erosion or sedimentation.

An Erosion and Sediment Control Plan should be in place for any earthworks or construction at the site, in accordance with good management.

Figure 2. Figure 2: Waimakariri District Council Flood Hazard Maps (January 2020) – approximate subdivision outline shown



9.1.5. Wind

The site is considered open and exposed under Section 5 (Bracing Demand) in NZS3604:2011, "Timber-Framed Buildings" and may be susceptible to high winds.

Any new buildings and infrastructure will need to be designed, consented and built in accordance with good acceptable industry standards and practice and New Zealand Building Code compliance to withstand the effects of strong wind loads.

9.1.6. Fire

Natural fire risk at the site may relate to the presence of trees on its perimeter and separating paddocks. The Kaiapoi and Rangiora Fire Stations are located 22km and 10km away from the site respectively. The fire risk is not expected to increase as a result of the proposed subdivision.

9.1.7. Multiple Hazards

The likelihood of concurrent hazards is low and can be mitigated by managing the risk of each individual hazard.

10. Recommendations

10.1. Flood Hazard

To mitigate the flood hazard, and based on communication with Waimakariri District Council, the following finished floor levels are recommended with reference to Figure 3.

Table 1: Recommended FFL

Flood Hazard Category	Approximate flood depth	Freeboard	Recommended finished floor level
Very low (clear)	Up to 100mm	300mm	400mm minimum above surrounding ground
Low (green)	100 – 300mm	400mm	500 to 700mm minimum above surrounding ground
Medium (blue)	300 – 600mm	500mm	800 to 1,100mm minimum above surrounding ground

With the above freeboard, dwellings constructed in the low flood hazard zone will have an acceptable low risk of damage from flood waters. There is a general recommendation to avoid building in the medium flood hazard areas. Developing the land to incorporate medium flood hazard areas for roading or reserve purposes should be considered.

Due to the land areas for the proposed lots of ~4ha, and 20m setback requirements, it is considered unlikely that the construction of residential buildings will result in an adverse effect to neighbouring properties.

11. Conclusions

We have concluded a natural hazard risk assessment for the proposed submission to request re-zoning rural land to rural-residential land. The natural hazards have been assessed with risk levels found to be acceptable or tolerable and can be managed as part of a future subdivision and developed with normal good practice design and development controls.

Given this, we have found no risks from natural hazards that would be of concern for re-zoning the land and future residential development.

We conclude that the site is suitable, regarding geotechnical matters, for the proposed rural-residential re-zoning.

12. Disclaimer

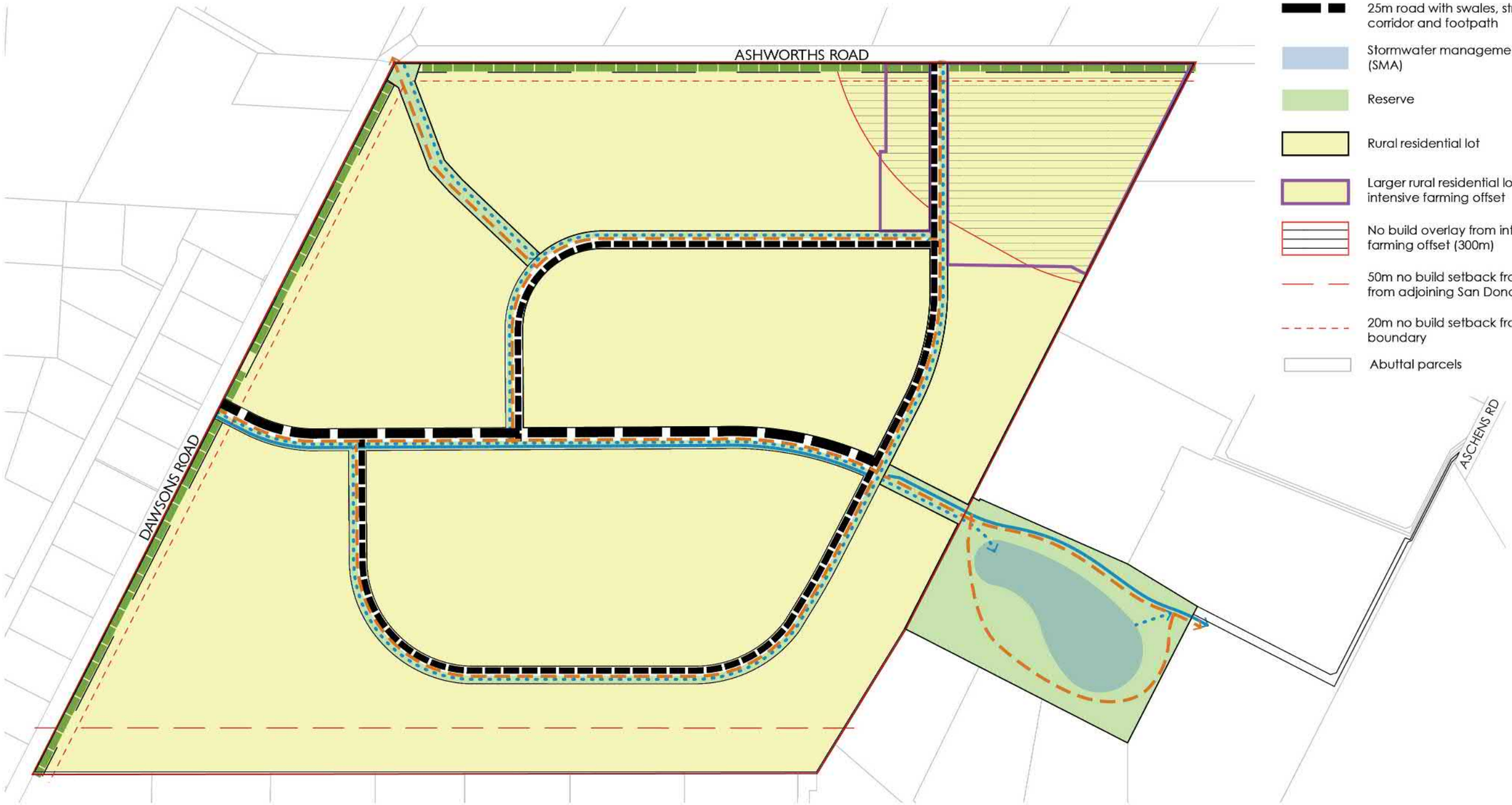
Comments made in this report are based on information shown on the NZGD, Canterbury Maps, GNS's Active Faults Database, our inspection of the site, shallow geotechnical testing and the Ministry of Business, Innovation and Employment's (MBIE) December 2012 guidelines.

Whilst every care was taken during our interpretation of the subsurface conditions, there may be subsoil strata and features that were not detected. The exposure of such conditions, or occurrence of additional strong seismicity, or any future update of MBIE's guidelines may require review of our recommendations or further investigations. Eliot Sinclair should be contacted if this occurs to confirm the recommendations of this report remain valid.

This report has been prepared for the benefit of Ohoka Farm Holdings Limited and the Waimakariri District Council. This report is specifically prepared for the proposed subdivision and should not be used to support any future consent application without our prior review and approval.

No liability is accepted by this company or any employee of this company with respect to the use of this report by any other party or for any other purpose other than what is stated in our scope of work.

Appendix A. Development Scheme Plan



LEGEND

- Rural Residential application boundary
- 10m landscape buffer within individual lots
- Pedestrian and cycle connection
- Swale
- Water race
- 20m road reserve with swales and footpath
- 25m road with swales, stream corridor and footpath
- Stormwater management area (SMA)
- Reserve
- Rural residential lot
- Larger rural residential lots due to intensive farming offset
- No build overlay from intensive farming offset (300m)
- 50m no build setback from boundary from adjoining San Dona development
- 20m no build setback from road boundary
- Abuttal parcels

N

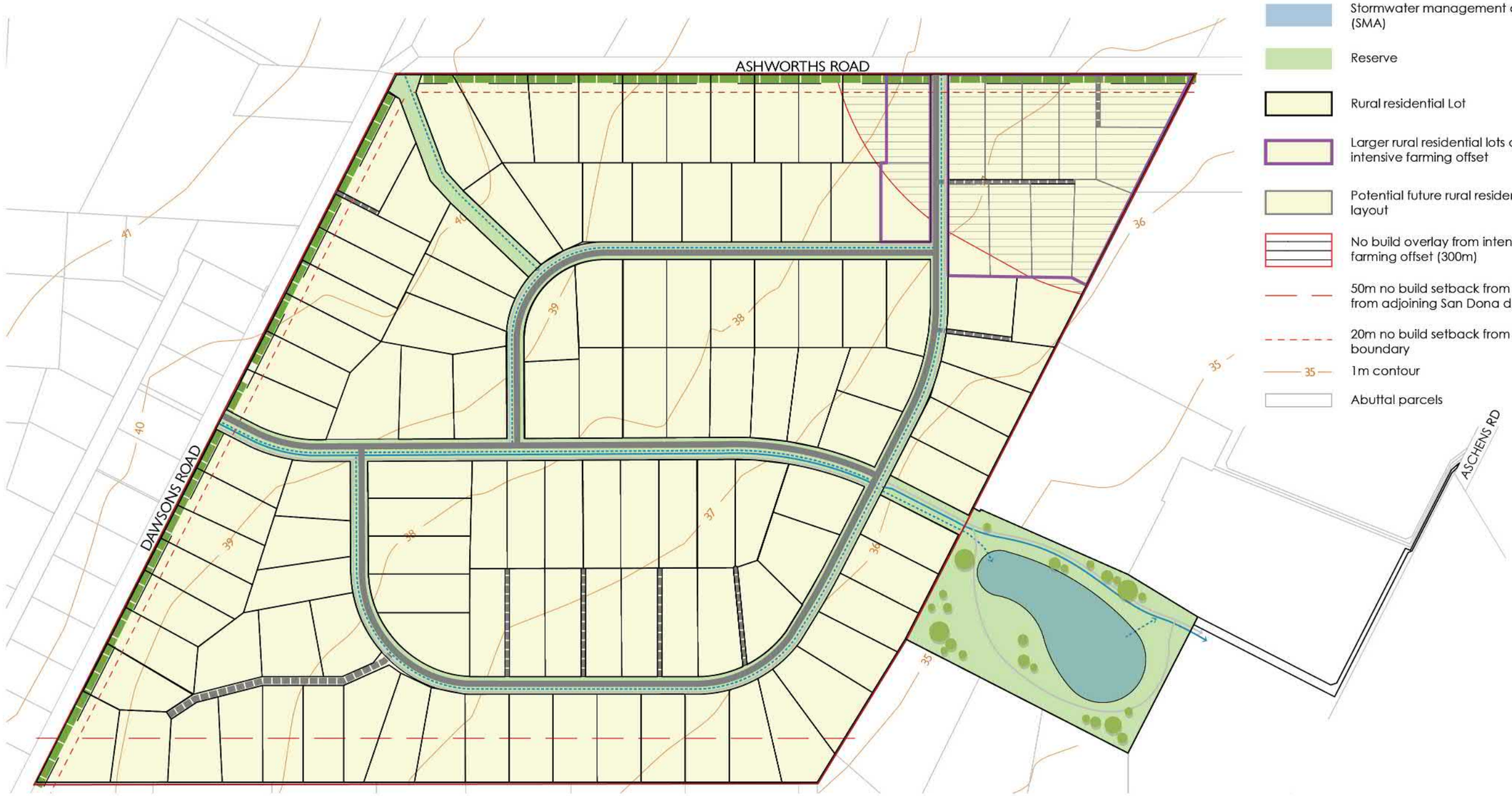
ASHWORTHS RD DEVELOPMENT

DRAFT ODP | 502044

L1 | 1:5000 @ A3 | Revision A

15.06.2021

eliot sinclair



LEGEND

- Rural residential application aoundary
- 10m landscape buffer within individual lots
- Swale with riparian planting
- Water race with riparian planting
- Road
- ROW
- Shared path
- Stormwater management area (SMA)
- Reserve
- Rural residential Lot
- Larger rural residential lots due to intensive farming offset
- Potential future rural residential lot layout
- No build overlay from intensive farming offset (300m)
- 50m no build setback from boundary from adjoining San Dona development
- 20m no build setback from road boundary
- 35 — 1m contour
- Abuttal parcels

Lot 6 DP 2038 CB 21K/781 72.6111 Ha

Lot 8 DP 31402 RT 56165 5.2887 Ha

Site area - 77.8998 Ha

Reserves and SMA- 58,262 m2

Allotments - 659,119 m2

Road reserve* - 59,321 m2

Access lot 8 - 2,928 m2

CAD total - 779,631 m2

Number of Lots - 126

Average Lot Area - 5,231 m2

**Road reserve includes shared paths, swales and planting*

ASHWORTHS RD DEVELOPMENT

DRAFT LOT LAYOUT | 502044

L1 | 1:5000 @ A3 | Revision A

15.06.2021

eliot sinclair

Appendix B. Site Investigation Records

Eliot Sinclair
surveyors | engineers | planners

20 Troup Drive, Tower Junction
PO Box 9339, Christchurch 8149
Ph. (03) 379-4014 Fax. (03) 365-2449

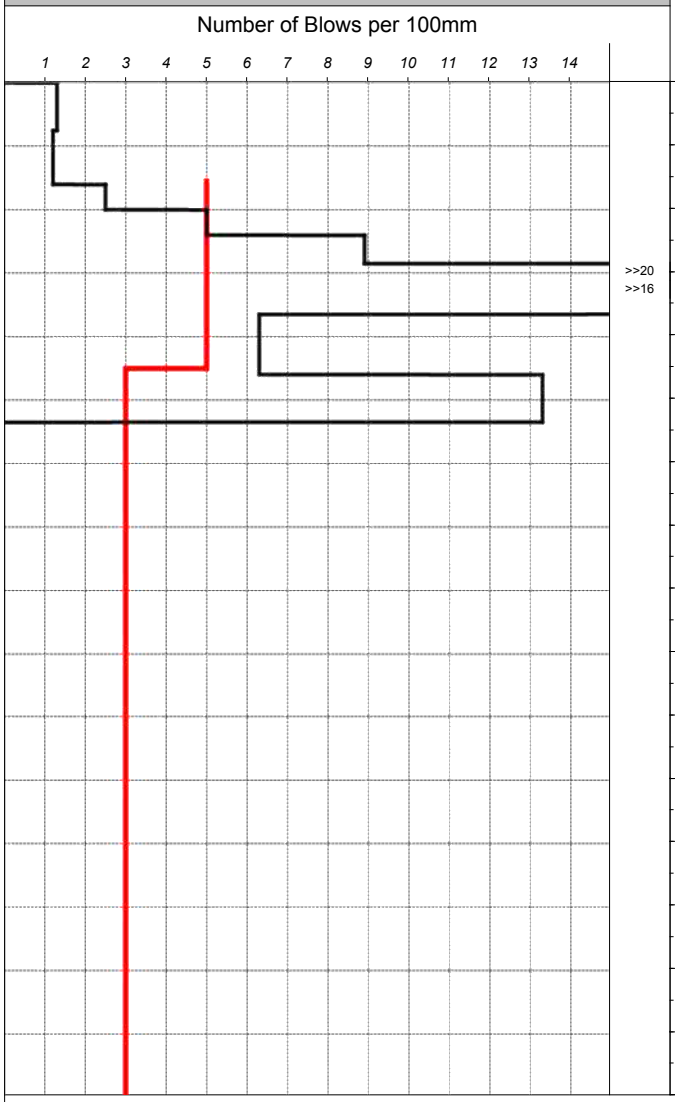
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **1 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



01
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 01

Depth (m)	Description
0.0	Silty TOPSOIL; dark brown. Some stones.
0.4	Sandy SILT; light brown. Damp; sand, fine.
0.6	Sandy gravelly; light brown.
	EOH: 0.6m - Practical refusal on inferred gravels.

Water: Groundwater Not Encountered

SITE PLAN (Not to Scale)

COMMENTS

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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Eliot Sinclair
surveyors | engineers | planners

20 Troup Drive, Tower Junction
PO Box 9339, Christchurch 8149
Ph. (03) 379-4014 Fax. (03) 365-2449

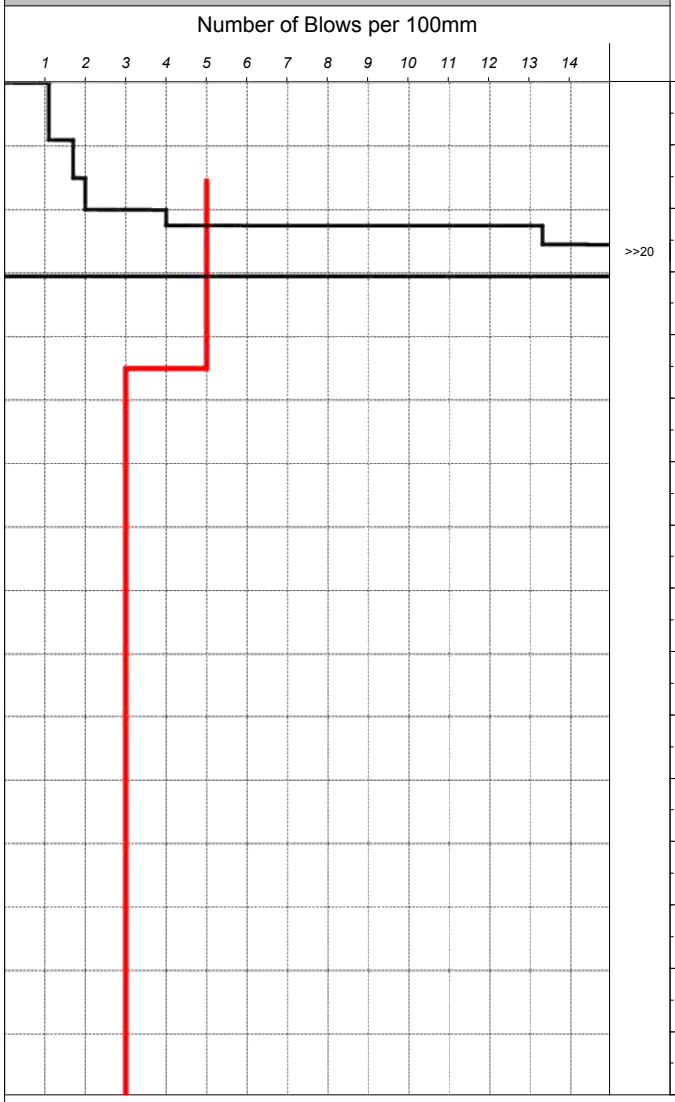
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **2 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



02
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 02

Depth (m)	Description
0.2	Silty TOPSOIL. Trace rootlets, .
0.4	Sandy SILT; light brown. Damp; iron staining.
0.6	EOH: 0.5m - Practical refusal on inferred gravels.

Water
Groundwater Not Encountered

SITE PLAN (Not to Scale)

COMMENTS

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

Produced with CORE-GS

Printed: 7/02/2020 8:52:21 AM

Eliot Sinclair
surveyors | engineers | planners

20 Troup Drive, Tower Junction
PO Box 9339, Christchurch 8149
Ph. (03) 379-4014 Fax. (03) 365-2449

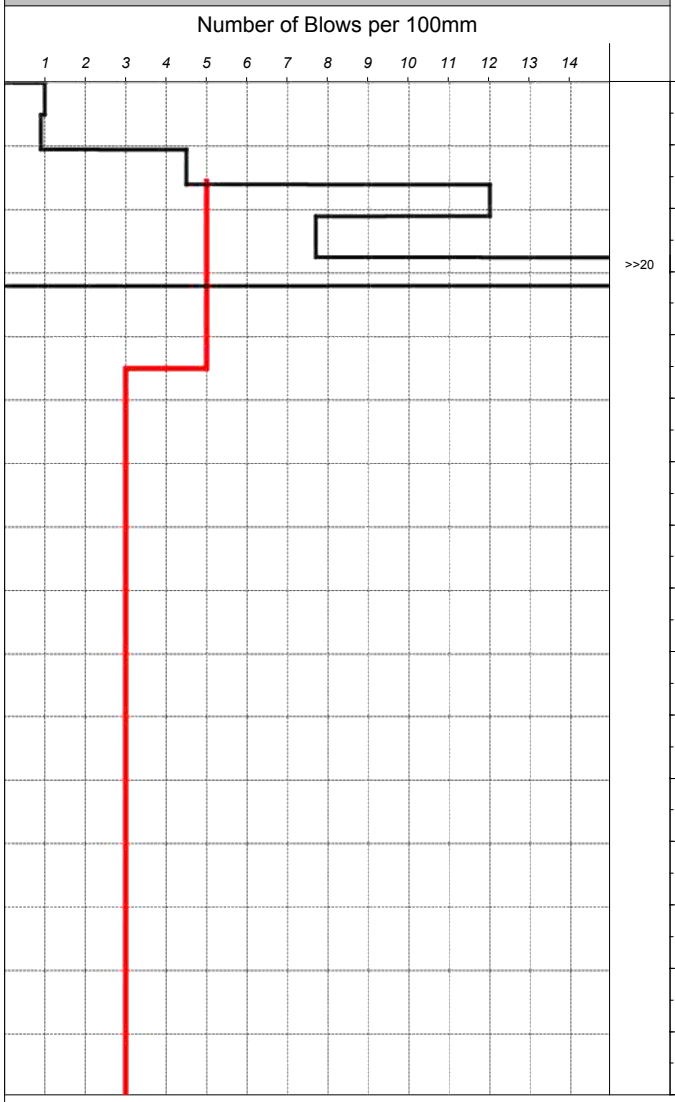
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **3 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



03
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 03

Depth (m)	Description
0.0 – 0.2	Silty TOPSOIL. Ploughed.
0.2 – 0.4	Sandy GRAVEL; light brown. Gravel, round to subangular.
0.4 – 0.6	EOH: 0.5m - Practical refusal on inferred gravels.

Water
Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

Eliot Sinclair
surveyors | engineers | planners

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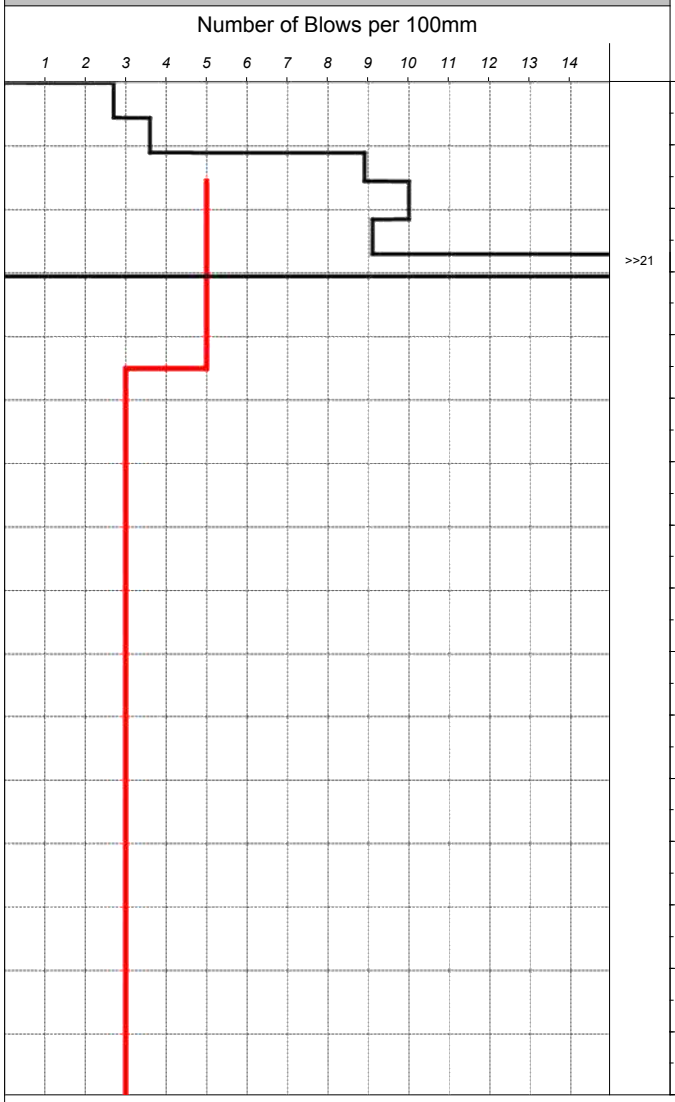
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **4 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



04
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 04

Water: Groundwater Not Encountered

Silty TOPSOIL. Stony.

Sandy GRAVEL; light brown.

EOH: 0.4m - Practical refusal on inferred gravel.

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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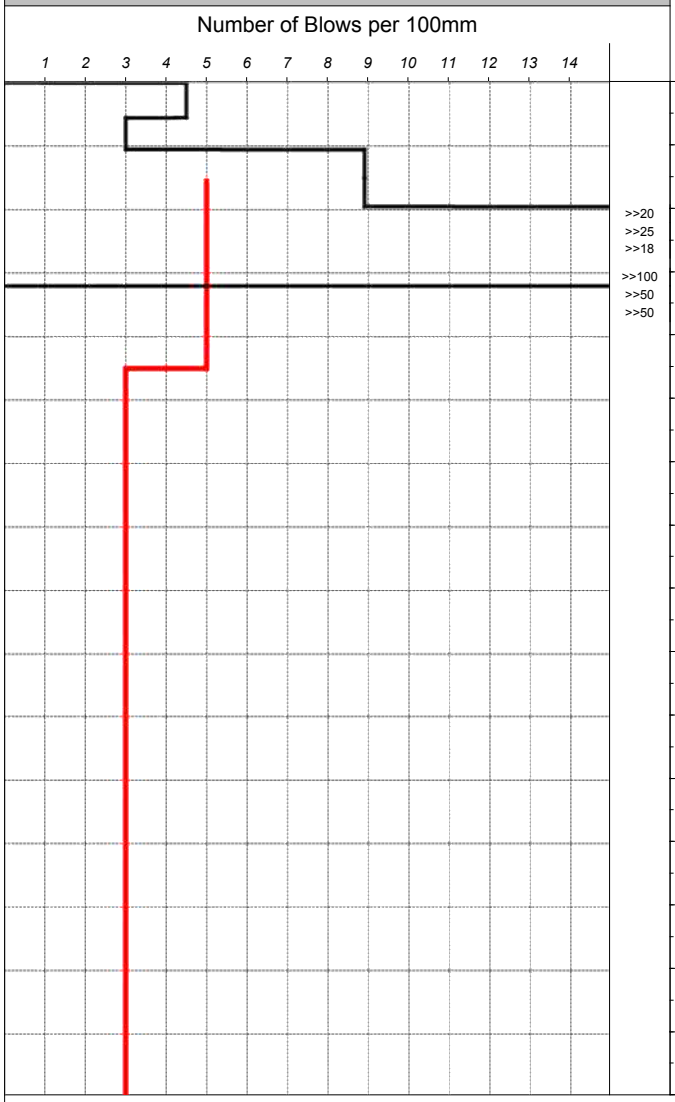
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **5 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



05
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 05

Depth (m)	Description
0.0	Silty TOPSOIL, with some gravel; dark brown. Damp; trace rootlets.
0.2	Silty fine to medium GRAVEL, with some sand; brownish grey. Dry.
0.35	EOH: 0.35m - Practical refusal on inferred gravel.

Water: Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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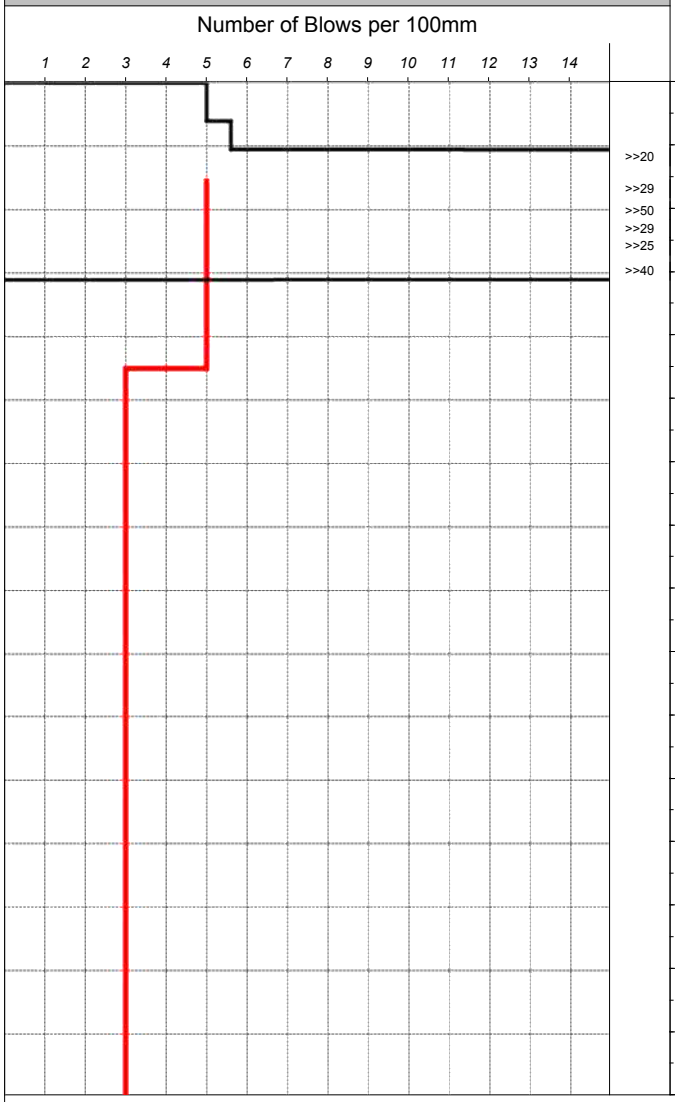
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **6 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



06
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 06	Water
Topsoil silty; dark brown. Damp; trace rootlets and stones.	Groundwater Not Encountered
Silty fine to medium GRAVEL, with some sand; brownish grey.	
EOH: 0.35m - Practical refusal on inferred gravel.	

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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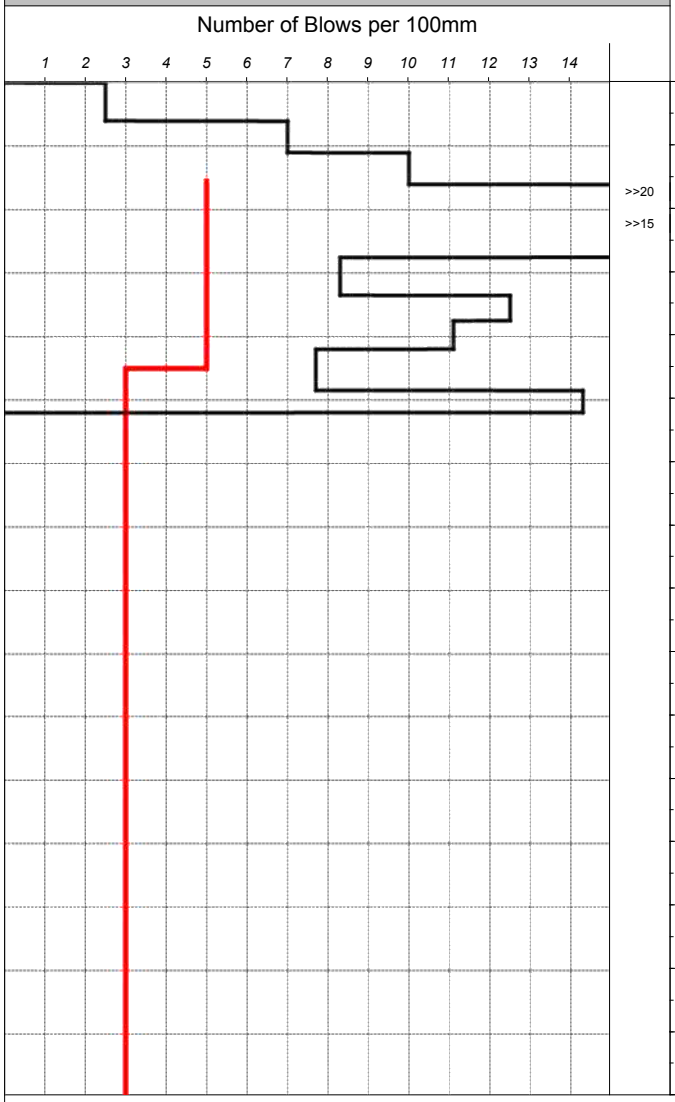
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **7 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



07
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 07

Silty TOPSOIL; dark brown. Damp; trace rootlets.

Silty sandy fine to medium GRAVEL; grey. Dry.

EOH: 0.3m - Practical refusal on inferred gravel.

Water

Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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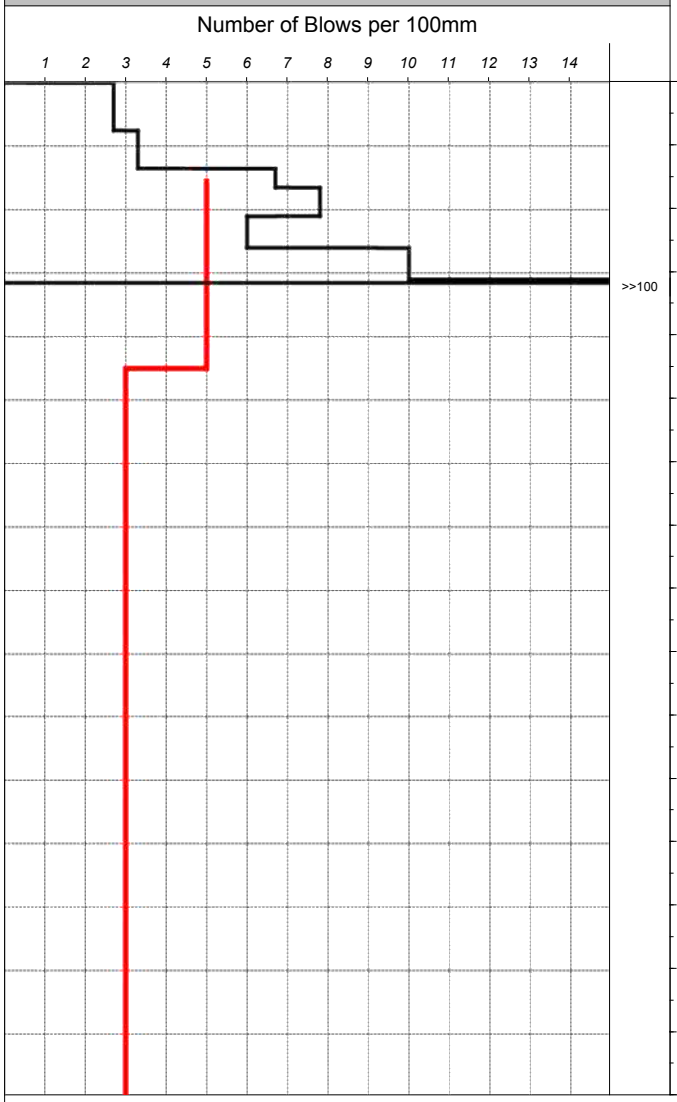
Date Tested **28-Nov-2019**
Set Page No. **8 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



08

Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 08

Depth (m)	Description
0.0	Silty TOPSOIL; dark brown. Damp; trace rootlets.
0.2	SILT; grey. Damp; iron staining.
0.4	Silty GRAVEL, with some sand; brownish grey. Dry.
0.6	EOH: 0.45m - Practical refusal on inferred gravel.

Water

Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	*Prepared By:*	*Investigation Type*
JSF/SF	CAO	☑ Hand Auger
Job Manager:	*Approved By:*	☐ Spade Hole
BES	JTA	☐ Test Pit

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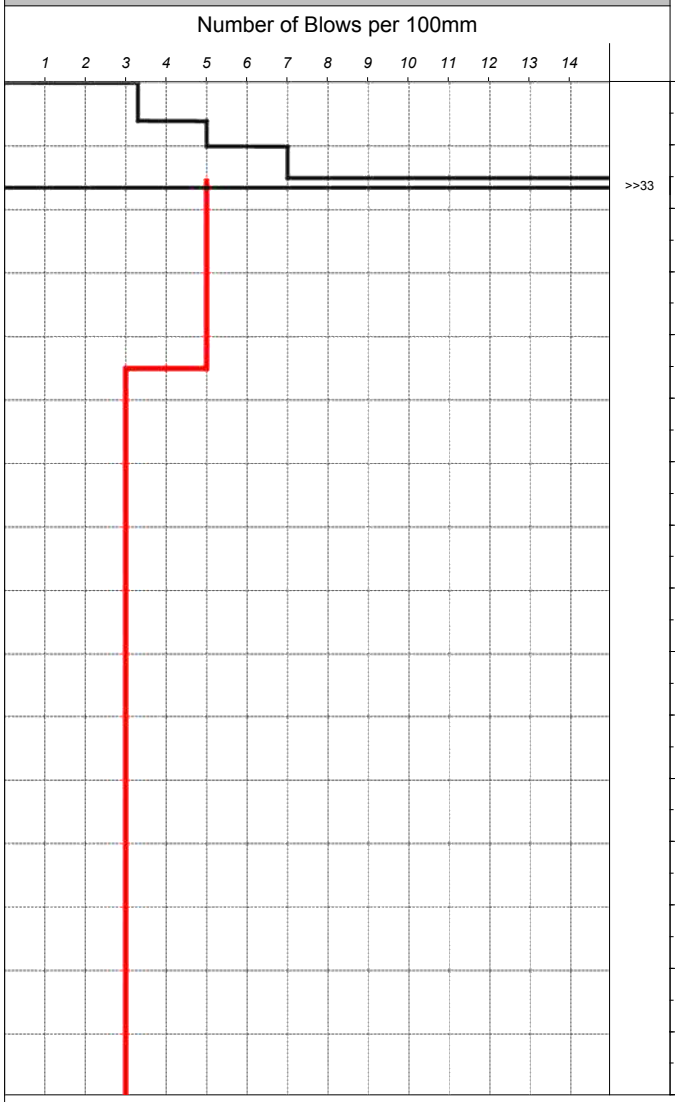
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **9 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



09

Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 09

Water
Groundwater Not Encountered

Silty TOPSOIL; dawk brown. Dry; trace rootlets.

Silty SAND & fine to medium GRAVEL; greyish brown. Dry.

EOH: 0.35m - Practical refusal on inferred gravel.

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	*Prepared By:*	*Investigation Type*
JSF/SF	CAO	☑ Hand Auger
Job Manager:	*Approved By:*	☐ Spade Hole
BES	JTA	☐ Test Pit

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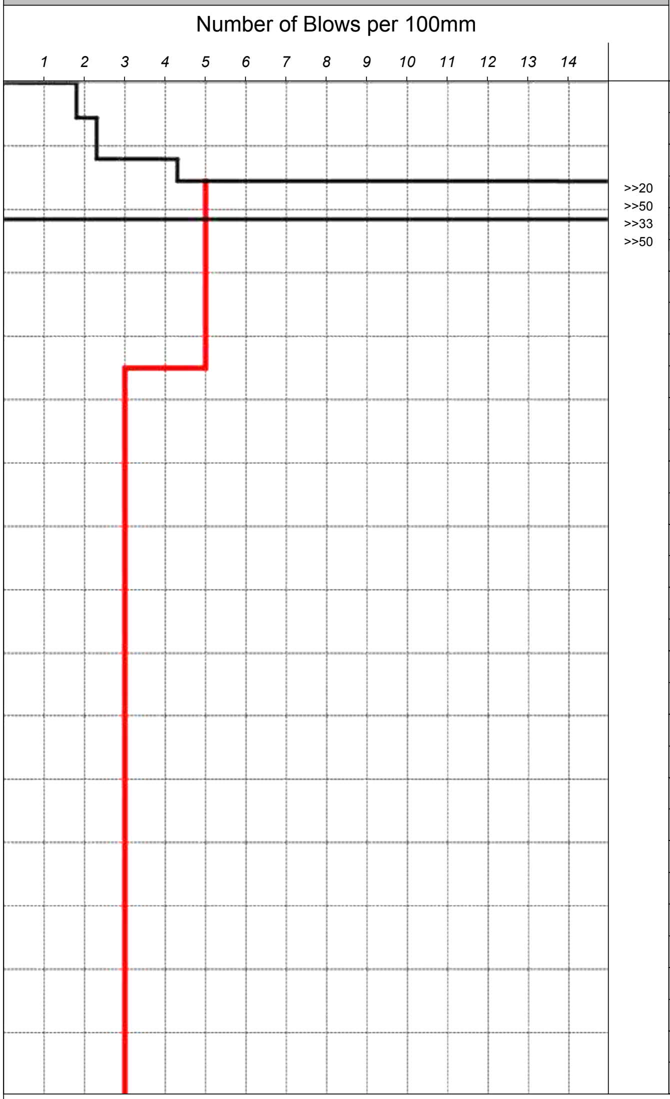
Job Number	**500456**
Date Tested	**28-Nov-2019**
Set Page No.	**10 of 20**
Log Sheet No.	**1 of 1**
Lot	**6**
D.P.	**2038**

SITE INVESTIGATION RECORD

Client	*Site*	*Technical Category*
Ohoka Farm Holdings Ltd	**2 Ashworths Road**	**N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



SOIL PROFILE

Test Location 10

Symbol	Description	Water
TS	Silty TOPSOIL; dark brown. Wet; irrigated.	Groundwater Not Encountered
	SILT; grey. Moist; iron staining.	
	Silty fine to medium GRAVEL, with some sand; brownish grey. Damp.	
	EOH: 0.4m - Practical refusal on inferred gravel.	

— 10

— Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	*Prepared By:*	*Investigation Type*
JSF/SF	CAO	☑ Hand Auger
Job Manager:	*Approved By:*	☐ Spade Hole
BES	JTA	☐ Test Pit

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Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **11 of 20**
Log Sheet No. **1 of 1**

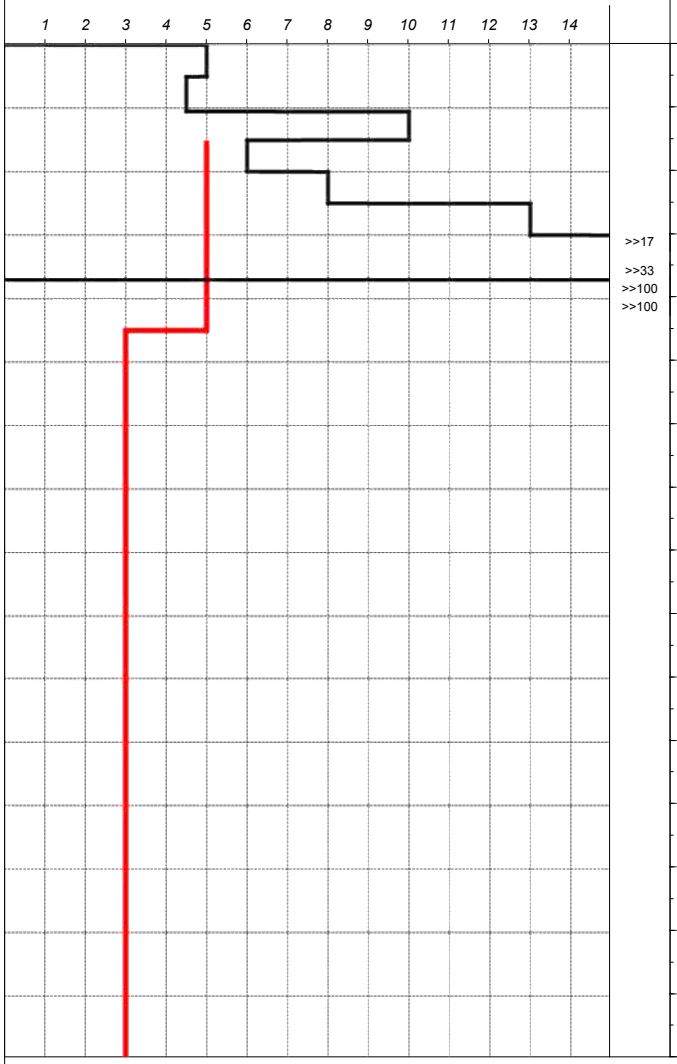
SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS

Number of Blows per 100mm



11

Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 11

Depth (m)	Description
0.0	Silty gravelly TOPSOIL; dark brownish grey. Dry; gravel, fine to coarse, subround to subangular.
0.2	Silty fine to coarse GRAVEL; greyish brown. Gravel, subround to subangular.
0.35	EOH: 0.35m - Practical refusal on inferred gravel.

Water

Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	*Prepared By:*	*Investigation Type*
JSF/SF	CAO	☑ Hand Auger
Job Manager:	*Approved By:*	☐ Spade Hole
BES	JTA	☐ Test Pit

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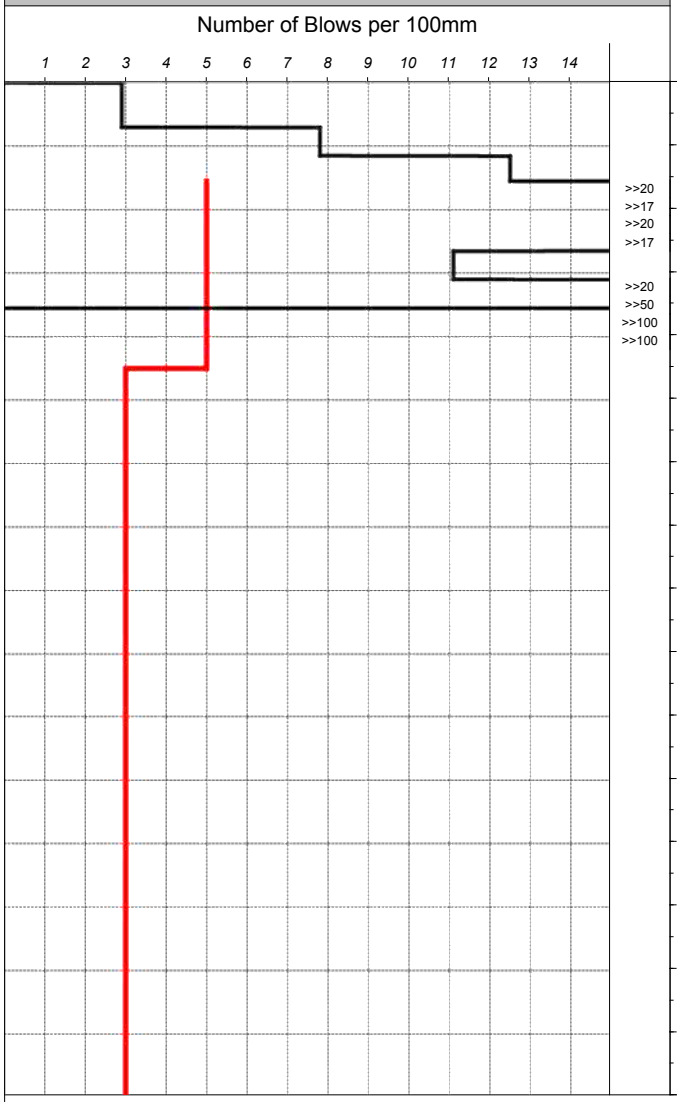
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **12 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



12
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 12

Depth (m)	Description
0.2	Silty gravelly TOPSOIL; dark brownish grey. Moist; gravel, fine to coarse, subround to subangular.
0.4	Silty fine to coarse GRAVEL; greyish brown. Gravel, subround to subangular.
	EOH: 0.35m - Practical refusal on inferred gravel.

Water: Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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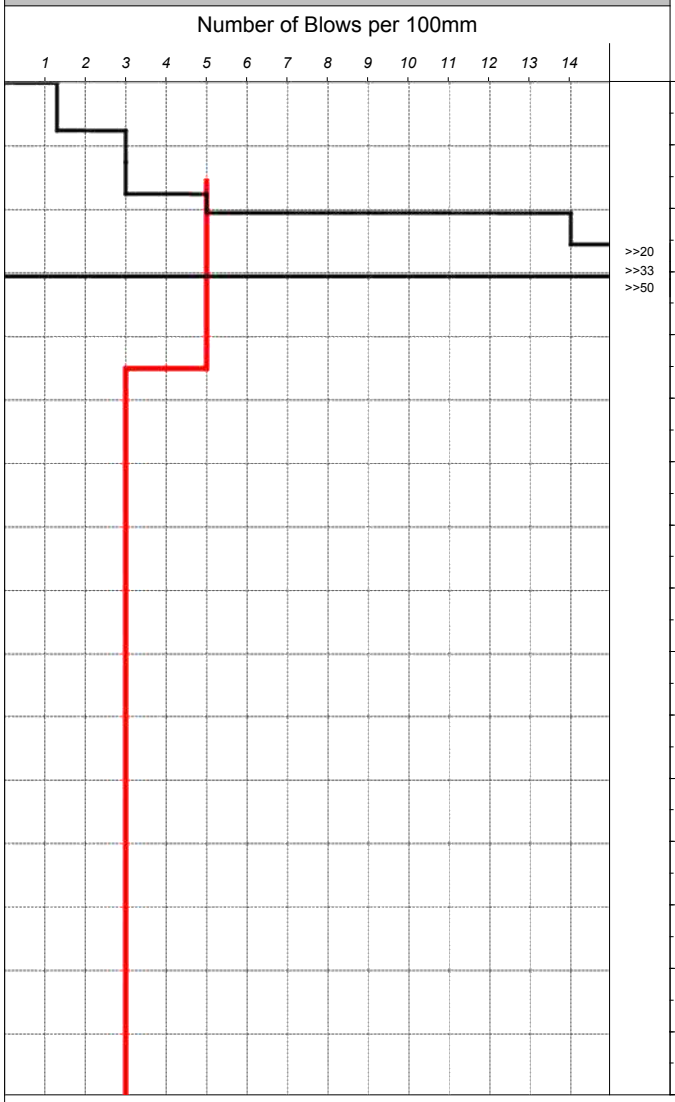
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **13 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



13
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 13

Depth (m)	Description
0.0	Silty TOPSOIL; dark brown. Damp.
0.3	SILT, with trace sand; grey. Moist.
0.4	Silty sandy fine to medium GRAVEL; brownish grey. Damp.
0.6	EOH: 0.55m - Practical refusal on inferred gravel.

Water: Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **14 of 20**
Log Sheet No. **1 of 1**

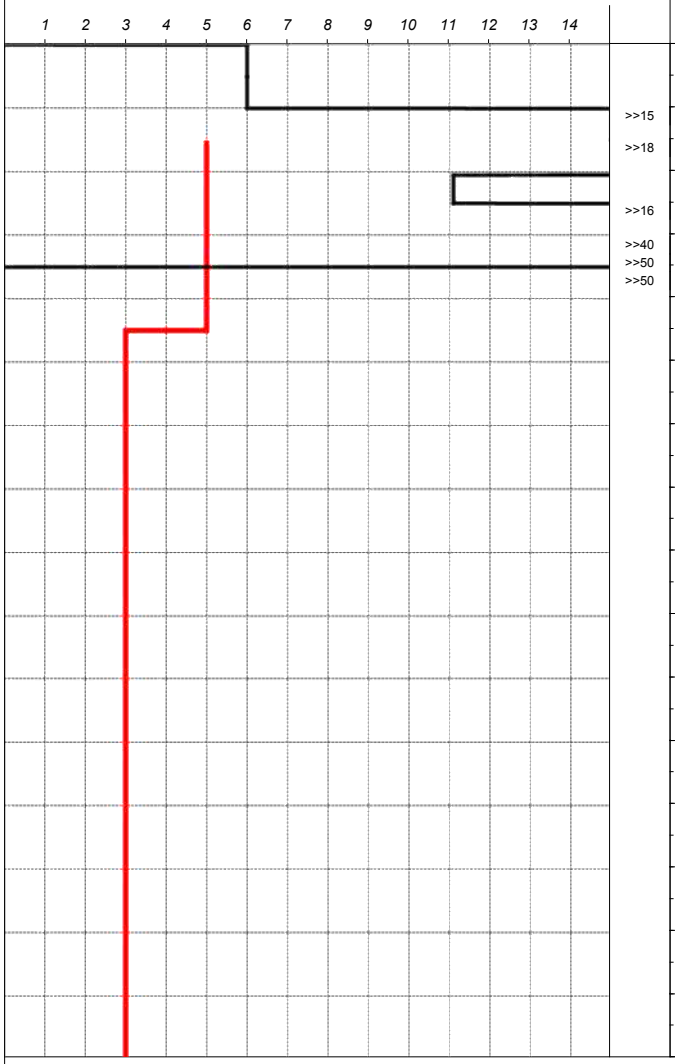
SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS

Number of Blows per 100mm



14
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 14	Water
Silty TOPSOIL; dark brown. Moist; some stones, rootlets.	Groundwater Not Encountered
Silty sandy fine to medium GRAVEL. Dry to moist.	
EOH: 0.35m - Practical refusal on inferred gravels	

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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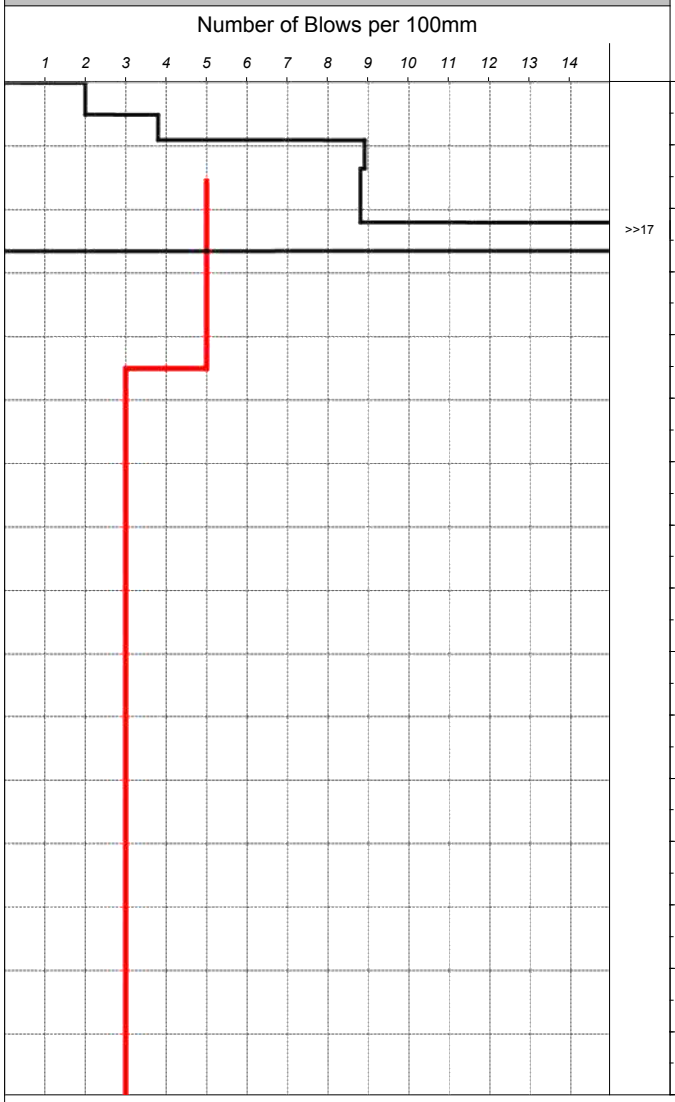
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **15 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



15
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 15

Depth (m)	Description
0.2	Silty TOPSOIL. Stony.
0.4	Sandy GRAVEL; brownish grey.
	EOH: 0.4m - Practical refusal on inferred gravel.

Water
Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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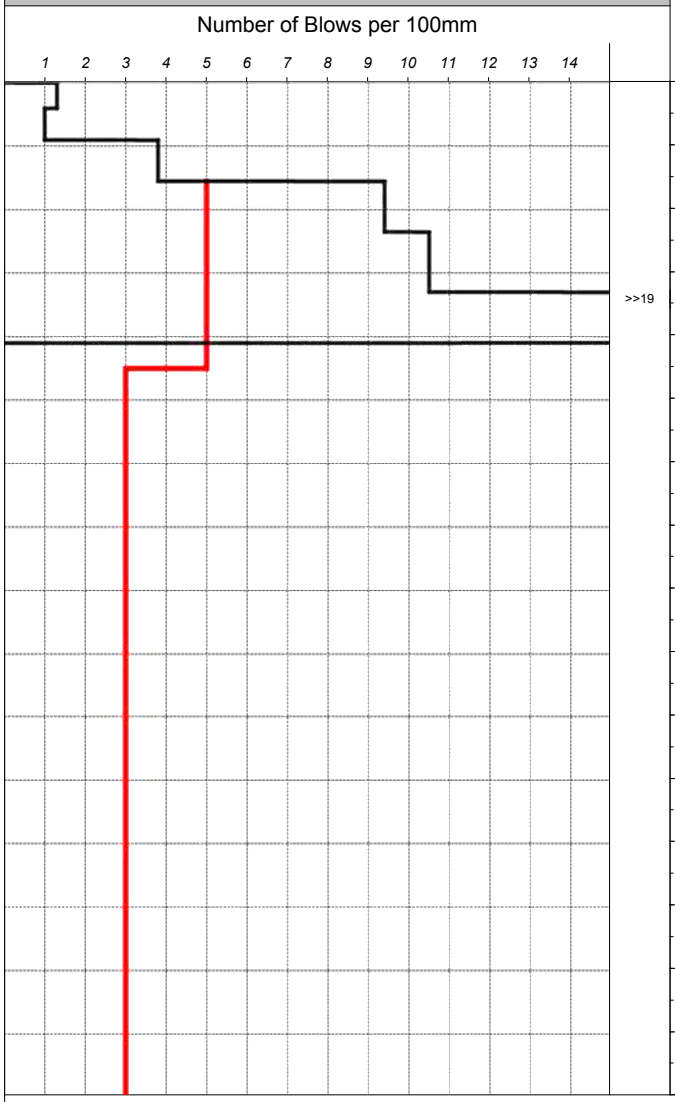
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **16 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



16
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 16

Depth (m)	Description
0.2	Silty TOPSOIL; dark brown. Stony.
0.4	Silty SAND & GRAVEL; light brown. Gravel, subangular and round.
0.6	EOH: 0.6m - Practical refusal on inferred gravels.

Water
Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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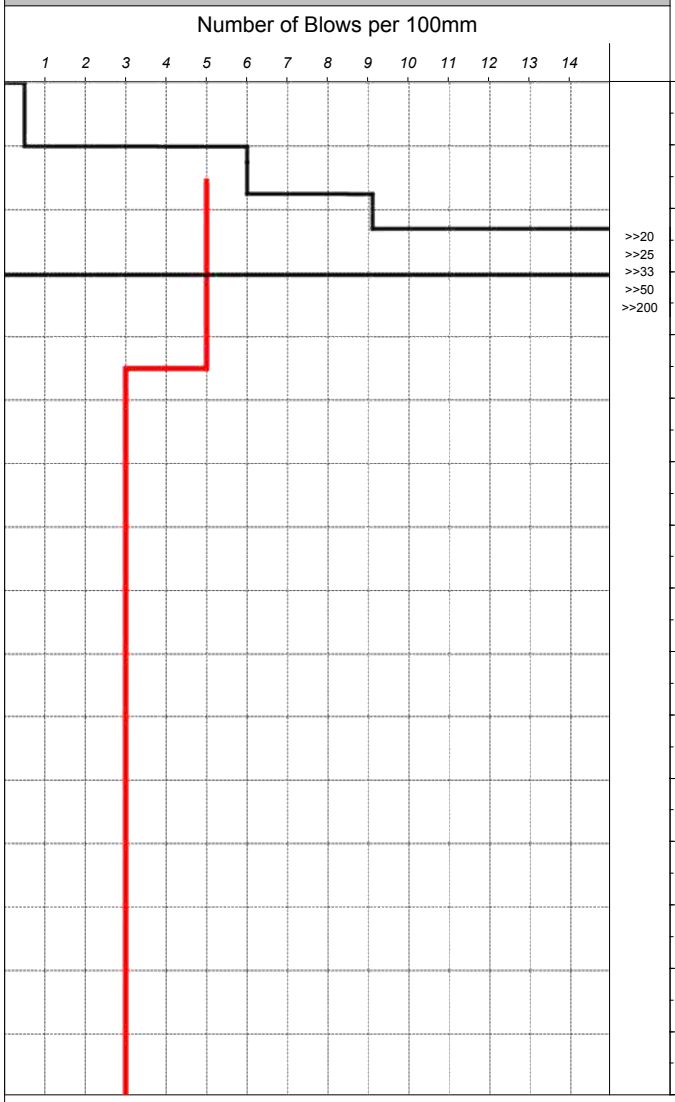
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **17 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



17
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 17

Depth (m)	
0.0 – 0.2	Silty gravelly TOPSOIL; dark brown. Non-plastic; moist; Pivot irrigator operating .
0.2 – 0.75	Silty fine to coarse GRAVEL; grey. Moist.
0.75	EOH: 0.75m - Practical refusal on inferred gravel.

Water
Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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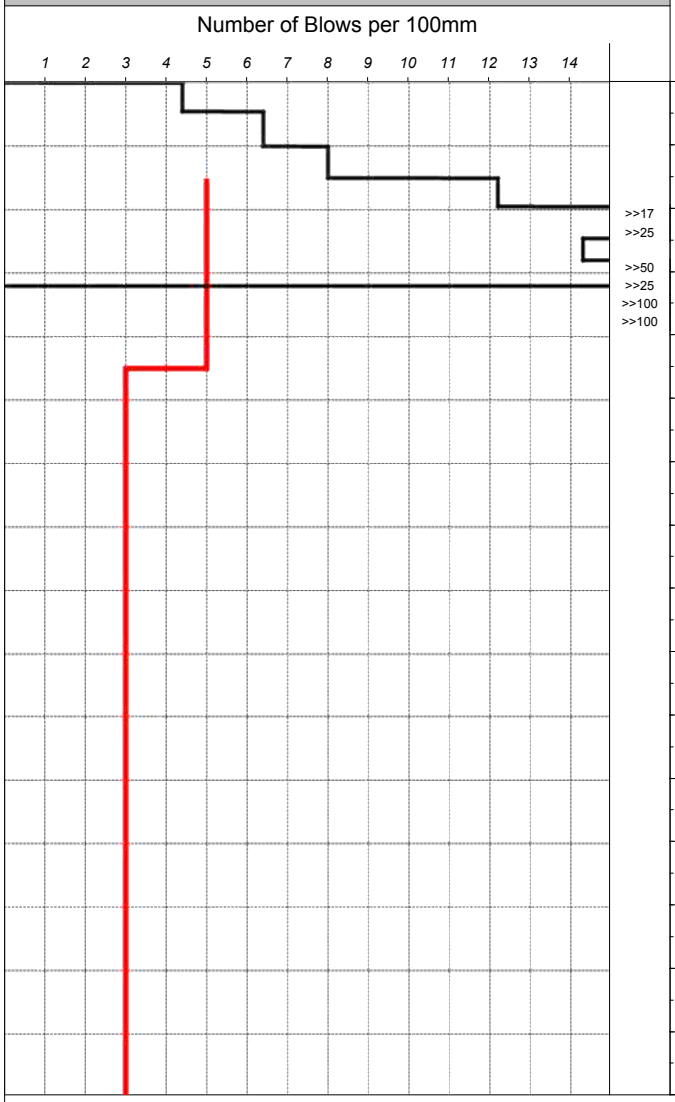
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **18 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



18
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 18

Depth (m)	Description
0.2	Silty TOPSOIL & fine to coarse GRAVEL; dark brown. Dry; gravel, subround to subangular.
0.4	Silty fine to coarse GRAVEL; greyish brown. Gravel, subround to subangular.
	EOH: 0.3m - Practical refusal on inferred gravel.

Water
Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

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Printed: 7/02/2020 8:52:21 AM

Eliot Sinclair
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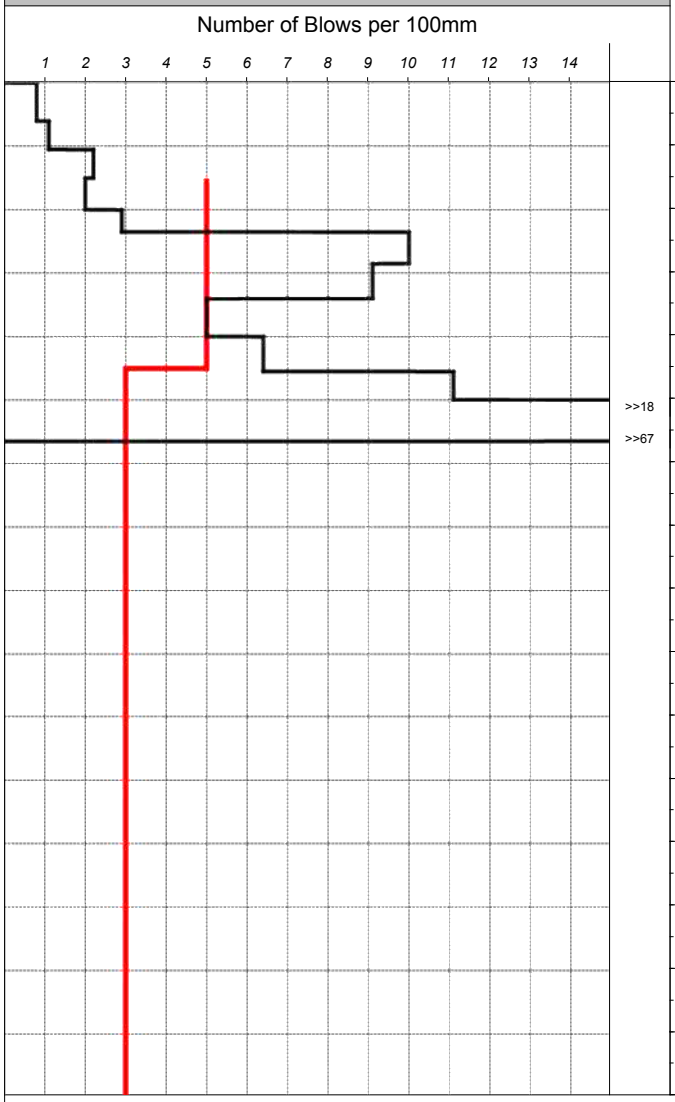
Job Number **500456**
Date Tested **28-Nov-2019**
Set Page No. **19 of 20**
Log Sheet No. **1 of 1**

SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS



19
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

SOIL PROFILE

Test Location 19

Depth (m)	Description
0.0	Silty TOPSOIL; dark brown. Moist; trace rootlets.
0.4	SILT; grey. Low plasticity; moist; iron staining.
0.6	Silty sandy fine to medium GRAVEL; greyish brown.
	EOH: 0.55m - Practical refusal on inferred gravel.

Water
Groundwater Not Encountered

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	*Prepared By:*	*Investigation Type*
JSF/SF	CAO	☑ Hand Auger
Job Manager:	*Approved By:*	☐ Spade Hole
BES	JTA	☐ Test Pit

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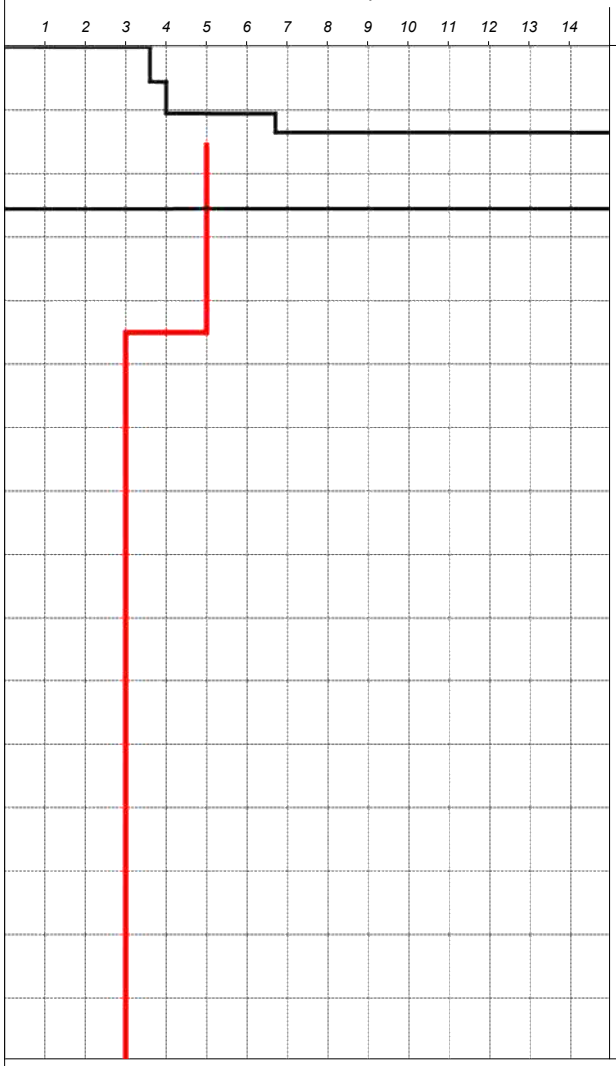
SITE INVESTIGATION RECORD

Lot **6**
D.P. **2038**

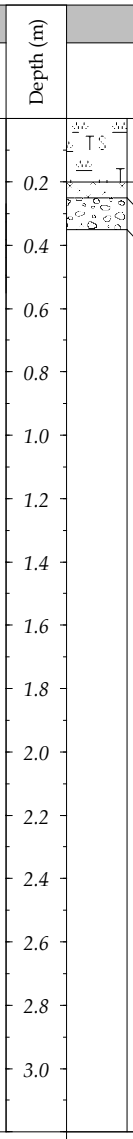
Client **Ohoka Farm Holdings Ltd**
Site **2 Ashworths Road**
Technical Category **N/A - Rural & Unmapped**

SCALA PENETROMETER TEST RESULTS

Number of Blows per 100mm



Depth (m)



SOIL PROFILE

Test Location 20

Silty TOPSOIL; dark brown. Dry.

SILT; grey. Dry; iron staining.

Silty fine to medium GRAVEL; brownish grey. Dry.

EOH: 0.35m - Practical refusal on inferred gravel.

Water

Groundwater Not Encountered

20
Minimum penetration resistance (based on 300mm wide footing founded at 300mm depth) required for 'Good Ground' as defined in the Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure.

COMMENTS

SITE PLAN (Not to Scale)

Field Staff:	Prepared By:	Investigation Type
JSF/SF	CAO	☑ Hand Auger
Job Manager:	Approved By:	☐ Spade Hole
BES	JTA	☐ Test Pit

Produced with CORE-GS

Printed: 7/02/2020 8:52:21 AM

APPENDIX 7

SERVICING REPORT

Services Report

eliot sinclair

Ohoka Farm, Ashworths Road

Prepared for Ohoka Farm Holdings Limited

502044

Services Report

Ohoka Farm, Ashworths Road

Prepared for Ohoka Farm Holdings Limited

502044

Quality Control Certificate

Eliot Sinclair & Partners Limited

eliotsinclair.co.nz

Action	Name	Signature	Date
Prepared by:	Cameron Mars 3 Waters Engineer BE(Hons) Environ CMEngNZ CPEng cameron.mars@eliotsinclair.co.nz		16 June 2021
Reviewed by:	Trudi Burney Resource Management Planner BSc MApplSc Environ Mgmt MNZPI trudi.burney@eliotsinclair.co.nz		05 July 2021
Directed and approved for release by:	Bruce Sinclair Surveyor | Principal BSc MS+SNZ RPSurv LCS bruce.sinclair@eliotsinclair.co.nz		
Status:	Draft		
Release date:	23 September 2021		
Reference no:	502044		
Distributed to:	Ohoka Farm Holdings Limited Waimakariri District Council		

Limitations

This report has been prepared for Ohoka Farm Holdings Limited according to their instructions and for the particular objectives described in this report. The information contained in this report should not be used by anyone else or for any other purposes.

Contents

1. Introduction

This Services Report has been prepared in support of a submission by Ohoka Farm Holdings Limited (Ohoka Farm) for the rezoning of a 72.65 ha area of land from rural to rural residential, located at 2 Ashworths Road, Ohoka.

This report addresses the servicing requirements for earthworks, roading, the existing water race, stormwater (including flood management), wastewater, water supply and utility services.

The following information is provided within the Appendices.

Appendix A: Engineering Drawings.

Appendix B: Correspondence.

2. Site Description

2.1. Location and Surrounds

The proposed Ohoka Farm submission area is located at 2 Ashworths Road. The Applicant proposes that a Stormwater Management Area (SMA) be located within Lot 8 DP 314202 (9 Aschens Road); however, the SMA would remain under the current rural zoning.

Table 1 provides submission area and SMA land area details.

Table 1: Street Address, Legal Description and Current Owner

Street address	2 Ashworths Rd, Ohoka	9 Aschens Road, Ohoka
Legal description	Lot 6 DP 2038	Lot 8 DP 314202
Parcel area	72.6537 ha	5.2935 ha
Owner	Ohoka Farm Holdings Ltd	Ohoka Farm Holdings Ltd

Figure 1, on the following page shows the proposed Ohoka Farm submission and SMA boundaries, and surrounding land areas.

Figure 1. Ohoka Farm Plan Change Boundaries and Surrounding Land Areas (Canterbury Maps, 2021)

The land area is currently grazed, cropped and irrigated. The surrounding land uses are described below:

- North: Rural production land and rural residential (lifestyle block, 25% produce);
- East: Rural production land and rural residential (lifestyle block, 25% produce);
- West: Rural residential (lifestyle block, 25% produce); and
- South: Residential (10% produce consumption).

2.2. Topography

The site is generally flat with an approximate grade 0.6% fall to the east/south east. The western boundary along Dawsons Road ranges in elevation from approximately RL 40.5 m in the north west corner to RL 39.5 m in the south west corner. The eastern boundary elevation ranges from RL 36.5 m in the north eastern corner to RL 35.0 m in the south eastern corner. There is an approximate 5 m elevation drop between the western and eastern boundaries.

Appendix A provides the proposed site which also shows the LiDAR contours.

2.3. Site soils and Geology

Canterbury Maps (2021) describes the soils over the western half of the site as a moderately drained gravelly silty loam. The majority of eastern half of the site is described as an imperfectly drained moderately deep silty loam over clay. The north eastern corner of the site is described as having a poorly drained deep clay.

Bore logs of various wells within the vicinity indicate that generally the soils to the east have a higher silt/clay content and lower permeability.

Figure 2 provides a map showing the soils characteristics demarcation zones (Canterbury Maps, 2021).

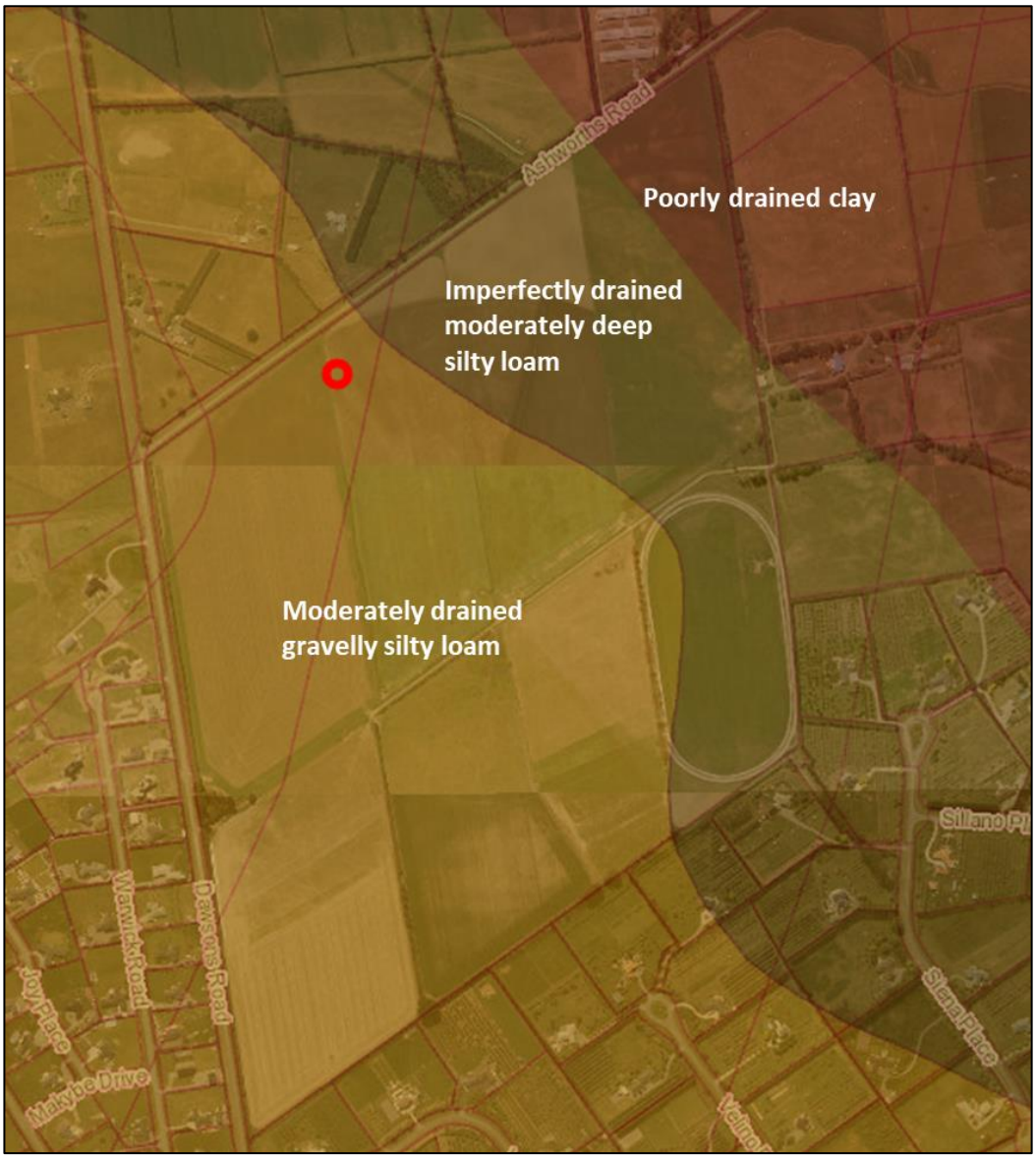


Figure 2. Soils Characteristics (Canterbury Maps, 2021)

Eliot Sinclair & Partners undertook shallow geotechnical testing comprising of 18 hand auger and Scala penetrometer across the site in November 2019.

The hand auger test holes generally encountered silty topsoil to 0.2 to 0.3 m below ground level (bgl) over in-situ silts and silty gravels to 0.3 to 0.6 m bgl where hand testing was terminated due to practical refusal on inferred gravels.

Scala penetrometer resistances below the topsoil layer were variable and indicated the in-situ silts (where present) have an index ultimate static bearing capacity of around q_u=100 kPa. Below the in-situ silts the Scala penetrometer resistances generally increased with depth into the inferred gravels, indicating an ultimate static bearing capacity of greater than 300 kPa. Hand auger testing was terminated at 0.35 m to 1.15 m bgl on inferred gravels.

2.4. Hydrogeology

2.4.1. Groundwater Depth

The site is located above the unconfined/semi-unconfined Aquifer zone and piezometric contours indicate the general groundwater flow is towards the east/south east direction (Canterbury Maps, 2021).

There are no community drinking water supply wells or drinking water protection zones that intersect the proposed development.

Well log data (Canterbury Maps, 2021) has been reviewed to gauge the potential groundwater depth and seasonal fluctuation. There is limited groundwater data within the development vicinity; however, based on the information available the seasonal groundwater fluctuation is likely to be around 5 m bgl during summer periods and close to the ground surface in winter (rainfall dependant).

Table 2 provides the bore log groundwater levels for wells located within the vicinity of the development.

Table 2: Groundwater Level Records (Canterbury Maps, 2021)

Well Number	Distance from Site Boundary	Lowest GW (m bgl)	Highest GW (m bgl)	Monitoring Period
M35/0596	1.72 km E/SE	1.90	0.64	2004 to 2019
BW23/0368	50 m W	5.90		Potentially a one-off reading
M35/0350	20 m S	7.0	0.04	1978 to 1986
M35/9630	250 m S	2.5		Potentially a one-off reading
M35/18781	100 m NW	4.15		Potentially a one-off reading
BW23/0550	150 m W	3.4		Potentially a one-off reading

2.4.2. Groundwater Resurgence

The Mandeville area is known to be subject to groundwater resurgence, which generally occurs in winter and during periods of prolonged rainfall upgradient of the site. This can result in rising groundwater levels and leaking shallow semi-confining layers and is likely to be associated with specific underground channels of high permeability.

The Statement of Evidence prepared by Robert Kerr as part of a submission on the Draft Rural Residential Strategy (2020), states:

> *"These conditions occurred in June 2014 after 12 months of rainfall that was nearly double the annual average. The storm event caused extensive flooding in both rural and urban areas of the Waimakariri District. The antecedent conditions of saturated ground, high groundwater levels and groundwater resurgence contributed to the extent and duration of ponding and drainage issues.*
>
> *The key issue identified for Mandeville were insufficient drain capacity for rural residential areas and groundwater resurgence. In response, I understand that works completed in Mandeville included drain and culvert capacity upgrades to convey the five year flow within the channel and at driveway culverts and the 10 year flow at road crossing culverts. These works will have improved the level of service in the area to meet the Council's Engineering Code of Practice.*
>
> *To manage the risk of resurgent groundwater, roads in the development should be formed with a continuous grade to avoid ponding areas, appropriately sized culverts installed, and roads set lower than the adjacent sections with a clear flow path along the roadside swale to convey groundwater to the land drainage network. These are normal design outcomes and required by the Council's Engineering Code of Practice."*

2.4.3. Springs

There is only one Spring within the site and it is not recorded on Canterbury Maps, rather has been visually observed onsite. The Spring location is shown in Figure 3.

2.5. Surface Waters

The proposed development has several water courses within or surrounding the site as described below and shown in Figure 3:

- Existing water race R3K03A, denoted by (1) in Figure 3, running centrally through the development area in a west to east direction to the midpoint within the site. The water race then flows to the south towards Siena Place. During a site inspection on the 22 October 2019 (dry conditions) the water race had flowing water. The Sienna Place stormwater network and water race discharge location have been inspected. The water race appeared to soak into the ground at the location shown by the end arrow of (1) and there was no flowing water within the downstream section of the water race running adjacent/parallel with Siena Place. It was difficult to define if the water race discharge mechanism was via soakage into the underlying insitu soils or whether potentially the water race was discharging into the underdrain metal course underlying the Siena Place swales. It was noted that while the swales were dry, there was an underlying flowing water within the underdrains (this may also have also been groundwater interception).
- A drainage ditch is denoted by (2) and starts centrally within the site. It may have once been connected to the water race however now appears to be redundant (may possibly drain stormwater runoff).
- A drainage ditch flowing in a north to south direction along the eastern boundary (within the development boundary) is denoted by (3). This drainage ditch has a spring (at the location shown in Figure 3). and has flowing water from the spring onwards; upstream of the spring there is water in the drain due to the backwater effects caused by the spring flow. This drainage ditch is not hydraulically connected to the drainage ditch denoted by (4) running down the length of Ashworths Road.
- Ohoka Stream is located centrally on the eastern boundary and is denoted by (5).

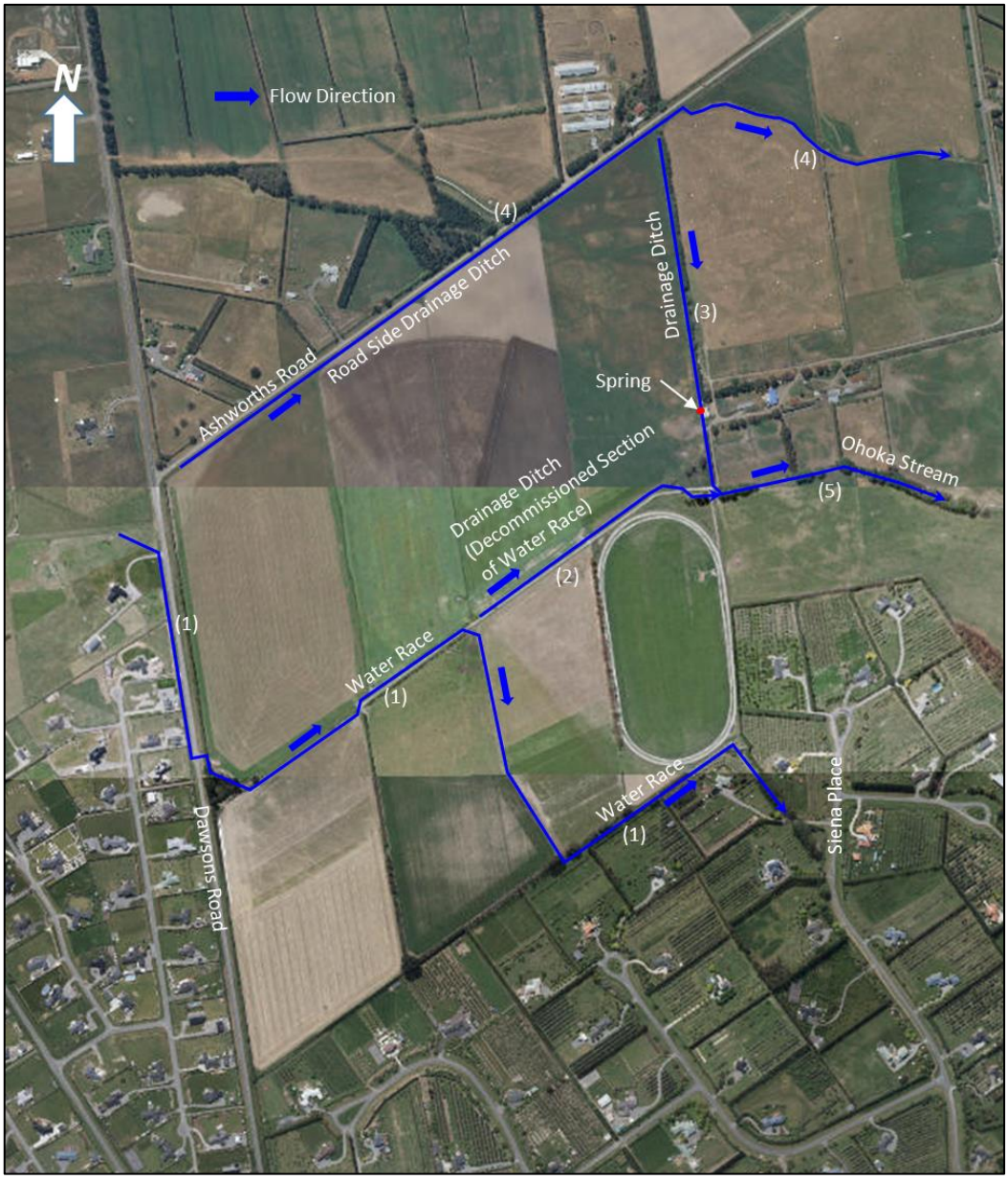


Figure 3. Location of Ohoka Farm Watercourses (Mapped on 22 October 2020)

3. Flood Management

3.1. Overview

WDC Flood Hazard Mapping indicates the site is not subject to inundation during the 200 year Ashley River Breakout but is subject to 200 year localised flood effects. During the 200 year localised flooding much of the site has a low flood hazard depth of 0.1 m to 0.25 m and isolated areas have a medium flood hazard depth of 0.25 m to 0.5 m above ground level (refer to Figure 4).

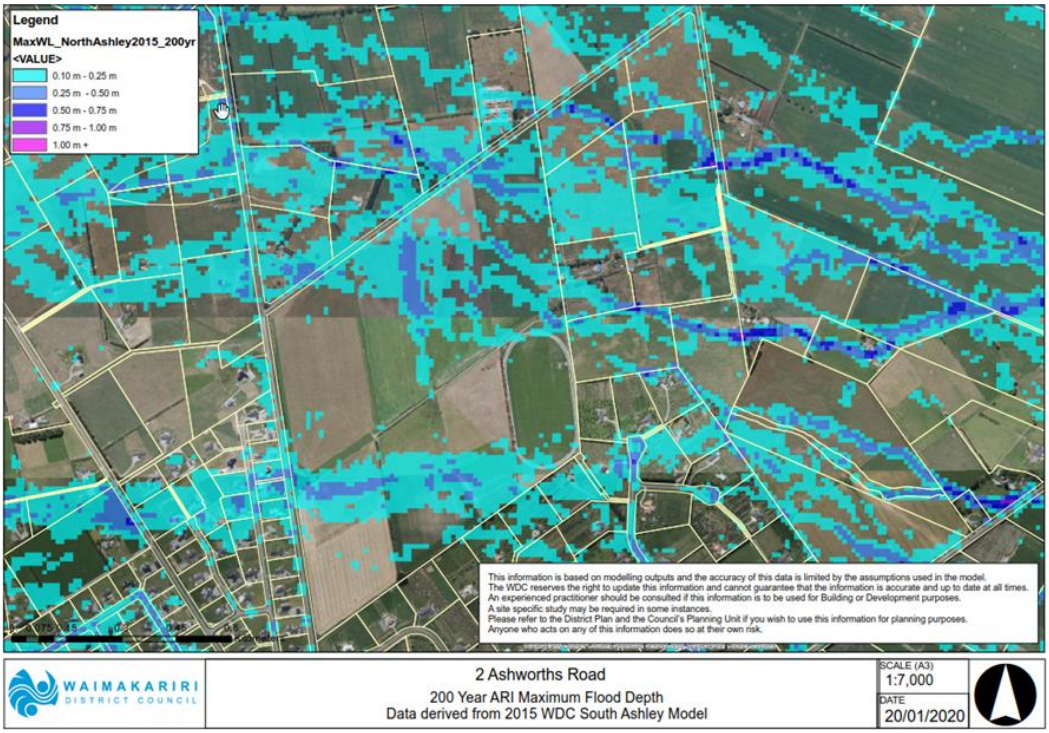


Figure 4. Waimakariri District Council Flood Hazard Map

3.2. Flood Mitigation

3.2.1. Finished Floor Levels

WDC, in correspondence on the 27 January 2020 (provided in **Appendix B**), stated that for a low hazard area where the flood depth varies between 100 mm and 300 mm, a finished floor level (FFL) of up to 600 mm above ground would be required. For the medium hazard areas where the flood depth varies approximately between 300 mm and 600 mm, a FFL of up to 900 mm above ground would be required.

To mitigate the flood hazard as shown by the WDC Flood Hazard Maps, all future buildings would need to be constructed with the minimum freeboard provided in Table 3.

Table 3: Flood Depth and Associated FFL Requirement

Flood Hazard Category	Approx. Flood Depth	Freeboard Required	FFL Required
Very Low (clear)	Up to 100 mm	300 mm	400 mm minimum above surrounding ground
Low (green)	100mm – 300 mm	400 mm	500 mm to 700 mm above surrounding ground
Medium (blue)	300mm – 600 mm	500 mm	800 mm to 1100 mm above surrounding ground

3.2.2. Effects of Development on Flooding

Due to the relatively small size of any future buildings compared to the size of each proposed allotment (a 300 m^2 dwelling makes up 6% of a 5,000 m^2 allotment) it is unlikely that any residential buildings will have a significant diversion effect on flood waters; rather the flow of water is expected to move around the dwelling foot prints but will continue to flow in the same direction is shown in Figure 3, rather than be diverted towards existing properties surrounding the site.

The internal development roading will be located to match the flood flow path entering the site from the west. Thereby flood waters will be channelled down the road and towards the SMA, thereby diverting the flood flow away from the neighbouring properties to the south.

3.2.3. Groundwater Resurgence

It is unlikely groundwater resurgence occurs currently within the site and there have been no known reports of spring flow occurring during prolonged winter rainfall periods (with the exception of the spring located along the western boundary). The higher density residential development is not expected to cause resurgence, beyond the current status quo or to result in adverse effects on existing surrounding properties.

The future engineering design would incorporate the following methodology to manage groundwater resurgence:

- All roads and swales will be formed with a continuous grade with a fall towards the SMA.
- The roads and swales will be lower than the surrounding lots to ensure any overland flow from the surrounding lots is discharged towards the roading infrastructure and conveyed to the SMA.
- Swales will have underdrainage which will discharge to the SMA and may help lower the groundwater table during prolonged rainfall periods.

It is considered that by utilising an appropriate engineering design, in accordance with the WDC Engineering Code of Practise, that groundwater resurgence, should this occur, can be captured within roading infrastructure and discharged towards the SMA as part of future subdivision.

4. Earthworks

Site earthworks will be restricted to the formation of carriageways, services installation and realignment of the existing water race.

The finished surface level of each building platform will be designed during the individual allotment building consent process (FFL also discussed in Section 3). Rules for minimum permitted ground clearances as set out in NZS 3604:2011 range from 150 mm to 225 mm depending on the cladding type and whether the slab is surrounded by soils or paving. It can be reasonably assumed that the surrounding material, for the most part, will be soils and the finished floor level will have a 225 mm clearance above the surrounding ground surface which will have been raised, if required, to achieve an acceptable height above the flood depth.

All bulk filling will be compacted in accordance with NZS 4431:1989 and all fill testing will be carried out by an independent laboratory.

Full earthworks design plans will be completed during the detailed design phase and provided to WDC for approval as part of the resource consent process.

5. Roading

The proposed development will connect to Dawsons Road and Ashworths Road via a new local roads and entrances. Internal roads and cul-de-sacs will provide access to allotments and back allotments within the subdivision. A local purpose (accessway) reserve will connect the local road to the corner of Ashworths Road and Dawsons Road.

Appendix A provides the proposed subdivision plan.

The proposed road reserve width will be 20 m wide and the carriageways will facilitate two-way traffic.

The full road design, road construction methodology and underlying metal depths will be confirmed during the subdivision and detailed design phase and construction testing will be carried out to determine the exact base course and sub-basecourse depths required.

The road and cul-de-sacs will be sealed predominantly with Asphaltic Concrete.

6. Water Race

As discussed in Section 2.5 there is an existing water race R3K-3A that runs through the development area. During a site inspection on the 22 October 2019 the water race had clear flowing water. The flow was not a result of onsite groundwater interception; rather was being fed from an upstream source. Figure 5 provides photographs of the water race taken during the inspection.

Figure 5. Ohoka Farm Water Race Photographs (22 October 2019)

WDC has stated in 2019 that they were going through the process of uplifting the designation of the irrigation race; however, if this were to occur it would still be considered a drain, and should it be filled in, will require an assessment to discuss any adverse effects.

Decommissioning of the water race within the development site would require the existing water source to be shut off or diverted at an upstream location.

The water race discharges to the south (refer to Figure 3); however, it is most likely that it originally discharged into the Ohoka Stream and at some point, has been realigned.

It is proposed that the water race not be decommissioned, rather realigned so that it discharges to the Ohoka Stream. The water race will be naturalised so that it forms a pleasant visual amenity with ecological value. The water race will be piped under the carriageways via a suitably sized culvert or if required a submerged pipe and bubble up sump network can be utilised. The existing culvert pipes conveying the irrigation water under the existing farm roads are a mix of DN150 uPVC and concrete pipes.

Figure 6 shows the proposed water race alignment and the section of existing water race that will be decommissioned.

WDC has stated that they would prefer the water race to discharge to the Ohoka Stream as this was its original alignment.

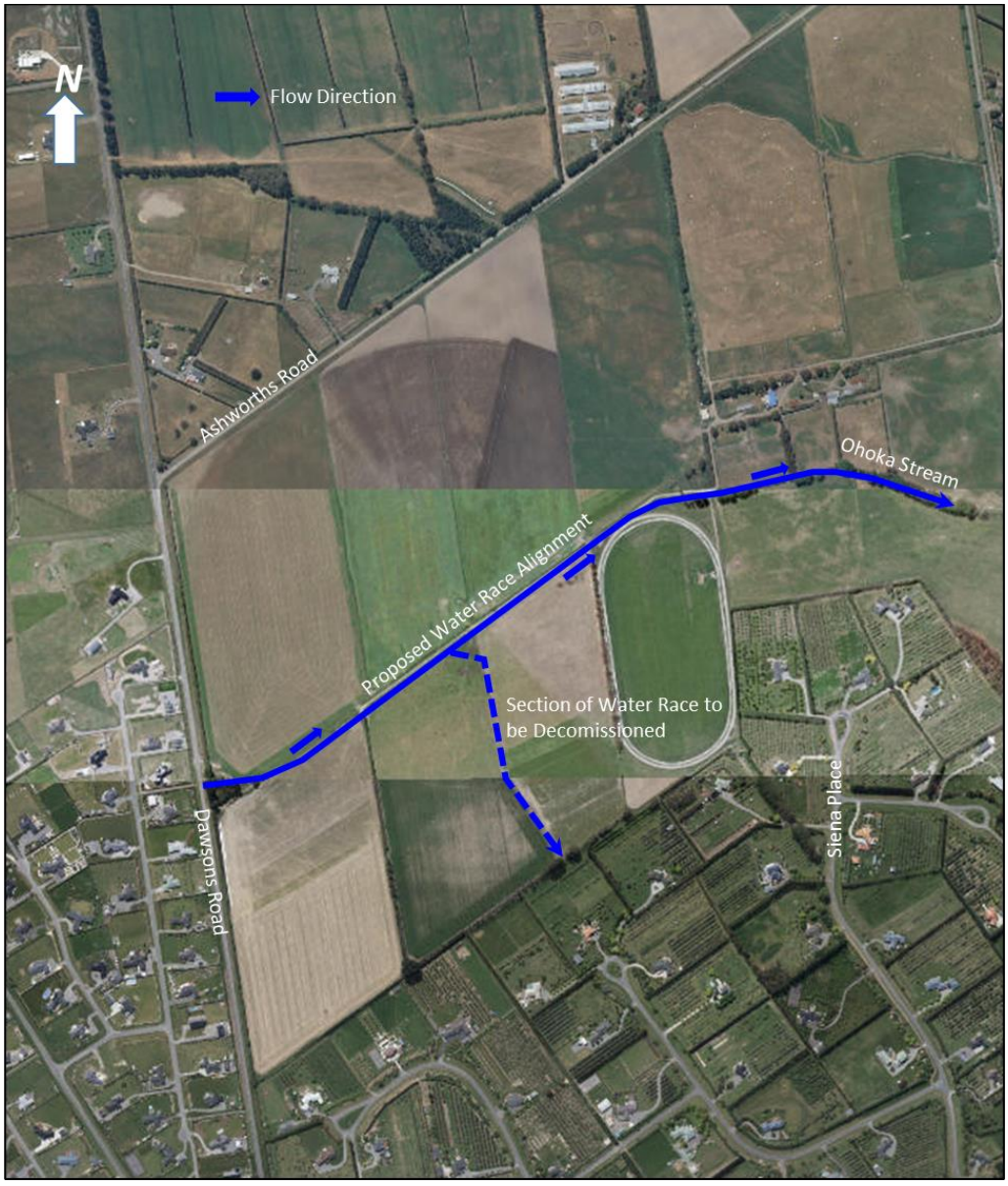


Figure 6. Existing Water Race Alignment

7. Wastewater

[THIS SECTION TO BE COMPLETED ONCE WDC HAVE CARRIED OUT WASTEWATER MODELLING]

7.1. Existing Network

The site lies outside, but adjacent to, the Mandeville Wastewater Scheme. The current network operates as a Septic Tank Effluent Pumping (STEP) system. Raw sewage is collected in private on-site septic tanks and is then conveyed to the Bradley's Road pump station and then to the Rangiora Wastewater Treatment Plant.

7.2. Proposed Network

WDC has carried out modelling of the wastewater network and has confirmed there is sufficient capacity to service the Ohoka Farm subdivision.

BECA provided four potential servicing options comprising of either STEP or Low Pressure Sewer (LPS), of which the Applicant considers LPS to be the preferred option.

7.3. Low Pressure Sewer

In an email dated 6 July 2020 WDC stated that the subdivision could discharge to the existing sewer main at the Dawsons Road and Wards Road intersection. Council also stated that boundary kits will need to be installed under the consent and EOne/Aquatec LPS systems will need to be consent noticed on each title. The LPS pump stations will be owned by the property owner.

Standard LPS systems generally comprise of the following:

- Each lot will be served by a LPS system comprising a pump and storage chamber supplied by either Aquatec or Ecoflow. The LPS system will be supplied complete with an IOTA One-Box Control Panel. The sewer pump is located within a tank chamber allowing for approximately 24 to 48 hours of wastewater storage.
- Ownership and control of the low pressure pump, chamber, boundary kit and One-Box Control Panel will be with the lot owner.
- The electricity supply for the system will be from the dwelling and metered to the dwelling serviced by the system. The property owner will be responsible for the power costs of operating the system.
- The property owner will ensure adherence with the operational requirements of the LPS system and if in breach of this obligation, the property owner must promptly at the property owner's expense properly and substantially repair and make good all injury or damage caused to the LPS system. If the property owner fails to promptly comply with this obligation, then the Council may perform the obligation and recover any costs incurred from the Property Owner.
- Each residential dwelling will be provided with a boundary valve box kit and lateral at the time of subdivision. The pump, chamber, power connection and all works on private land will be installed as part of the Building Consent and therefore will not be required as part of the 224c certification.

8. Stormwater

8.1. Allotment Stormwater Discharges

Stormwater runoff from within the residential allotments will be discharged onsite and not to the external road stormwater network (excluding potentially a small area of each driveway entrance that may slope towards an adjacent road).

The individual allotment impervious driveways and dwelling roof areas will be minor in comparison to the total 5,000 m^{2-} allotment sizes. Therefore, discharges from driveways and roof areas onto land within each allotment will not result in an increase of runoff flow or volume greater than the pre-development flows.

The allotment owners will need to engage a design engineer to configure a suitable stormwater discharge mechanism from roof areas. Potentially, roof discharges can be detained within a storage tank and then via a restricted outlet orifice, discharging to suitably sized soakage pit or irrigated onto land.

8.2. Roading Stormwater Discharges

8.2.1. Overview

The proposed roads will discharge stormwater directly into road side swales which will provide primary treatment and conveyance, prior to discharging to a SMA located within Lot 8 DP 314202. The SMA will provide treatment and attenuation and will mostly likely comprise of a combination of grassed dry basins and a wetland. The SMA configuration and treatment methodology would be confirmed during the detailed design phase when a full site investigation would be completed to determine the most effective stormwater treatment methodology, based on the site characteristics. The SMA will discharge treated stormwater to the Ohoka Stream via an engineered outfall.

The development site has a natural sloping topography towards the east and south east and the swales will be configured to match the existing site gradient.

8.2.2. Primary and Secondary Conveyance Network

The stormwater reticulation network will be designed in accordance with the WDC Engineering Code of Practice (CoP) and the primary conveyance network will comprise of swales or a combination of piped infrastructure and swales.

Preliminary investigations suggest the underlying soils are conducive for infiltration and therefore each swale could discharge into a soakage pit, however an allowance will need to be made for prolonged winter rainfall and a high groundwater when the soakage function may be compromised.

The swales (and potentially a combination of swales and pipes) will be sized with capacity to convey as a minimum the 20% Annual Exceedance Probability (AEP, or 1 in 5 return period) critical duration rainfall runoff, in accordance with Part 5 of the WDC CoP. However, depending on the carriageway layout and ability to convey secondary flow, potentially the swales will need to be designed to convey the 2% AEP (1 in 50 year return period) critical duration rainfall runoff.

The minimum stormwater pipe diameter within the carriageway will be DN225 as required by Part 5 of the WDC CoP.

8.2.3. Treatment and Attenuation

Swales generally provide primary treatment of stormwater runoff through the mechanisms of filtration, plant uptake and UV disinfection as it passes through the swale vegetated bed and banks. Potentially,

additional treatment will be provided via infiltration through the bed of the swale. The design treatment flow rate will be based on 10 mm/hr.

The SMA will be designed to provide treatment for the first 25 mm rainfall depth and will be designed in accordance with the WDC CoP or the Christchurch City Councils Waterways, Wetlands and Drainage Guide (WWDG).

Attenuation storage will be provided within the swales and the SMA to ensure the 2% AEP critical duration post development stormwater runoff from the roads does not exceed that of the pre development state. This will be achieved by means of a controlled outlet from the SMA discharging to the Ohoka Stream.

8.2.4. Maintenance and Easements

Access to the roadside swales will be via the carriageway for maintenance purposes. The SMA will have a track around the perimeter off sufficient width to allow for vehicle access.

9. Water Supply

9.1. Existing Network

There is no current potable water supply on the site, however, there are two consented irrigation wells. Aurecon (2019) in a preliminary site investigation report stated that the wells are approximately 12 m deep.

The site lies outside of, but adjacent to, the Mandeville/Fernside Water Supply Scheme. The WDC Engineering Code of Practise: Part 7, states this scheme is a restricted water supply with limited firefighting capacity. It supplies properties with 2,000 L/day.

There is a DN63 main on the west side of Dawsons Road, adjacent to the proposed development area and capacity confirmation from WDC will be required as to whether this existing water main has capacity to service the subdivision.

9.2. Proposed Network

There are two Options for the supply of water to the proposed subdivision, as follows:

- **Option 1 (preferred)**: The site is supplied water from the DN63 in Dawsons Road. Restricted rural water supplies include the installation of a Council owned and maintained restrictor at each point of supply that restricts flow to each customer. As stated by the WDC Engineering Code of Practise, the developer will supply the following:
  - Min of 2,000 L/day to each dwelling lot;
  - An approved restrictor at the roadside boundary of each lot that limits the flow at the point of supply and evenly distributes the flow over a 24 hour period;
  - 20,000 L of potable water storage on each lot;
  - Consideration will need to be given to firefighting supply and this may require a certain storage amount be available on site at any one time. The firefighting water supply demand and any storage requirement will be calculated during the detailed design phase and discussed with the fire service. Potentially a 30,000 L storage tank located within 90 m of each dwelling will be required with a firefighting reserve of 20,000 L maintained at all times.
- **Option 2**: Each allotment is supplied with both the potable and firefighting demand via a new community supply scheme (new well and treatment unit). There are a number of consented wells within the locality indicating that an onsite community water supply is feasible. Of note are the existing supply wells described below:

- Ohoka Utilities Limited holds Resource Consent CRC99020.3 which allows for the take of water from bore M35/0350 at a rate not exceeding 30 L/s with a volume not exceeding 2,592 m3/day. The water take is located just outside the south eastern corner of the Ohoka Farms property boundary.
- Ohoka Farms Limited has Resource Consent CRC182271 for the take of groundwater from wells M35/4238 and M35/4239, located centrally within the Ohoka Farm property. The consent allows for a take from well M35/4238 of 15 L/s and a volume of 12,960 m3 over any period of 12 consecutive days, and a take from well M35/4239 of 31 L/s and a volume of 26,784 m^3 over any period of 12 consecutive days

Option 1 is preferred as this negates the need for a new community supply scheme. However, should WDC modelling prohibit the supply be taken from the existing DN63 within Dawsons Road, existing well data indicates the water supply via a new community supply scheme is feasible.

10. Utility Services

10.1. Power & Telecommunications

Mainpower have provided confirmation that the electrical reticulation at 2 Ashworths Road has the capacity to supply the proposed subdivision. The Mainpower confirmation email and letter is provided in **Appendix B**.

Chorus has provided confirmation that they have infrastructure in the general vicinity and will be able to extend their network to provide connection availability. The Chorus confirmation email is provided in **Appendix B**.

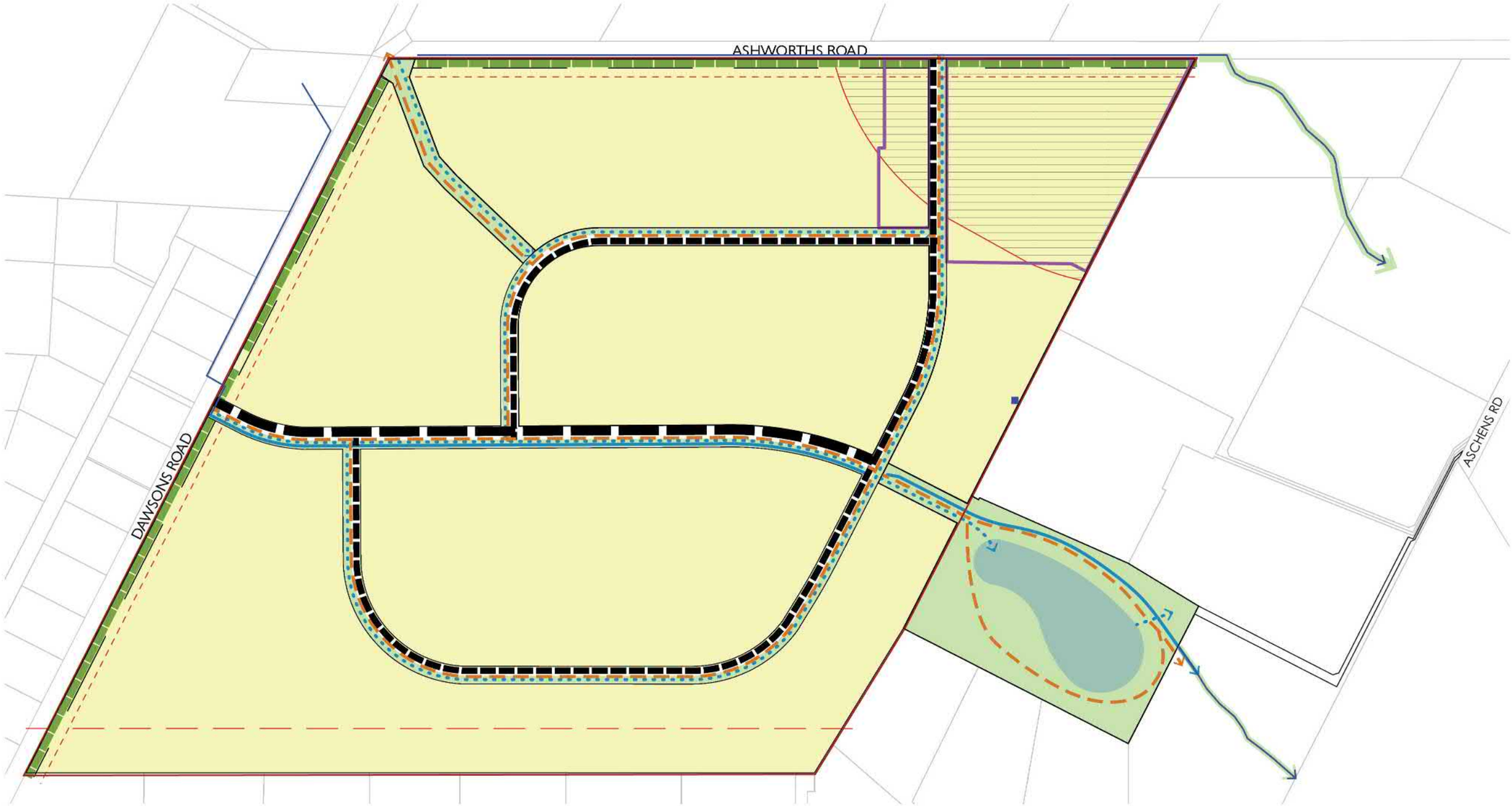
10.2. Street Lighting

All street lighting within the new road to be vested in Council will comply with the WDC Engineering Code of Practise, Part 11: *Lighting* and AS/NZS 1158 and the specified category unless alternative street lighting options are discussed with and approved by Council.

11. Conclusion

Re-zoning can be provided with necessary services and there are no servicing constraints to the rezoning.

Appendix A. Site with Lidar Contours



LEGEND

- Rural Residential application boundary
- 10m landscape buffer within individual lots
- Pedestrian and cycle connection
- Swale
- Water race (re-aligned)
- Drain outside of Site
- 20m road reserve with swales and footpath
- 25m road with swales, stream corridor and footpath
- Stormwater management area (SMA)
- Reserve
- Rural residential lot
- Larger rural residential lots due to intensive farming offset
- No build overlay from intensive farming offset (300m)
- 50m no build setback from boundary from adjoining San Dona development
- 20m no build setback from road boundary
- Abuttal parcels
- Spring

NOTES

Lot 6 DP 2038 CB 21K/781 72.6111 Ha

Lot 8 DP 31402 RT 56165 5.2887 Ha

Site area - 77.8998 Ha

N

ASHWORTHS RD DEVELOPMENT

INDICATIVE ODP | 502044

L1 | 1:5000 @ A3 | Revision A

15.06.2021

eliot sinclair

n - 1.00 m

n +

ASHWORTHS ROAD

DAWSONS ROAD

40,885 m2

40,127 m2

40,043 m2

40,545 m2

1,952 m2 ROW

2,309 m2 ROW

40,135 m2

40,616 m2

40,121 m2

40,090 m2

40,006 m2

43,581 m2

40,270 m2

40,125 m2

2,604 m2 ROW

40,090 m2

40,023 m2

40,002 m2

40,025 m2

40,090 m2

21,380 m2 Road

40,025 m2

40,104 m2

40,099 m2

0.3 0.45 0.6

Kilometers

This information is based on modelling outputs and the accuracy of this data is limited
The WDC reserves the right to update this information and cannot guarantee that the i
An experienced practitioner should be consulted if this information is to be used for Bu
A site specific study may be required in some instances.
Please refer to the District Plan and the Council's Planning Unit if you wish to use this i
Anyone who acts on any of this information does so at their own risk.

Appendix B. Correspondence

Cameron Mars

From: Chorus Property Developments <develop@chorus.co.nz>
Sent: Friday, 2 July 2021 12:07 p.m.
To: Cameron Mars
Subject: Chorus Simple Estimate | OHK65619 | OHK: 2 Ashworths Road, Ohoka. 126 Lots, Simple Estimate

[EXTERNAL EMAIL]

Hi Cameron,

Thank you for providing an indication of your development plans in this area. I can confirm that we have infrastructure in the general land area that you are proposing to develop. 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 involved would be a minimum of our current standard fee of $1600 per lot excluding GST. This 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 home owners) 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 when you are ready to proceed.

Thanks

Liz Bath

Property Development Coordinator
T 0800 782 386 (Option 1)

E develop@chorus.co.nz

PO Box 9405
Hamilton
www.chorus.co.nz

C H O R U S

Please consider the environment before printing this email

The content of this email (including any attachments) is intended for the addressee only, is confidential and may be legally privileged. If you've received this email in error, you shouldn't read it - please contact me immediately, destroy it, and do not copy or use any of the content of this email . No confidentiality or privilege is waived or lost by any mis-transmission or error. This communication does not designate an information system for the purposes of Part 4 of the Contract and Commercial Law Act 2017. Although we have taken reasonable precautions to ensure no viruses are present in this email, we cannot accept responsibility for any loss or damage arising from the use of this email or its attachments.

MainPower New Zealand Limited
172 Fernside Road, PO Box 346,
Rangiora 7440, New Zealand
T. +64 3 311 8300 F. +64 3 311 8301

Network Reference: MACK 00016207

31/01/2020

Cameron Mars
Eliot Sinclair

Dear **Cameron**

Re. Power Connection for Proposed Subdivision of Lot 6 DP2038, 2 Ashworths Road Ohoka

MainPower confirms that the electrical reticulation at **2 Ashworths Road Ohoka**, has the capacity to supply the proposed subdivision.

Please note that this letter is to advise that the MainPower NZ ltd Network has the Capacity for the proposed subdivision.
This does not mean that there is an electrical supply to the boundary of the proposed lots.

Please do not hesitate to contact me on 03 311 8311 if you have any questions.

Yours faithfully

Matthew Bate
Network Services Representative

Cameron Mars

From: Matthew Bate <Matthew.Bate@mainpower.co.nz>
Sent: Friday, 18 June 2021 7:39 a.m.
To: Cameron Mars
Subject: RE: [#502044] Capacity letter 2 Ashworths Road.

[EXTERNAL EMAIL]

Hi Cameron,

The capacity letter is still valid.

Kind regards
Matthew

MATTHEW BATE
Network Services Representative
MainPower New Zealand Limited

P. +64 3 311 8311
E. nsr@mainpower.co.nz
Courier 172 Fernside Road, RD1, Kaiapoi 7691
Postal PO Box 346, Rangiora 7440
www.mainpower.co.nz

From: Cameron Mars <cameron.mars@eliotsinclair.co.nz>
Sent: Thursday, 17 June 2021 2:35 p.m.
To: Matthew Bate <Matthew.Bate@mainpower.co.nz>; NSR <NSR@mainpower.co.nz>
Subject: RE: [#502044] Capacity letter 2 Ashworths Road.

Hi Mathew

Back in 2020 we received the correspondence attached providing confirmation of supply for a proposed 93 ha rural development which was going to have 18 lots, located at 2 Ashworths Road. We are currently going through the process of applying for a plan change which would see the area change from rural to rural residential. If this was to happen the number of lots would increase to around 126.

Would Mainpower be able to confirm the infrastructure in place has capacity to service the increase in lot numbers?

Thanks

Cameron Mars
3 WATERS ENGINEER
BE(Hons) Environ CMEngNZ IntPE(NZ) CPEng

+64 3 379 4014 Christchurch | Rangiora
+64 27 208 2307 Queenstown | Hokitika | Nelson

eliotsinclair.co.nz

From: Matthew Bate <Matthew.Bate@mainpower.co.nz>
Sent: Friday, 31 January 2020 11:33 a.m.
To: Cameron Mars <cameron.mars@eliotsinclair.co.nz>
Subject: Capacity letter 2 Ashworths Road.

MATTHEW BATE
Network Services Representative
MainPower New Zealand Limited

NSR. +64 3 311 8311
DDI. +64 3 311 8362
E. NSR@mainpower.co.nz
F. +64 3 311 8301
Courier 172 Fernside Road, RD 1, Kaiapoi 7691
Postal PO Box 346, Rangiora 7440
www.mainpower.co.nz

Cameron Mars

From: Chris Bacon <chris.bacon@wmk.govt.nz>
Sent: Monday, 27 January 2020 4:05 p.m.
To: Christopher O'Connell
Cc: Claire McKeever; Subdivision Eng
Subject: RE: [#500456] 2 Ashworths Road, Ohoka

Hi Christopher

Our current advice has changed a little from that previous meeting Claire had with WDC.

The old advice was simply 300mm freeboard above the 200 year flood level with a minimum 400mm above ground. So for a Very Low Hazard area (clear) it was simply 400mm above ground. For a green Low Hazard area where the flood depth varies between 100mm and 300mm you could require a FFL up to 600mm above ground. For the blue Medium Hazard areas where flood depth varies approximately between 300mm and 600mm you end up with a FFL up to 900mm above ground. So the advice Claire was given was a conservative assessment based simply on the worst case scenario for each flood hazard category. It is likely that in most cases the modelled flood depth will be lower than the maximum and the required FFL will be lower accordingly.

However the current advice is now for a variable freeboard depending on the hazard category according to the following table:

Flood Hazard Category	Approx Flood Depth*	New Freeboard Required	FFL Required
Very Low (clear)	Up to 100mm	300mm	400mm minimum above surrounding ground
Low (green)	100mm – 300mm	400mm	500mm to 700mm above surrounding ground
Medium (blue)	300mm – 600mm	500mm	800mm to 1100mm above surrounding ground

*Flood hazard is the relationship between flood depth and velocity, the flood depth range given above is approximate

It is still the case that we recommend avoiding development in Medium Hazard (blue) areas.

It’s important to note that the required FFL is set off the actual modelled flood depth (plus freeboard), the flood hazard category simply defines the freeboard used.

I trust that helps clarify things.

Cheers

Chris Bacon | **Network Planning Team Leader**
Project Delivery Unit
Phone: 0800 965 468 (0800 WMK GOV)
Mobile: 021 480 925

WAIMAKARIRI DISTRICT COUNCIL

waimakariri.govt.nz

From: Christopher O'Connell <chris.oconnell@eliotsinclair.co.nz>
Sent: Monday, 27 January 2020 3:22 PM
To: Chris Bacon <chris.bacon@wmk.govt.nz>
Cc: Claire McKeever <camk@eliotsinclair.co.nz>
Subject: RE: [#500456] 2 Ashworths Road, Ohoka

Hi Chris

I have been discussing Finished Floor Levels with Claire McKeever for a proposed subdivision at 2 Ashworths Road and she has notes from a meeting with WDC with the following;

- Blue hazard = 900mm above ground level → ie avoid this area
- Green hazard = 600mm above ground level
- Clear = 400mm above ground level

Are you able to confirm if this is the case and is what the Waimak Council recommends?

Many thanks

Christopher O'Connell BE(Hons) Civil MEngNZ
Geotechnical Engineer
Eliot Sinclair
surveying | engineering | planning | landscape architecture | urban design

Phone +64 3 379 4014 | Mobile +64 27 562 5623 | 20 Troup Drive, Tower Junction | PO Box 9339, Christchurch 8149 | www.eliotsinclair.com

From: Chris Bacon <chris.bacon@wmk.govt.nz>
Sent: Monday, 20 January 2020 9:26 a.m.
To: Christopher O'Connell <chris.oconnell@eliotsinclair.co.nz>
Subject: RE: [#500456] 2 Ashworths Road, Ohoka

Hi Christopher

Happy new year to you too.

Yep that's no problem, I've attached the latest 200 year flood depth and hazard maps for the property.

Let me know if you have any questions.

Cheers

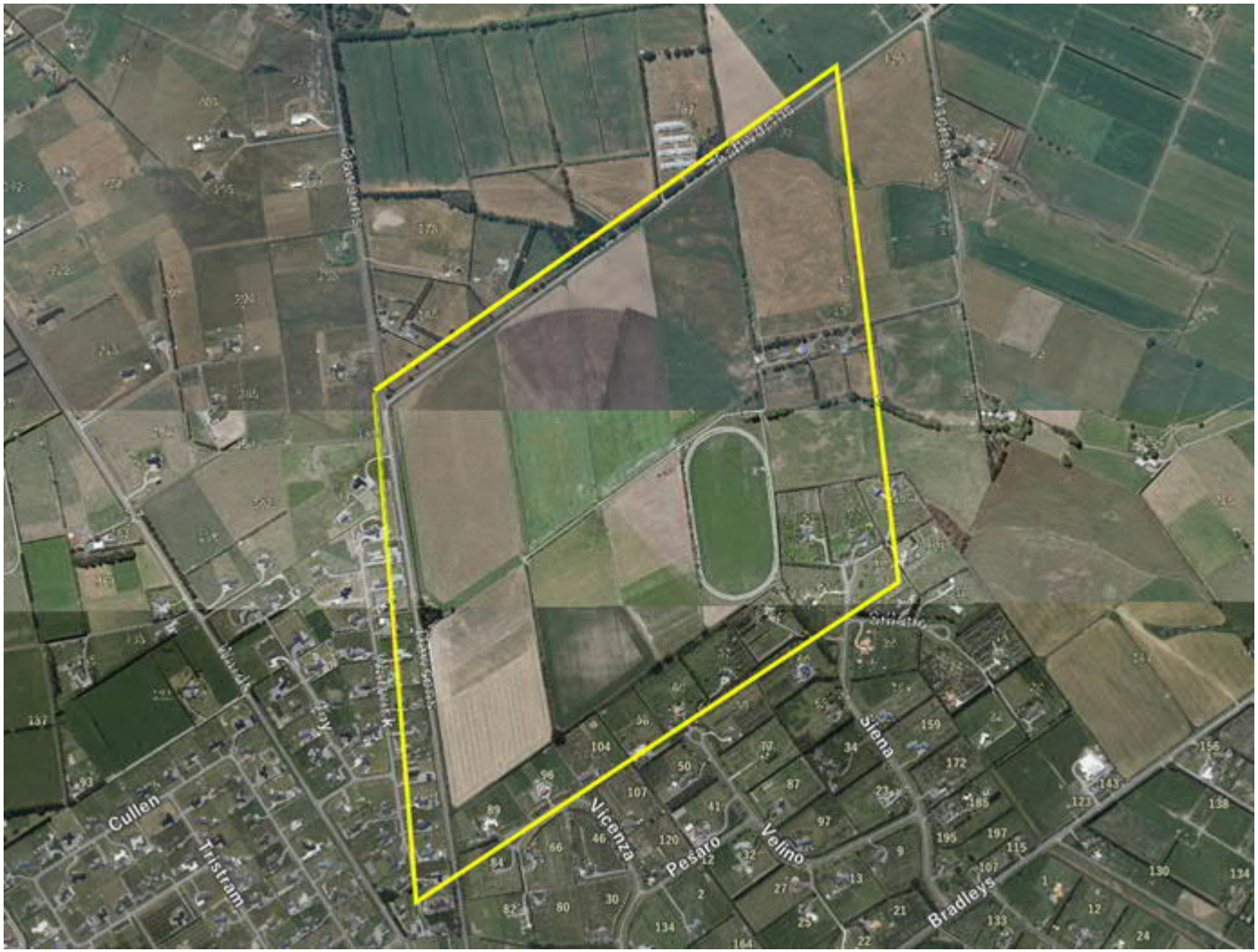
Chris Bacon | **Network Planning Team Leader**
Project Delivery Unit
Phone: 0800 965 468 (0800 WMK GOV)
Mobile: 021 480 925

From: Christopher O'Connell <chris.oconnell@eliotsinclair.co.nz>
Sent: Friday, 17 January 2020 1:39 PM
To: Chris Bacon <chris.bacon@wmk.govt.nz>
Subject: [#500456] 2 Ashworths Road, Ohoka

Hi Chris

Happy new year and I hope you had an enjoyable holiday break.

Would you be able to provide us with the flood hazard maps for the land at 2 Ashworths Road, Ohoka? It is quite a decent portion of land as attached below.



Many thanks

Christopher O'Connell BE(Hons) Civil MEngNZ
Geotechnical Engineer

Eliot Sinclair

surveying | engineering | planning | landscape architecture | urban design

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APPENDIX 8

ASSESSMENT OF RURAL-RESIDENTIAL LAND

22 November 2021

To Who it May Concern,

Submission to the Waimarkairi District Council – Proposed review of Waimarkariri District Plan

Submission by M and M Prosser – 2 Ashworths Road, Mandeville

Introduction

Mark Pringle, Bayleys Real Estate - I have been involved in the Real Estate industry since 1988 and have been based in Rangiora since 1991, having completed over $800 million in sales to date, with Bayleys Real Estate.

Over this period, I have been extensively involved in the sales in the Waimakariri District and in particular the sale of lifestyle properties in the Mandeville area.

I write this letter in support of Mark and Melissa Prosser's application to re-zone part of their property in Mandeville. I note this is approximately 73 hectares, which currently has a subdivision approval to split into 4 hectare lots.

Mandeville continues to be a highly sought-after location for lifestyle buyers in the Waimakariri District, and reflects the changing demographic of the area which has caused a large population drift to this location. This has resulted in the introduction of the retail and service precinct in Mandeville which has been very well supported since its establishment.

I believe a residential development as proposed would benefit the local businesses immensely, input further investment into the local community and overall be a positive for the area.

Another reason why I support the proposed development is due to the rapidly increasing prices of available land and existing dwellings. Over the past 12 months prices have become less unaffordable for the average family, due to a lack of supply of bare land and established properties which is having an inflationary effect on all real estate values in the area. The creation of new residential bare land lots would level these prices out and create options for new purchasers.

Over the past 6 months we have also seen a significant change in the origin of where our buyers are coming from, with a significant percentage moving to the area from outside Canterbury, especially the North Island.

Presently there is only one smaller rural/residential lot currently for sale in Ohoka and no supply of residential sections in the Mandeville area. This has resulted in significant price increases for smaller residential lots that have been sold in the past 12 months, with no sales having been completed for over 6 months.

Whalan and Partners Limited, Licensed under the REA Act 2008, Bayleys Canterbury
251 High Street, Rangiora, 7400 New Zealand T 03 311 8020 | E rangiora@bayleys.co.nz
markpringle.bayleys.co.nz

Whilst some lifestyle buyers require 4 hectares, a substantial amount do not, and would prefer a large lot residential (LLR) size allotment similar to the 'Millfield', Braeburn and Mandeville Village Estates developments.

In summary, there is an extreme shortage of (LLR) large lot residential lots in the Mandeville District, with substantial demand present. I believe that by re-zoning the subject property to residential, it will result in the better utilisation of land available, help to support local businesses and prevent underutilisation of larger 4 hectare lots. It will also better utilise the existing amenities and service in the area and cater for the high demand.

Yours faithfully,

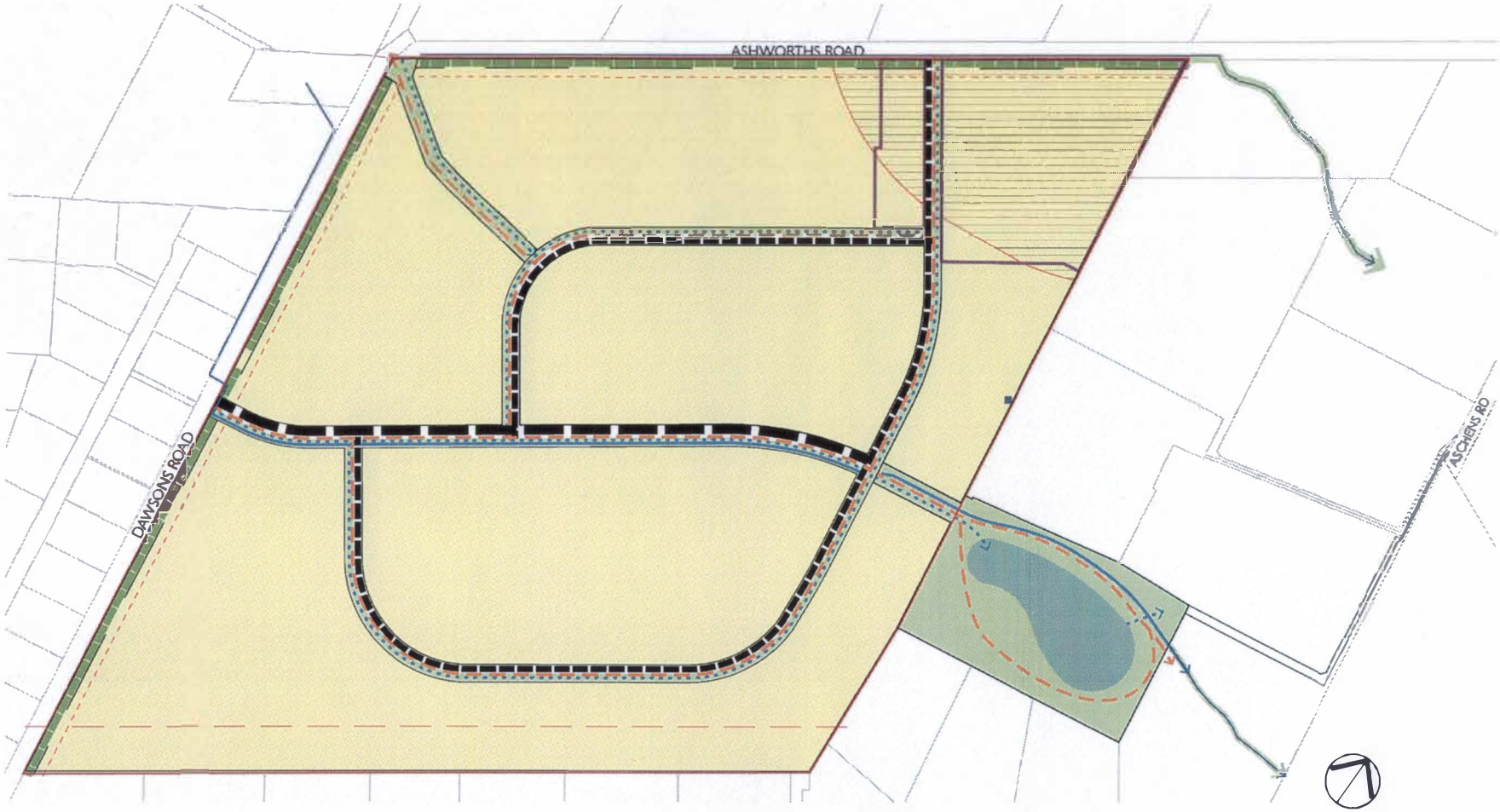
Mark Pringle

Residential & Lifestyle Sales
Dip Ag, Dip FM, Post Grad Dip Commerce (Valuation)
$800 Million+ in Sales | No. 1 Salesperson Rangiora Office | Top 20 Bayleys Nationwide 2021

DDI +64 3 311 8607 | M +64 27 433 3334 | E mark.pringle@bayleys.co.nz
Bayleys Rangiora, 251 High Street, Rangiora, North Canterbury, New Zealand

APPENDIX 9

OUTLINE DEVELOPMENT PLAN



LEGEND

- Rural Residential application boundary
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ASHWORTHS RD DEVELOPMENT

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L1 | 1:5000 @ A3 | Revision A

15.06.2021

eliot sinclair