

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: _____

Email address: _____

Phone (Mobile): _____ Phone (Landline): _____

Postal Address: _____ Post Code: _____

Physical address: _____ Post Code: _____
(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.

Submission details

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

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)*

I/we have included: _____ additional pages

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

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 _____

(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:

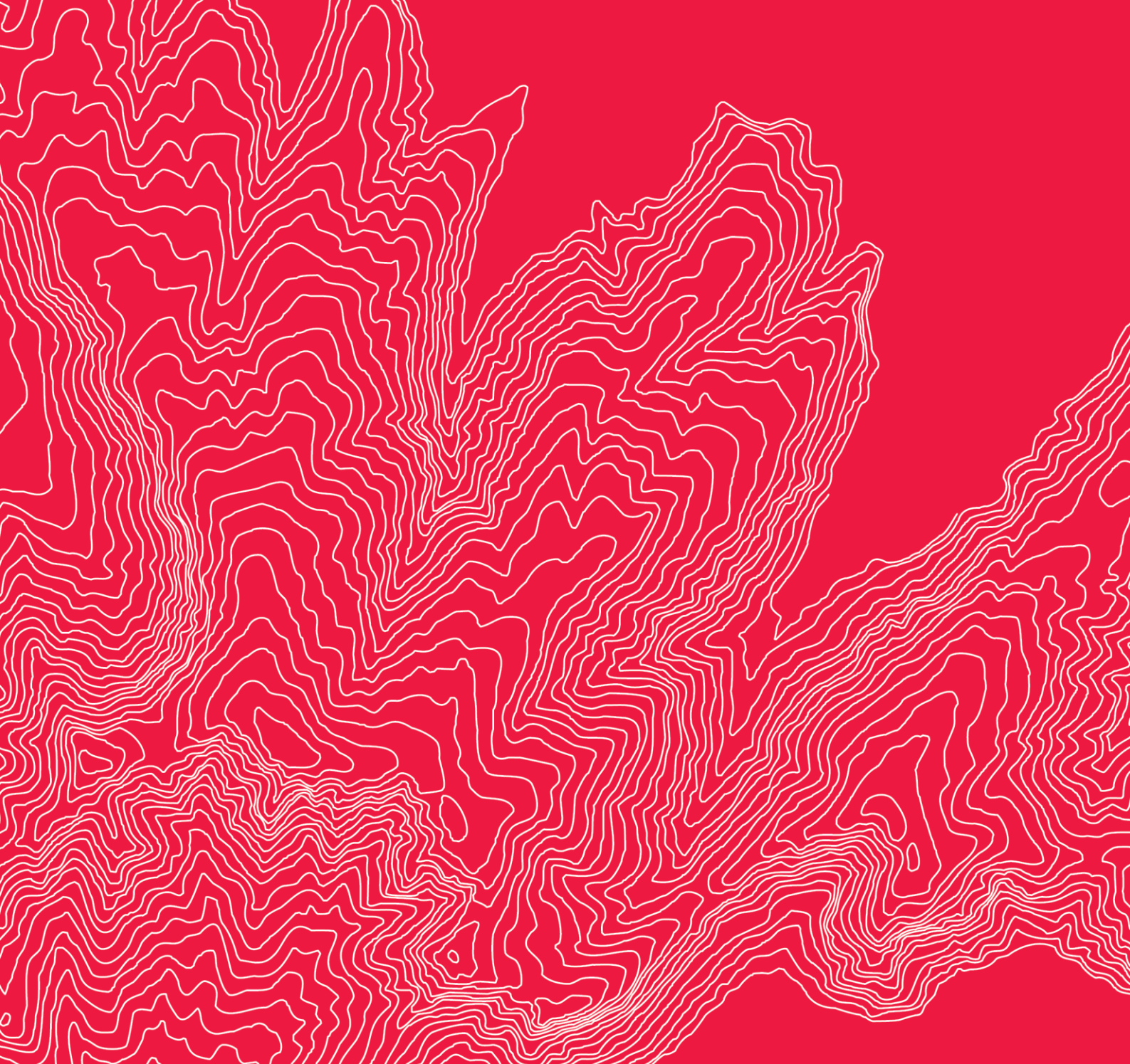
Rangiora Service Centre: 215 High Street, Rangiora

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



Submission on Proposed Waimakariri District Plan

163, 191, 199 & 203 Johns Road, Rangiora

**Section 32AA Further Assessment for Residential
Rezoning**

**eliot
sinclair**

500189

Submission on Proposed Waimakariri District Plan

163, 191, 199 & 203 Johns Road, Rangiora

Section 32AA Further Assessment for Residential Rezoning

Project number: 500189

Quality Control Certificate

Eliot Sinclair & Partners Limited

eliotsinclair.co.nz

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Prepared by:	Kieran Stuart Surveyor BSurv MS+SNZ (Assoc) LCS		26 November 2021
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Status:	Final		
Release date:	26 November 2021		
Reference no:	500189		
Distributed to:	Waimakariri District Council 199 Johns Rd Ltd Carolina Homes Ltd Carolina Rental Homes Ltd Allan Downs Ltd		

Submission to Proposed Waimakariri District Plan.

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The Submitters are making a submission on the proposed Waimakariri District Plan. The submission is to rezone the site at 163, 191, 199 & 203 Johns Road, Rangiora from proposed Rural Lifestyle Zone (RLZ) to proposed General Residential Zone (GRZ) and Medium Residential Density Zone (MRZ).

The Submitters will not gain an advantage in trade competition through this submission.

The Submitters wishes to be heard in support of this submission and would agree to consider presenting a joint case with other submitters who make a similar submission.

The relief sought is to rezone the site at 163, 191, 199 & 203 Johns Road, Rangiora to proposed General Residential Zone and Medium Residential Density Zone.



Signature of person authorised to sign on
behalf of the Submitter(s).

26 November 2021

Date

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Appendix G. Assessment of the NPS-UD 2020
Appendix H. Proposed West Rangiora and South West Rangiora Development Area Integration Plan
Appendix I. Proposed South West Rangiora Development Area Provisions

1. Introduction

1. The Submitters are making a joint submission to the proposed Waimakariri District Plan to rezone their sites at 163, 191, 199 & 203 Johns Road, Rangiora from proposed Rural Lifestyle Zone (RLZ) to proposed General Residential Zone (GRZ) and Medium Density Residential Zone (MRZ).
2. The submission is made on the grounds that Rangiora has a current shortfall of residential zoned land suitable for residential development. There is significant housing demand and a lack of residential zoned land available to be developed to supply the housing market. Rezoning the site within the Proposed District Plan is considered to be the quickest approach to allow residential development to be available in the short term.
3. The Submitters support the proposed West Rangiora Future Development Area Overlay and subsequent certification process in the Proposed Waimakariri District Plan (pWDP) but consider this will only further delay residential development for their site. This submission aims to provide sufficient information to allow Council to consider the site for rezoning and address other provisions of the pWDP. The proposed GRZ (500m² allotments) and MRZ Medium Density Residential Zone (200m² allotments) would feasibly achieve 200+ sections and future dwellings. However, it is proposed the site be separated into a new fully zoned South West Rangiora Development Area on the basis that it can be integrated with the West Rangiora Outline Development Plan which would retain the certification development process. This will enable both the GRZ and MRZ zones to apply to the site when the plan becomes operative.
4. The submission for the pWDP has been assessed against the relevant higher level planning documents such as the RMA, National Policy Statements, National Environmental Standards, the Canterbury Regional Policy Statement, and the Proposed Waimakariri District Plan.
5. The provisions of the pWDP have also been assessed as part of this submission.
6. The following appendices are attached in support of, and form part of, the full submission:
 - Appendix A: Proposed South West Rangiora Outline Development Plan
 - Appendix B: Record of Titles
 - Appendix C: Infrastructure Servicing Report
 - Appendix D: Risk of Natural Hazards & Soil Contamination at 163-203 Johns Rd, Rangiora
 - Appendix E: Assessment of Canterbury Regional Policy Statement 2013
 - Appendix F: Assessment of Proposed Waimakariri District Plan
 - Appendix G: Assessment of National Policy Statement on Urban Development 2020
 - Appendix H: Proposed West Rangiora and South West Rangiora Development Integration Plan
 - Appendix I: Proposed South West Rangiora Development Area Provisions

2. Site Description

7. The submission site (area to be rezoned) is located at 163, 191, 199 & 203 Johns Road and is legally described as Lots 1-4 DP 333694. The site has a total site area of 19.8305 hectares and is currently zoned as Rural under the Operative Waimakariri District Plan.
8. The site currently consists of four smaller rural blocks with dwellings on each allotment that are serviced by individual private wells and septic tanks. Historically the site was pastoral farmland. The site generally slopes from north to south and is bounded by Johns Road to the north. The land to the west is zoned Rural, while the land to the south and east is zoned Residential 2 and includes the new Te Matauru primary school (MOE D092).
9. The adjoining Residential 2 zone is currently known as Townsend Fields Development. New roads Angus Place, Lusk Place, McCahon Drive and Goldie Drive will provide additional access to this site once Townsend Fields development is completed.
10. There are no registered interests on the titles that would impede the development of the site. However, the parcels are owned by four different entities. The owners or directors of these companies have shared interests in rezoning the land.

Address	Legal Description	Record of Title	Area	Owner
163 Johns Rd	Lot 4 DP 333694	138043	6.5875 Ha	Carolina Homes Ltd
191 Johns Rd	Lot 1 DP 333694	138040	4.185 Ha	Allan Downs Ltd
199 Johns Rd	Lot 2 DP 333694	138041	4.532 Ha	199 Johns Road Ltd
203 Johns Rd	Lot 3 DP 333694	138042	4.526 Ha	Carolina Rental Homes Ltd

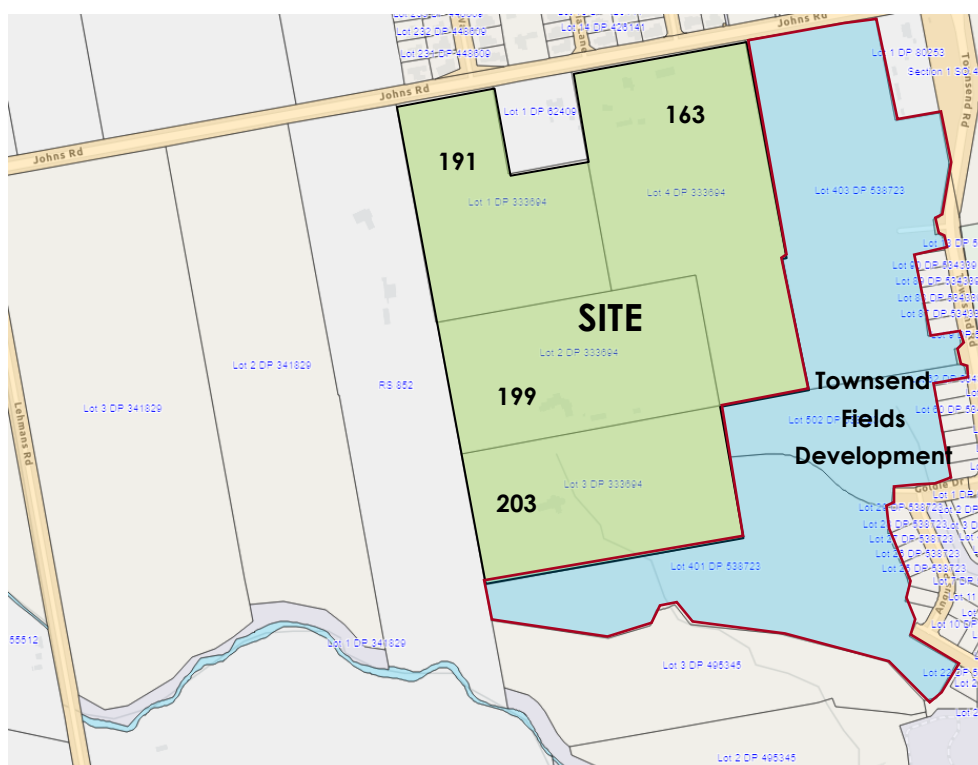


Figure 1. Submission Site at 163, 191, 199 & 203 Johns Road, Rangiora

11. The site is within the urban area limits defined by the Canterbury Regional Policy Statement (CRPS) and is also identified as a Greenfield Priority Area, which occurred through the Land Use Recovery Plan (LURP) process in 2013. Subsequently, the site has been identified in the Waimakariri District Development Strategy as an area for "proposed residential growth direction" and is therefore considered a strategic and logical site for rezoning to enable future residential development.
12. The Proposed Waimakariri District Plan (pWDP) proposes the site as Rural Lifestyle Zone (RLZ). The site is also identified in the West Rangiora Future Development Area Overlay, Liquefaction Overlay, Non-Urban Flood Assessment Area, Geographic Area Ecological Plains and Ecological District Low Plains. A proposed Outline Development Plan 'West Rangiora Development Area' has also been created for the area.
13. The site is not located in a statutory acknowledgement area, silent file area, or rūnanga sensitive area as identified on Canterbury Maps.

3. Proposed Rezoning

14. This submission is requesting the rezoning of the site from proposed RLZ to GRZ and MRZ as part of the Waimakariri District Plan Review as part of a new separate South West Rangiora Development Area. This submission will provide for additional greenfield land in Rangiora available for immediate residential development.
15. The proposed rezoning will provide for residential housing in accordance with the proposed GRZ and MRZ that apply to the residential area in Rangiora. The proposed GRZ provides for a minimum net site area of 500m².
16. The proposed zoning will also provide for residential housing in accordance with the proposed MRZ. The proposed MRZ provides for a minimum net site area of 200m².
17. The proposed West Rangiora Outline Development Plan would enable approximately 200 future allotments at the density provided by the proposed GRZ, as proposed by the Council, which does not achieve 15 houses per hectare. The inclusion of the ability to create some Medium Residential Density development within the site would increase the ability to provide a variety of section sizes and achieve the 15hha as required by the pWDP.
18. Attached in Appendix A is the proposed South-West Rangiora Outline Development Plan for the site and in Appendix H, a diagram which shows its integration with the West Rangiora Development Area. If the submission is successful, the West Rangiora Development Area Chapter will no longer apply to the site and the certification process will be unnecessary. For this reason, it is considered the rezoning in full as part of the District Plan is a more efficient option for the site.
19. Consequently, both open space reserve and stormwater reserves overlays would be provided.
20. The Submitters are currently all involved with the Townsend Fields Development adjacent to the site and are familiar with the requirements for servicing, development, and flood assessment in the South-West Rangiora area. The Submitters have been working with the Council for the sizing of downstream infrastructure.
21. The Townsend Fields subdivision services were designed with capacity for an approximate 50 ha catchment which includes that of 163, 191, 199 and 203 Johns Road with sewer, water supply and stormwater infrastructure connections being made available. Further details are provided

in the Infrastructure Services report contained in Appendix C. The specific design for these services would be determined at the time of subdivision when a final allotment layout is known.

22. The Infrastructure Services Report also discusses the Ashley River breakout flood scenario. Overall, based on preliminary modelling and the forming of a bund along the western boundary of the site, it is not considered that the 200-year Ashley River Breakout and ARI flood event presents a constraint to the proposed rezoning.
23. Attached in Appendix D is supporting Geotechnical and Contamination information (Risk of Natural Hazards & Soil Contamination at 163-203 Johns Road, Rangiora) which discusses the information available for the site held by the landowners. The site is considered geotechnically suitable for further development.
24. A schedule of the proposed amendments to the District Plan to be incorporated as a new South West Development Area is contained in Appendix I and the additional consequential changes are explained below:
 - Amend the planning maps to rezone the site from proposed RLZ to proposed GRZ and MRZ;
 - Insert proposed South West Outline Development Plan and provisions (Appendices A and I);
 - Amend various rules and policies as identified in this report below.

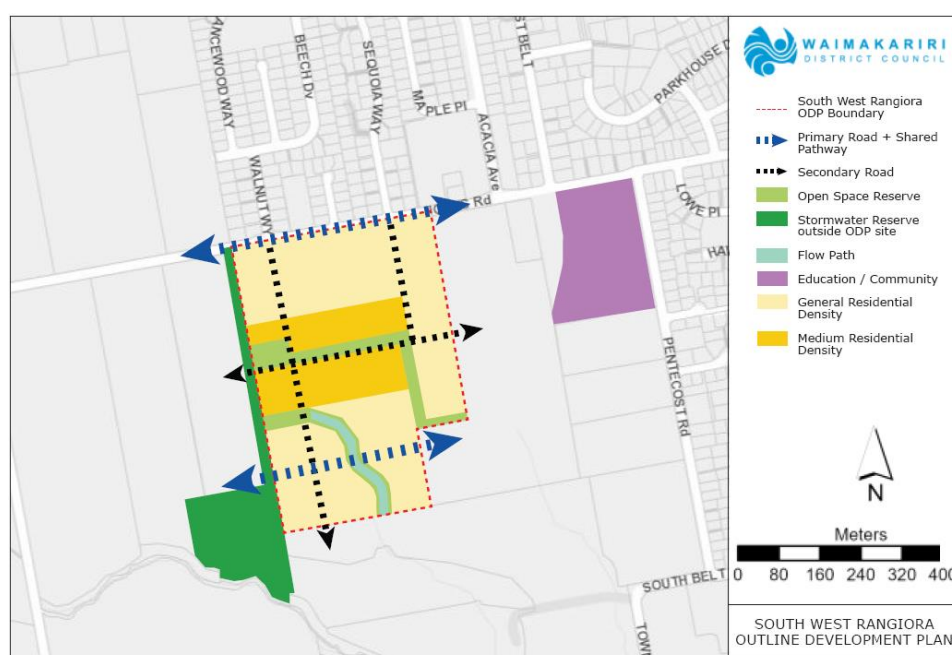


Figure 2. Proposed South West Rangiora Outline Development Plan

4. Reasons and Purpose

25. The Submission site has been identified as an area for “proposed residential growth direction” in the Waimakariri 2048 District Development Strategy (2018).
26. The “Housing Demand and Need Report in Waimakariri District” dated February 2020 identified that Rangiora has projected growth for an additional 1,560 households in 2018 – 2028, an additional 1,230 households in 2028 – 2038, and an additional 1160 households in 2038 – 2048. This results in an additional 3,950 households in the medium – long term.
27. Therefore, it is evident that additional greenfield land is required in Rangiora to be rezoned to ensure that the housing supply is adequate to accommodate the projected housing growth expected in the short, medium and long term.
28. In the proposed Waimakariri District Plan Review there has been no additional residential land proposed to be zoned. There are some areas subject to the future Development Area overlay with an associated certification process to be undertaken by agreement with the Council CEO with lieu of a private plan change to enable development. The certification process is uncertain in relation to the time it would require to be approved and which will then require a subsequent subdivision consent application. The certification must address the natural hazard flooding constraint presented by the Ashley River breakout scenario.
29. The certification provisions do not have legal effect and therefore do not enable the submitter to fast-track the development of the site through the method proposed in the short term while the District Plan is being reviewed. The alternative, rezoning will at least enable subdivision consent to be sought when the pWDP becomes operative and avoid delays caused by the additional certification process.
30. The site is identified in the Waimakariri 2048 District Development Strategy (2018) as an area for “proposed residential growth” and therefore the site has been assessed as appropriate for future residential growth in Rangiora. An assessment of the Waimakariri District Development Strategy is provided below in Section 9.
31. It is considered that the proposed rezoning of the site will positively contribute to housing capacity in Rangiora, which will contribute to a well-functioning urban environment and create additional capacity in Rangiora and Waimakariri to contribute to alleviating the shortfall of capacity anticipated by the Council. The rezoning will allow for residential density development on the site providing housing choice in the Waimakariri District.
32. Overall, the purpose of this submission is to rezone the site at 163, 191, 199 & 203 Johns Road to GRZ and MRZ as a shortfall of residential housing is identified, and the site is identified as a strategic location for future residential growth in the CRPS and pWDP.

5. Submissions on other provisions

33. The proposal to identify the site as a new zoned Development Area will require a new ODP (attached in Appendix A) and new Development Area provisions (attached in Appendix I). The site is proposed to be called the "South West Rangiora Development Area".
34. This submission **supports** the General Residential Zone and Medium Residential Density Zone objectives and policies GRZ-01, GRZ-P1, GRZ-P2, MRZ-01 and MRZ-P1 as follows in Figure 3.

Objectives	
GRZ-01	General Residential Zone A general suburban residential zone with a range of larger site sizes providing for predominantly residential use.
Policies	
GRZ-P1	Residential character and amenity values Provide for activities and structures that support and maintain the character and amenity values anticipated for the zone which: 1. provides for suburban character on larger sites primarily with detached residential units; 2. provides for a pleasant residential environment, in particular minimising the adverse effects of night time noise, glare and light spill, and limited signs; 3. provides opportunities for multi-unit residential development on larger sites; 4. has sites generally dominated by landscaped areas, with open spacious streetscapes; 5. through careful design provides a range of higher density living choices to be developed within the zone; and 6. provides for small scale commercial activity that services the local community, and home businesses at a scale consistent with surrounding residential character and amenity values.
GRZ-P2	General Residential Zone Overlay For any General Residential Zone Overlay, ensure an ODP is developed in accordance with SUB-P6 and incorporated into the District Plan.
Objectives	
MRZ-01	Provision of medium density housing A higher density suburban residential zone located close to amenities with a range of housing typologies providing for predominantly residential use.
Policies	
MRZ-P1	Residential character Provide for activities and structures that support and maintain the character and amenity values anticipated for the zone, which provides for: 1. higher density living in areas with better access for walking to parks, main centres or local commercial centres; 2. multi-unit redevelopment opportunities through flexible development controls and encouragement for multi-site redevelopment; 3. high quality building and landscape design for multi-unit residential development with appropriate streetscape landscaping and positive contribution to streetscape character; 4. provides for a peaceful residential environment, in particular minimising the adverse effects of night time noise and outdoor lighting, and limited signs; 5. appropriate internal amenity within sites; 6. a mix of detached, semi-detached and multi-unit living; 7. small-scale commercial, or community-based activities, that service the local community, and home businesses; and 8. a wider range of home business-based commercial activity in the Residential Commercial Precinct adjacent to Rangiora Town Centre.

Figure 3. Objectives and Policies of the General Residential and Medium Density Zones

35. This submission is in **support** of SUB-S1 General Residential Zone and Medium Density Zone minimum allotment sizes and dimensions as follows in Figure 4.

Subdivision Standards

SUB-S1Allotment size and dimensions

1. All allotments created shall comply with Table SUB-1.

Activity status when compliance not achieved:

1. In the Medium Density Residential Zone, any Industrial Zone and Special Purpose Zone (Kalapoi Regeneration): DIS

2. In any other zone: NC

Table SUB-1: Minimum allotment sizes and dimensions

The following shall apply:

For unit title or cross-lease allotments, the allotment area shall be calculated per allotment over the area of the parent site.

Minimum areas and dimensions of allotments in Table SUB-1 for Commercial and Mixed Use Zones, Industrial Zones and Residential Zones shall be the net site area.

Allotments for unstaffed infrastructure, excluding for any balance area, are exempt from the minimum site sizes in Table SUB-1.

Zone	Minimum allotment area	Internal square	Frontage (excluding rear lots)
Residential Zones			
Large Lot Residential Zone	2,500m ² with a minimum average of 5,000m ² for allotments within the subdivision	n/a	n/a
General Residential Zone	500m ²	15m x 15m	15m
Medium Density Residential Zone	200m ²	n/a	n/a
	No minimum for multi-unit residential development where the design statement and land use consent have been submitted and approved		
Settlement Zone	600m ²	15m x 15m	15m

Figure 4. Minimum Allotment Sizes: Subdivision Standards.

36. The reason that it would be appropriate to enable some medium density development within the site is because the GRZ allotment size of 500m² does not enable the site to achieve the 15 houses per hectare required by Policy RESZ-P14 shown in Figure 5 below. A preliminary design of the site using 500m² allotments achieves 12 houses per hectare.

RESZ-P14	Development density
Development densities for new Development Areas and Large Lot Residential Zone Overlays shall be as follows:	
1. in new Development Areas, achieve a minimum <u>net density</u> of 15 households per ha averaged across the whole of the residential Development Area within the relevant <u>GOP</u> , unless there are demonstrated constraints then no less than 12 households per ha.	
2. in new Large Lot Residential Zone Overlays, achieve a <u>net density</u> of 1 to 2 households per ha.	

Figure 5. Residential Development Density Policy

37. Although this submission requests rezoning, the Submitters **support** the West Rangiora Development Chapter provisions. In particular, the objectives and policies DEV-WR-01, DEV-WR-P1 and DEV-WR-P2 in Figure 6 below. The development area and certification process will help achieve the residential demand for the medium term being 3-10 years in the adjoining West Rangiora area. Especially for these sites where landowners are not as prepared to undertake site development in the immediate to short term. This would be appropriate for "Future development".

Objectives	
DEV-WR-01	Development area
West Rangiora Development Area contributes to achieving feasible development capacity for <u>residential activities</u> .	
Policies	
DEV-WR-P1	Future urban development
Provide for future urban development in a Development Area (in accordance with <u>DEV-WR-APP1</u> - West Rangiora Outline Development Plan) through a certification process by the <u>District Council's</u> Chief Executive Officer or their delegate when:	
1. the development will provide additional residential capacity to help achieve or exceed the projected total residential demand as identified in <u>UFD-O1</u> (for the medium term);	
2. <u>water supply, wastewater system and stormwater infrastructure</u> capacity is sufficient to support the proposed development; and	
3. an agreement is in place between the <u>District Council</u> and the developer on the method, timing and funding of any necessary <u>water supply, wastewater system and stormwater infrastructure</u> , open space and recreation <u>land</u> and transport infrastructure.	
DEV-WR-P2	Subdivision and activities
Only allow <u>subdivision</u> and activities where:	
1. after certification by the <u>District Council's</u> Chief Executive Officer or their delegate, it is in accordance with the objectives, policies and rules of the General Residential Zone, Local Centre Zone and the relevant <u>District</u> wide provisions; and	
2. prior to certification by the <u>District Council's</u> Chief Executive Officer or their delegate, it will not undermine or inhibit the future development of the Development Area as per the West Rangiora Outline Development Plan.	

Figure 6. West Rangiora Objectives and Policies

38. This submission is in **support** of DEV-WR-S1 Certification below Figure 7 for West Rangiora Development Area – Criteria to enable urban development, however, there is no mention of processing timeframes, and the certification is limited to three years. Subdivision consent would be required once certification is achieved and typically subdivision consent approval lasts for 5 years. The proposed 3-year lapsing of the certification approval creates a timing anomaly with reference to subdivision consent s224 certification. Sub-clause 2 should be re-worded to resolve this.

Development Areas Standards

DEV-WR-S1 Certification for West Rangiora Development Area - Criteria	
<p>1. The following criteria must be demonstrated to be met for the District Council's Chief Executive Officer or their delegate to certify to enable urban development (subdivision and land use activities) in the West Rangiora Development Area:</p> <ul style="list-style-type: none"> a. the development will provide additional residential capacity to help achieve or exceed the projected total residential demand as identified in UFD-O1 (for the medium term) as indicated by the most recent analysis undertaken by Council in accordance with the NPSUD and published on the District Council website; and b. residential development within the West Rangiora Development Area will meet all the following criteria, demonstrated by modelling using accepted industry practice: <ul style="list-style-type: none"> i. firefighting flows within the piped treated water network servicing 95% of the Development Area will meet the SNZ PAS 4509:2008 New Zealand Fire Service Firefighting Water Supplies Code of Practice; ii. on-demand water schemes will have to capacity to deliver greater than 2000 litre connections per day at peak demand; iii. water pressure within the piped treated water network servicing the Development Area is maintained at greater than 250kpa 100% of the time, and greater than 350kpa 95% of the time; iv. surcharge of pipes and flooding out of manholes will not occur during a design rainfall event (20% AEP) within the stormwater network necessary for the servicing of potential development that is being released; c. a geotechnical assessment and flood assessment for the area has been prepared for this area and any identified risks contained within the assessments can be mitigated as part of subdivision design and consent; d. there is sufficient capacity available within the Rangiora Wastewater Treatment Plant for this development; e. a stormwater assessment has been developed for this area and any recommendation contained within the assessment is agreed by Council; f. a transport effects assessment has been developed for this area and any recommendations contained within the assessment can be mitigated as part of subdivision design and consent; g. a staging plan including: <ul style="list-style-type: none"> i. the amount of new residential sites created in the development subject to the application for certification; ii. number of stages for the development; and iii. how many sites will be created per stage; h. an agreement between the District Council and the developer on the method, timing and funding of any necessary infrastructure and open space requirements is in place. <p>2. If a s224 certificate under the RMA has not been granted by the District Council within three years of the date of certification, certification shall cease to apply.</p>	Activity status where compliance is not achieved: N/A

Figure 7. Proposed Certification Standard

39. This submission requests a change to include West Rangiora in UFD-P6 in Figure 8 in the certification process.

UFD-P6	Mechanism to release Residential Development Areas
	The release of land within the identified new development areas of Kaiapoi, North East Rangiora and South East Rangiora occurs in an efficient and timely manner via a certification process to enable residential activity to meet short to medium-term feasible development capacity and achievement of housing bottom lines.

Figure 8. Urban Form Development Policy P6.

40. The requested change is:

The release of land within the identified new development areas of Kaiapoi, North East Rangiora ~~and~~, South East Rangiora and West Rangiora occurs in an efficient and timely manner via a certification process to enable residential activity to meet short to medium-term feasible development capacity and achievement of housing bottom lines.

41. Further, this submission opposes NH-P9 (2d) in relation to Natural Hazards see Figure 9 below. The submission site requires flood mitigation measures (stop bank) along the western boundary in conjunction with raising section levels to protect the site from the Ashley River breakout flooding scenario. The existing Townsend Fields Development relies on flood mitigation works to enable residential/sensitive activities. The existing TFL bund was installed but was expected to be a temporary measure until such time that it could be moved westwards and then enable (and protect) new residential development on the submission site in due course. The policy as proposed prevents this.
42. In fact, the entire West Rangiora Development Area will also require flood protection. Unfortunately, Council was recently unsuccessful in its request to obtain Infrastructure Acceleration Fund consideration for the future Lehman's Road community scale 'bund' that would be required for the protection of this area. The resultant situation is that the development of the West Rangiora Development Area will require developer led and private mitigation measures to be undertaken, which are also required under the proposed certification process. Given that a new 'bund' built on the western boundary of the submission site would be

temporary until other flood mitigation is provided in Lehmans Road, the land would need to remain in 'private' ownership rather than be vested as utility reserve in the interim. As such, this policy wording needs to be revised otherwise no development could occur in the West Rangiora Development Area until such time as Council finds funding by other means to construct the West Rangiora Lehmans Road flood protection within the corridor provided on the West Rangiora Outline Development Plan.

NH-P9 Community scale natural hazard mitigation works	
Natural hazard mitigation works:	
1. undertaken by the Crown, the Regional Council or the District Council are enabled where community scale natural hazard mitigation works are necessary to protect existing communities from natural hazard risk which cannot reasonably be avoided, and any adverse effects on the values of any identified ONL , ONF , SAL , scheduled natural character areas, the coastal environment , and Sites and Areas of Significance to Māori are mitigated; or	
2. not undertaken by the Crown, the Regional Council or the District Council , will only be acceptable where:	
a. the natural hazard risk cannot reasonably be avoided;	
b. any adverse effects of those works on the values of any areas identified as ONL , ONF , SAL , scheduled natural character areas and the coastal environment , and on sites and areas of significance to Māori are avoided, remedied or mitigated in accordance with the provisions in those chapters;	
c. the mitigation works do not transfer or create unacceptable hazard risk to other people, property, infrastructure or the natural environment ; and	
d. the mitigation works do not involve the construction of private flood mitigation measures such as stopbanks , or floodwalls to protect new hazard sensitive activities as these works could result in significant residual risk to life or property if they fail.	

Figure 9. Natural Hazard Policy NH-P9

43. If West Rangiora Development Area is relying on Council undertaking natural hazard mitigation works under NH-P9 (1), then rule NH-R10 applies. It is not clear that an earth engineered 'bund' would meet the definition of "soft engineering natural hazard mitigation" definition as follows in Figure 10 and reconsideration of this rule and definition are required.

NH-R10 Construction of new community scale natural hazard mitigation works		
<i>The rule does not apply to the planting of vegetation as part of natural hazard mitigation works.</i>		
All Zones	Activity status: PER	Activity status where compliance is not achieved: RDIS
	Where: 1. the works are limited to soft engineering natural hazard mitigation ; and 2. the works are not located within a site and area of significance to Māori (refer also to Rule SASM-R5).	Matters of discretion are restricted to: NH-MD2 - Natural hazard mitigation works

SOFT ENGINEERING NATURAL HAZARD MITIGATION

DEFINITION

means the use of natural materials, features and processes, including vegetation to stabilise waterway banks, and absorb wave energy and reduce coastal erosion and inundation. Soft engineering techniques include planting, beach re-nourishment, beach and bank re-profiling and the restoration of natural features such as dunes, coastal wetlands/saltmarsh and floodplains.

Figure 10. Natural Hazard rule 10 and associated definition.

6. Statutory Assessment

6.1. Resource Management Act 1991

44. The Resource Management Act (RMA) provides the legislative framework that defines the requirements for submissions to District Plan reviews. As this submission proposes to include land for re-zoning, it is appropriate to address these requirements as they relate to the site at 163, 191, 199 & 203 Johns Road, Rangiora.
45. Schedule 1 of the RMA provides the circumstances and requirements of preparation, change, and review of policy statements and plans. Clause 22 of Schedule 1 provides the requirements for changes to the District Plan.
46. Section 74 of the Act sets out the matters to be considered by territorial authorities in the decision making of changes to the District Plan.

74 Matters to be considered by territorial authority

(1) A territorial authority must prepare and change its district plan in accordance with-

- (a) Its functions under section 31; and*
- (b) The provisions on Part 2; and*
- (c) A direction given under section 25A(2); and*
- (d) Its obligation (if any) to prepare an evaluation report in accordance with section 32; and*
- (e) Its obligation to have particular regard to an evaluation report prepared in accordance with section 32; and*
- (ea) a national policy statement, a New Zealand coastal policy statement, and a national planning standard; and*
- (f) Any regulations.*

(2) In addition to the requirements of section 75(3) and (4), when preparing or changing a district plan, a territorial authority shall have regard to –

- (a) Any –*
 - (i) Proposed regional policy statement or*
 - (ii) Proposed regional plan of its region in regard to any matter of regional significant or for which the regional council has primary responsibility under Part 2; and*
- (b) Any –*
 - (i) Management plans and strategies prepared under other Acts and*
 - (ii) [repealed]*
 - (iia) relevant entry on the New Zealand Heritage List / Rarangi Korero required by the Heritage New Zealand Pouhere Taonga Act 2014; and*
 - (iii) Regulations relating to ensuring sustainability, or the conservation, management, or sustainability of fisheries resources (including regulations or*

bylaws relating to taiapure, mahinga mataitai, or other non-commercial Maori customary fishing); and

- (iv) *Relevant project area and project objectives (as those terms are defined in section 9 of the Urban Development Act 2020), if section 98 of that Act applies, - to the extent that their content has a bearing on resource management issues of the district; and*

(c) *The extent to which the district plan needs to be consistent with the plans or proposed plans of adjacent territorial authorities.*

(2A) *A territorial authority, when preparing or changing a district plan, must take into account any relevant planning document recognised by an iwi authority and lodged with the territorial authority, to the extent that its content has a bearing on the resource management issues of the district.*

(3) *In preparing or changing any district plan, a territorial authority must not have regard to trade competition or the effects of trade competition.*

47. Section 31 of the RMA outlines the Council functions for giving effect to the Resource Management Act and the Submission has been prepared in accordance with the relevant requirements.
48. Section 32 establishes a procedure to evaluate the appropriateness of the proposed provisions, including objectives, policies, rules, and other methods. Noting that Council has provided its own S.32 assessments which do not propose the rezoning of this site, nor considers direct rezoning as an option. This report is a further evaluation under S.32AA. A detailed Section 32AA assessment is provided in Section 7 of this report.
49. This submission to request the rezoning of the site at 163, 191, 199 & 203 Johns Road from proposed RLZ to proposed GRZ and MRZ addresses the relevant matters of the RMA, including:
- The purpose and reason for the request.
 - The requirement to have regard to the Canterbury Regional Policy Statement.
 - Any management plans and strategies prepared under other Acts.
 - The requirement to take into account any relevant planning document recognised by Te Runanga o Ngāi Tahu lodged with the Council.
 - Provisions of the proposed Waimakariri District Plan.
 - Assessment of Environmental Effects (AEE).
 - Related Planning Documents (including Iwi Management Plan, Waimakariri 2048 District Development Strategy (2018), Our Space 2018 – 2048).
50. The submission to rezone the site has been prepared in accordance with the relevant provisions of the Resource Management Act, as described above.

6.2. National Policy Statement

51. There are five National Policy Statements (NPS) which are currently operative. These are:
- (a) New Zealand Coastal Policy Statement
- (b) Electricity Transmission

- (c) Renewable Electricity Generation
 - (d) Freshwater Management
 - (e) Urban Development
52. There are currently two proposed National Policy Statements under development. These are:
- (a) Indigenous Biodiversity
 - (b) Highly Productive Land
53. The NPS for Urban Development and the Proposed NPS on Highly Productive Land are considered relevant.

6.2.1. National Policy Statement on Urban Development 2020 (NPS-UD)

54. The National Policy Statement for Urban Development (NPS-UD) 2020 sets out the objectives and policies for planning for well-functioning urban environments under the Resource Management Act 1991. This applies to all local authorities that have all or part of an urban environment within their district or region.
55. Christchurch is classified as a tier 1 urban environment in the NPS-UD, which includes Canterbury Regional Council, Christchurch City Council, Selwyn District Council, and Waimakariri District Council. A full assessment of the NPS-UD 2020 is provided in Appendix G and is summarised below.
56. The proposed re-zoning is consistent with the objectives of the NPS-UD because it will:
- achieve a well-functioning urban environment for people and communities and provide for their wellbeing for now and into the future.
 - improve housing affordability by enabling a supply of residential land for residential development, therefore providing more housing options.
 - Enable strategic infrastructure development over the medium term and long term.
57. The proposed re-zoning and ODP for South West Rangiora will enable a well-functioning urban environment adjacent to existing development Townsend Fields and in close proximity to Rangiora. The proposal will address capacity issues by enabling 200+ residential sections for residential development.
58. The proposed re-zoning and ODP are consistent and can easily be integrated with the pWDP ODP for the West Rangiora Development Area (as shown in Appendix H), therefore providing for a long-term well-functioning environment.
59. The proposed rezoning and South West Rangiora ODP meet the NPS-UD policies by:
- Providing a planning decision that will contribute to well-functioning urban environments, which provide a variety of homes, good accessibility, limits the effects competitive land development, supports the reduction in greenhouse gases, and be resilient to the future effects of climate change.
 - Providing development capacity towards Council meeting the expected demand for housing and for business land over the short term, medium term, and long term.
 - Allowing Council to respond to the rezoning as it would significantly add to development capacity and contribute to surrounding urban environment.
60. The provisions proposed with the residential re-zoning and supporting South West Rangiora ODP will ensure a well-functioning urban environment is achieved when the site is developed. This

site has been identified in the LURP/CRPS as being suitable for development, therefore has already been anticipated by the RMA planning documents.

61. Overall, it is considered that the residential rezoning is consistent with the National Policy Statement on Urban Development.

6.2.2. National Policy Statement on Freshwater Management 2020 (NPS-FM)

62. The National Policy Statement for Freshwater Management (NPS-FM) 2020 sets out the objectives and policies to ensure that natural and physical resources are managed in a way that prioritises:

- first, the health and wellbeing of the water bodies and freshwater ecosystems
- second, the health needs of people (drinking water)
- third, the ability of people and communities to provide for their social economic and cultural wellbeing, now and in the future.

63. The proposed residential re-zoning and associated provisions will ensure that freshwater is managed in a way that gives effect to Te Mana o te Wai. Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment.

64. The natural spring and associated stream shown on the new ODP will be protected from development through setbacks which will enhance the existing riparian margins. The stormwater runoff from a developed site will be conveyed to the existing Stormwater Management Area (South of Townsend Fields) for treatment and detention before being discharged into the Southbrook Stream; therefore, preventing the degradation of nearby waterways. Existing septic tanks and water bores will be also removed as residential development will be required to connect to the Councils reticulated networks.

65. The rezoning submission provisions mentioned above will help remove contaminants and sediment from both ground water and nearby waterways while controlling water takes/discharges through reticulated networks.

66. Overall, it is considered that the rezoning submission is consistent with the National Policy Statement on Freshwater Management.

6.2.3. Proposed National Policy Statement on Highly Productive Land

67. The Proposed National Policy Statement on Highly Productive Land (NPS-HPL) discussion document was published in August 2019 as part of the wider consultation on the proposed legislation. The NPS-HPL proposes to require councils to consider the availability of highly productive land for primary production now and in the future. Of relevance to this submission, a purpose of the proposed NPS-HPL is to protect highly productive land from inappropriate subdivision, use, and development as urban expansion and change of land use in rural areas is creating a loss of productive land.

68. The proposed objectives of the NPS-HPL are to recognise, provide for, and maintain highly productive land and protect highly productive land from inappropriate subdivision, use, and development.

69. Proposed Policy 1, identification of highly productive land, states that prior to regional council identifying the spatial extent of highly productive land (where this has not yet occurred), the

Land Use Capability (LUC) classes 1-3 apply in the interim. The site is identified as LUC Class 3 (Canterbury Maps), the lesser of the productive soils classifications.

70. The other proposed policies relate to maintaining highly productive land and require Councils to specify what is inappropriate subdivision use and development. Proposed Policy 3 states:

"urban expansion must not be located on highly productive land unless:

- a. There is a shortage of development capacity to meet demand (in accordance with NPS-UDC) and
- b. it is demonstrated that it is the most appropriate option based on a consideration of:
 - A cost-benefit analysis that explicitly considers the long-term costs associated with the irreversible loss of highly productive land for primary production;
 - Whether the benefits (environmental, economic, social and cultural) from allowing urban expansion on highly productive land outweigh the benefits of the continued use of that land for primary production; and
 - The feasibility of alternative locations and options to provide for the required demand, including intensification of existing urban areas."

71. It is considered that this proposed rezoning of lower-class productive land provides residential capacity in an area identified as having a shortage of development capacity and is therefore consistent with Policy 3 (a). This report contains a Section 32AA cost-benefit analysis in Section 7, which identifies that the benefits of the proposed rezoning outweigh the benefits of the continued use of the site as a lifestyle block, with an overlay for future development.
72. Proposed Policy 4 seeks to avoid the fragmentation of highly productive land through managing rural subdivision. The proposal meets proposed Policy 4 because the site is adjacent to existing residential development in Rangiora and will consolidate residential development rather than scattering it over a greater area. There is a pocket of land on Johns Road (#173) which does not belong to the submitters. Council may be of a mind to include this land if the landowner is agreeable (in the further submission process).
73. Proposed Policy 5 states that territorial authorities must identify, restrict, and establish methods to manage reverse sensitivity effects with primary production and rural productive land adjacent to residential land. The site context has been carefully considered and the proposed ODP has been designed in a way that best manages reverse sensitivity effects on adjacent rural zoned land. The proposed ODP has proposed stormwater management areas and reserves to manage the effects of reverse sensitivity with the adjoining productive rural land. The adjoining rural land to the west has been identified within the West Rangiora Future Residential Development Area so is expected to be developed over the medium-long term.
74. Proposed Policy 6 directly relates to plan changes or rezoning of rural land. Proposed Policy 6 states that local authorities must have regard to the alignment of the request with statutory and non-statutory plans and policies, the benefits of the proposed land use compared to the benefits of the use for primary production, and alternative options for the proposed use on land that has less value for primary production. The site is identified in the Waimakariri 2048 District Development Strategy (2018) as an area for future residential development. Therefore, the site

has already been identified for a form of residential intensification and a reduction in the use of the land for productive purposes. As stated in the Section 32AA assessment in Section 7 of this report, the benefits of the proposed rezoning outweigh the cost of a loss of productive land.

75. It is considered that despite the site having LUC Class 3 productive soils, the proposed change in use of the site for residential is not inappropriate and is not an uncoordinated urban expansion. The site has been identified in the District Development Strategy documents as a location for future residential urban growth for Rangiora, so a loss of productive soils has been previously accepted as reasonable in some form for the site.

6.3. National Environmental Standards

76. The following National Environmental Standards (NES) are currently operative:

- (a) Air Quality
- (b) Sources of Drinking Water
- (c) Telecommunication Facilities
- (d) Electricity Transmission Activities
- (e) Assessing and Managing Contaminants in Soil to Protect Human Health
- (f) Plantation Forestry
- (g) Freshwater
- (h) Marine Aquaculture
- (i) Storing Tyres Outdoors

77. The NES for Assessing and Managing Contaminants in Soil to Protect Human Health is considered relevant to this submission.

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS)

78. The only National Environmental Standard considered relevant is the NES for Assessing and Managing Contaminants in Soil to Protect Human Health. It is noted that the NES for Air Quality is provided for under existing District and Regional Plans and will not apply to this rezoning. Water supply will be to the reticulated Council network in accordance with the drinking water requirements.
79. The NES for Assessing and Managing Contaminants in Soil to Protect Human Health has been assessed through a desktop study of the site and accompanying PSI reports for 163 and 199 Johns Road. A letter containing supporting Geotechnical and Contamination information has been prepared and attached in Appendix D. An Assessment of Environmental Effects has been included in Section 8 of this report. It is concluded that the land is suitable for rezoning and future development. Any potential HAIL activities identified as part of the recommended site walkover are to be investigated further prior to submitting for a subdivision consent.
80. Historical aerial imagery and Environment Canterbury's Listed Land Use Register does not identify any HAIL activities that would prevent residential development from being undertaken on this site.
81. A full preliminary site investigation is required to be undertaken by the NES-CS at the time of subdivision consent, therefore, any potential contamination found can be remedied as part of the land development works.
82. It is considered that no further investigation is required at the time of this rezoning submission.

6.4. Canterbury Regional Policy Statement ('CRPS')

83. The Canterbury Regional Policy Statement (CRPS) sets out the objectives, policies and methods to resolve those resource management issues in Canterbury. An assessment of the CRPS full provisions is provided in Appendix E and summary provided below. Chapter 5 (Land Use and Infrastructure) and Chapter 6 (Recovery and Rebuilding of Greater Christchurch) are the most relevant to this re-zoning.
84. Chapter 5 – Land Use and Infrastructure, addresses resource management issues associated with urban and rural-residential development across the entire Canterbury Region. The relevant provisions of Chapter 5 are:
- Issue 5.1.3 - Lack of Strategic Integration (Entire Region)
 - Issue 5.1.4 - Land Use and Transport Integration (Entire Region)
 - Objective 5.2.1 - Location, Design and Function of Development (Entire Region)
 - Policy 5.3.7 - Strategic Land Transport Network and Arterial Roads (Entire Region)
85. The proposed South West Rangiora ODP provides for a high level of certainty and integrated development that connects with surrounding roads and reticulated networks. It is providing opportunities for future expansion and is located close to public transport networks within the Rangiora area. The proposed South West Rangiora ODP is consistent and integrated with the proposed West Rangiora ODP.
86. Chapter 6 - Recovery and Rebuilding of Greater Christchurch, focuses on metropolitan areas of Greater Christchurch including Rangiora. The purpose of Chapter 6 is to enable recovery by providing for development in a way that achieves the purpose of the RMA. The relevant provisions of Chapter 6 are:
- Issue 6.1.1 – Enabling Recovery, Rebuilding and Development
 - Issue 6.1.2 – Adverse Effects Arising from Development
 - Issue 6.1.3 – Transport Effectiveness
 - Issue 6.1.4 – Amenity and Urban Design
 - Objective 6.2.1 – Recovery Framework
 - Objective 6.2.2 – Urban Form and Settlement Pattern
 - Objective 6.2.3 – Sustainability
 - Objective 6.2.4 – Integration of Transport Infrastructure and Land Use
 - Policy 6.3.1 – Development within the Greater Christchurch Area
 - Policy 6.3.2 – Development Form and Urban Design
 - Policy 6.3.3 – Development in accordance with Outline Development Plans
 - Policy 6.3.4 – Transport Effectiveness
 - Policy 6.3.5 – Integration of Land Use and Infrastructure
 - Policy 6.3.7 – Residential Location, Yield and intensification
87. The site has been identified as a residential Greenfield Priority Area within the existing urban area of Rangiora on Map A, attached to Chapter 6. Greenfield Priority Areas have been identified as being required to provide sufficient land for urban purposes to enable recovery and rebuilding through to 2028 (short term).

88. It is considered the rezoning request is consistent with the provisions of the CRPS, as the site has already been identified for urban development under the CRPS, and the proposed South West Rangiora ODP will promote a high-quality urban design with strong amenity values that are closely linked to the surrounding residential area. Existing infrastructure can be connected into the development and future development to the west has been accommodated for. Therefore, this proposal addresses the issues identified within CRPS about a lack of strategic integration, transport effectiveness, and adverse effects arising from development.
89. Chapter 11 - Natural Hazards relates to managing natural hazard risk in Canterbury. The objectives of this section are to avoid new subdivision, use and development of land that increases risks associated with natural hazards, and to ensure any hazard mitigation measures do not result on adverse effects on the environment. The site is identified as having a low hazard risk from earthquakes (and the associated effects) and medium risk from flooding. However, the proposed provisions required residential sections to filled to avoid inundation in a 1 in 200 year event in conjunction with flood protection (bund) works. Therefore, can be successfully mitigated.
90. Overall, the proposed rezoning is consistent with the relevant objectives and policies of Chapter 5 & 6 of the CRPS. The proposed rezoning and proposed South West Rangiora ODP will achieve a consolidated, well-designed, and sustainable residential development with sufficient infrastructure, servicing, and transportation connections. The proposal will avoid or mitigate any resulting adverse effects that may arise, including effects on servicing, infrastructure, and the wider transport network. The proposed South West Rangiora ODP demonstrates how the site can be developed to minimise any adverse effects of reverse sensitivity with the adjoining rural productive land. In conclusion, the proposed rezoning and proposed ODP are consistent and meet the objectives and policies of Chapter 5 & 6 of the Canterbury Regional Policy Statement.



Figure 11. Greenfield Priority Areas in Rangiora as identified in the CRPS (MAP A).

6.5. Proposed Waimakariri District Plan

91. The proposed Waimakariri District Plan (pWDP) was publicly notified for consultation on 18 September 2021. The objectives and policies in the pWDP are considered relevant and have been assessed in Appendix F of this submission. It is noted that some rules have immediate legal effect pursuant to section 86B(3) of the RMA; however, there are no rules that have immediate legal effect that relate to this submission. A summary of the relevant objectives and policies is provided below.
92. The site is located in the proposed Rural Lifestyle Zone (RLZ) and this submission is seeking a change of zone to General Residential Zone (GRZ) and Medium Residential Density Zone (MRZ). The RLZ objectives have not been assessed as it is assumed that the current site would be consistent with them; however, they are irrelevant for the purpose of this submission.
93. The site is consistent with the relevant parts of SD-O1 as the proposed rezoning is unlikely to have an adverse effect on indigenous ecosystems and habitat, indigenous biodiversity, or the coastal environment or freshwater bodies.
94. A change to the GRZ and MRZ is considered urban development and therefore proposed rezoning is also consistent with the relevant parts of SD-O2 as it will provide for residential development in an area that is identified for this density.
95. The submission is consistent with SD-O3 because it will improve strategic infrastructure, and any future development can be well integrated and coordinated with the surrounding Rangiora township.
96. The site is currently proposed as RLZ and within a residential development area overlay, therefore, SD-O4 is not applicable as the site has already been identified for residential development.
97. The site is consistent with SD-O5 and SD-O6 as the site is unlikely to have an adverse effect on Ngāi Tūāhuriri cultural values and is not in an area with unacceptable risk from natural hazards or other hazards. The risk from flooding from the 200-year Ashley River Breakout Scenario can be successfully mitigated through the forming of bund and channel along the western boundary.
98. The site is consistent with UFD-O1 in the Urban Form and Development Chapter. The site is identified in the Waimakariri 2048 District Development Strategy as a location for future residential growth, so is considered appropriate for a rezoning submission to reflect the intended zone of the site. The site is adjacent to existing residential use.
99. An ODP (Appendix A and Appendix H) has been prepared to inform the future development of the site, and it has been demonstrated that the site can be well serviced from both a transportation and servicing perspective. Therefore, the proposed rezoning to GRZ and MRZ is considered consistent with UFD-O1.
100. The submission and proposed ODP will provide for high quality residential development. The ODP enables a residential density which is consistent with and will promote a coordinated pattern of development with the existing residential development to the east. The ODP concentrates residential housing in a suitable location that is close to key activity nodes, such as the local school.
101. The proposed rezoning is also consistent with the Subdivision Chapter, which is described in more detail below.

102. The proposed ODP demonstrates a future subdivision design that will integrate land use, development, and urban form that will achieve the density of the GRZ and MRZ, maintain residential character, support the protection of cultural, heritage and conservation values, and support community resiliency to climate change and natural hazard risk. The proposal is consistent with SUB-O1.
103. The submission is also consistent with SUB-P1 as it has been designed in accordance with best practice urban design principles, minimises reverse sensitivity, recognises the cultural values of mana whenua, and supports the character and density of the GRZ and MRZ. Furthermore, the ODP and future construction of residential dwellings will help meet housing needs and is consistent with SUB-P2.
104. The proposal is also consistent with other relevant objectives and policies in the Subdivision Chapter because it is designed in a way that maximises solar gain and sustainable design (SUB-P3), allows for integration and connectivity throughout the future residential development and to Rangiora (SUB-P4), and provides for housing choice while achieving the minimum site size for the zones (SUB-P5). Moreover, the ODP in accordance with SUB-P6 by being prepared as a single plan that identifies principal roads and connections, and with the addition of MRZ would achieve the 15 lots per hectare while minimising reverse sensitivity effects. Finally, the proposal provides options to meet infrastructure needs (SUB-P8) and does not anticipate adverse effects on water bodies (SUB-P9).
105. The proposed South West ODP is also consistent with the Residential Zone Chapter by proposing residential development that is in line with the residential growth direction in the District Development Strategy (RESZ-O1), by enabling a good quality residential environment that is attractive and functional (RESZ-O3), and by designing for safe movement and connections through the subdivision (RESZ-P3). In addition, the proposed ODP will provide additional housing capacity and will integrate with the surrounding township and residential areas in Rangiora, which aligns with RESZ-P8.
106. Finally, the proposal meets the objectives and policies of the GRZ and MRZ Chapters by providing a range of sites for residential use (GRZ-O1 & MRZ-O1), by supporting and maintaining the character and amenity values of the zone (GRZ-P1 & MRZ-P1), and the ODP has been developed with SUB-P6 in mind in accordance with GRZ-P2.
107. Based on the assessment above, and the full objective and policy assessment in Appendix F, the proposed rezoning to GRZ and MRZ and proposed South West ODP are consistent with the relevant objectives and policies of the Residential, Urban Form and development, and Subdivision Chapters. It is therefore considered that the proposed rezoning and ODP are appropriate in regard to achieving the objectives and policies of the Proposed Waimakariri District Plan.

7. Section 32AA Assessment

108. The Section 32AA evaluation provided below is in response to Waimakariri District Councils **'Residential Zone' and 'Development Areas Rangiora and Kaiapoi' Section 32 Report**. A Section 32AA assessment has been undertaken as an amendment to the chapter is sought by the proposed rezoning of the site at 163, 191, 199 & 203 Johns Road to proposed GRZ and MRZ.
109. Section 32AA (1)(b) states that a further evaluation required under this Act must be undertaken in accordance with Section 32(1) to (4).

110. A Section 32 report requires the submitter (and the Council) to evaluate, at a level of detail corresponding to the scale and significance of the anticipated environmental, economic, social, and cultural effects.
- The extent to which the objectives of the proposal are the most appropriate to achieve the purpose of the RMA.
 - Whether the provisions (rules) are the most appropriate way for achieving the objective (purpose), by including consideration of any other reasonably practicable options, the efficiency and effectiveness of the provisions in achieving the purpose, and reasons for deciding on the provisions.
111. This submission is not proposing any new objectives or rules to be added to the District Plan; therefore, the objective of the proposal is considered to be the purpose of the rezoning. The purpose of the proposal is to rezone the site at 163, 191, 199 & 203 Johns Road, Rangiora from the proposed RLZ to proposed GRZ and MRZ to allow for residential intensification.
112. Two options have been assessed below; retain the current proposed RLZ zoning with certification for GRZ only or provide for a rezoning to proposed GRZ and MRZ.
113. The Quality Planning Guidance note on section 32 analysis states that the most appropriate option means "suitable, but not necessarily superior". The most appropriate option does not need to be the most optimal or best option but must demonstrate that it will meet objectives in an efficient and effective way.

7.1. Option 1: Retain proposed Rural Lifestyle Zoning with certification for GRZ only (status quo)

	Benefit	Cost
Environmental	<ul style="list-style-type: none"> • Maintains the existing character of the site. • No residential expansion of Rangiora in the short term. • No additional capacity for stormwater/wastewater required. • Retains rural use. 	<ul style="list-style-type: none"> • A missed opportunity for providing additional residential capacity in Rangiora and Waimakariri in the short term. • Does not implement the Waimakariri District Development Strategy. • No guarantee landowners will apply for certification.
Economic	<ul style="list-style-type: none"> • No cost to the owner or Council to retain the proposed zoning. 	<ul style="list-style-type: none"> • Does not contribute to housing demand/supply or choice to have future zoning. • No additional development contributions or increased rateable income for Council. • Requires certification and subdivision consent and plan change in the long term. • Certification process will have an uncertain cost and timeframe to be approved with limited time to also be implemented.
Social	<ul style="list-style-type: none"> • No social benefit recognised. 	<ul style="list-style-type: none"> • Does not contribute to Rangiora housing stock or contribute to providing for projected increase in

population.

Cultural	<ul style="list-style-type: none"> No cultural benefit recognised. No cultural cost recognised.
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114. Option 1, retaining the land as proposed Rural Lifestyle Zoning with an overlay that enables development following certification has more costs than benefits. The benefit of this option would be that the rural character of the site and outlook for existing residential properties in Rangiora would not change in the short term, and the rural use would continue. This option would not enable residential expansion of Rangiora in the short term.
115. The costs of doing nothing and retaining the proposed Rural Lifestyle Zoning means that there will be no immediate residential development capacity provided on this site, and therefore there will be no residential capacity provided or wider benefit to Rangiora, or Waimakariri until a later time when landowners obtain certification and subdivision consent. This would be a missed opportunity for the Council to demonstrate and supply residential housing capacity and housing choice in the short, medium and long term as required by the NPS-UD.
116. By retaining the current proposed Rural Lifestyle Zoning, albeit with the overlay, the site would also not be giving effect to the Waimakariri District Development Strategy.
117. As detailed below, the benefits of retaining the rural zoning (Option 1) subject to the future development overlay can still be effectively managed and achieved by sensitive design and mitigation when implementing Option 2. The costs outweigh the benefits, and Option 1 is the least preferred option.

7.2. Option 2: Rezone to proposed General Residential Zone and Medium Residential Density Zone

	Benefit	Cost
Environmental	<ul style="list-style-type: none"> Reticulated water and wastewater services. Additional stormwater treatment and reserve areas would be provided and would be vested in Council. Buffer provided to adjacent rural and industrial land uses. Gives effect to Waimakariri District Development Strategy. Opportunity for enhancement of onsite streams. Housing choice with a range of density creating vibrant residential area. 	<ul style="list-style-type: none"> Loss of rural land (as anticipated) Loss of rural outlook / character. Increase in impermeable area and increased discharges for stormwater. Re-direction of overland flow path routes
Economic	<ul style="list-style-type: none"> Provides the most housing capacity and potential for variety in housing choice. Provides income from the greatest number of development contributions and rateable sections for Council. 	<ul style="list-style-type: none"> Economic cost for development of urban infrastructure (services and roading) for landowner. Economic cost of flood protection modelling and works for filling as part of subdivision process for landowner.

- Potential for affordable housing, with a greater number of dwellings available to the market
- Efficiencies in infrastructure cost to develop the site for the most number of dwellings.
- Will enable approximately 200+ additional residential allotments.
- Short-medium term employment opportunities during construction.
- Enables development certainty sooner without certification consent and further plan change rezoning costs.
- Ensures this downstream site is developed first to enable south to north provision of infrastructure to support and enable development of the adjoining West Rangiora Development Area.

Social	<ul style="list-style-type: none"> • An integrated neighbourhood opposite the Te Matauru Primary School. • Adjoining existing residential development and in close proximity to community facilities and town centre. • Provision of higher density in proximity to existing residential and within 250m of collector primary bus route (Goldie Drive). 	<ul style="list-style-type: none"> • No social costs identified.
Cultural	<ul style="list-style-type: none"> • Stormwater discharges to integrated systems being the preferred method. 	<ul style="list-style-type: none"> • No cultural costs identified.

118. Option 2 is the preferred option as identified in this submission. Rezoning the site to proposed GRZ and MRZ allow a potential yield of approximately 200+ residential allotments, which will significantly contribute to meet the residential housing demand that Waimakariri is currently experiencing.
119. The rural character of the existing site will change to residential character under both options, however, Option 2 would have this sooner. The development design can be sensitive to the natural environment by maintaining the sense of open space and rural outlook through the development in both options.
120. The proposed rezoning to GRZ and MRZ and the proposed ODP best meets the objectives of the proposed GRZ and MRZ chapters. The benefits of rezoning the site to proposed GRZ and MRZ are greater than the costs, and therefore Option 2 has been determined as the most appropriate option.

7.3. Efficiency

121. Option 2, rezoning the site to proposed GRZ and MRZ has been assessed as the most efficient use of the land and is the most appropriate option when the costs and benefits of both options are compared and in relation to timing. The benefits of Option 2 outweigh the costs meaning that it is the most efficient option, and therefore the most suitable use of land.

7.4. Effectiveness

122. Option 2 has been assessed above as the most efficient option; however, it is also assessed as the most effective option in giving effect to the Waimakariri District Development Strategy and providing the opportunity for future sustainable residential growth in Rangiora. The proposal will provide a well-functioning urban environment that improves the supply of residential housing and housing capacity in the short, medium and long term. The proposed rezoning and ODP will provide for a consolidated residential development and will have sufficient future infrastructure servicing and accessibility.
123. Policy assessment will be consistent with proposed policies for GRZ and MDZ provisions.

7.5. Risk of Acting or not Acting

124. The submission to the proposed Waimakariri District Plan has provided high level technical reports to confirm the suitability of the site for the proposed rezoning. The information has been provided in as much detail as currently available, noting that the submitter is continuing on with more detailed investigations for services capacity and natural hazards following lodgement of the submission.
125. A traffic report was also not able to be obtained prior to the close of submissions. It is considered, that should Council require additional information regarding the access and transport effects of rezoning the site that this can be provided as supporting evidence prior to the hearing.
126. There is also a risk of not acting, as detailed in Option 1 costs, in that it has been identified that there is future demand for residential capacity in the Waimakariri District, and that by not acting, residential demand will continue to increase with a risk of insufficient residential supply being provided. The risk of not acting, also is that Council will not meet their requirements under the RMA to meet the needs of future generations and will not enable further land to be bought forward for residential development in Rangiora to increase housing supply and housing choice.

8. Assessment of Actual and Potential Effects on the Environment

127. The assessment of actual and potential effects on the environment (AEE) has been prepared in accordance with the Fourth Schedule of the RMA. The First Schedule, clause 22(2) of the RMA requires *'Where environmental effects are anticipated, the request shall describe those effects, taking into account the provisions of Schedule 4, in such detail as corresponds with the scale and significance of the actual or potential environmental effects anticipated from the implementation of the change, policy statement, or plan'*.
128. The following actual and potential effects have been considered as part of the Submission to rezone the site at 163, 191, 199 & 203 Johns Road, Rangiora from proposed RLZ to proposed GRZ and MRZ. Effects on:

- Urban Form and Landscape Amenity
- Transport
- Infrastructure and Servicing
- Natural Hazards
- Health of Land
- Tangata Whenua and Cultural
- Reverse Sensitivity
- Positive Effects

8.1. Effects on Urban Form and Landscape Amenity

129. The proposed residential zoning and residential intensification will alter the existing urban form and landscape of the South-West Rangiora township area.
130. The most significant change to visual amenity will be to those properties on the northern side of Johns Road, the Townsend Fields Development to the east and the rural properties to the west who currently look over an open rural landscape.
131. The effects of re-zoning and development will be mitigated by providing a temporary green link strip (stormwater bund) along the western boundary of the site. The adjacent rural sites would benefit from this open space buffer until they are also developed following certification as it provides a separation between zones (West and South West Development Areas). This could be further mitigated through landscape treatments along the green link strip.
132. The interface of development with Johns Road will also need careful consideration. Building setbacks and open front fencing are measures that would provide a degree of visual openness and increase the amenity of this frontage. The site is located within the Rangiora area and township where there is an expectation that the site could be developed for urban residential activities with urbanisation along the Johns Road frontage.
133. The rezoning will enable the site to contribute towards residential activities and amenity that are similar to those in the surrounding residential neighbourhood. The road links have been designed in consultation with the Waimakariri District Council so to provide good connectivity between existing and future developments.
134. The existing Townsend Fields Development will benefit from onsite amenity that has been provided through careful design of the outline development plan. These include provisions for good road links, and pedestrian and cycle connections. The proposed zone is the same as the adjoining residential areas, therefore having a consistent level of amenity and character.
135. In conclusion, the proposed rezoning will not adversely affect outstanding natural features or landscapes and will not adversely affect any indigenous biodiversity. The rezoning will maintain the character and amenity of the township and will facilitate residential growth in keeping with Rangiora's character. Any potential adverse effects on urban form and visual amenity can be appropriately mitigated. Therefore, the potential adverse effects of the proposed rezoning and residential development will be less than minor.

8.2. Effects on Transport

136. The proposed rezoning and future subdivision would create 200+ residential allotments and have a primary road and secondary roads. At the time of writing this report, an integrated traffic assessment had not been obtained.
137. The ODP provided identifies the key roading links with the surrounding roading networks. This ODP agrees with the requirements under the Proposed District Plan in regard to intersection spacings and provides good connectivity towards the town centre and community focal points such as the school. This also provides connections to McCahon Drive and Goldie Drive within the Townsend Development which are currently no exit streets (but have been constructed expecting to be extended).
138. Detailed roading and access designs will be provided as part of future subdivision consent and engineering approval for the site. The future application will need to address all other roading and access requirements of the District Plan.
139. It is considered that any future potential effects on transportation and traffic can be addressed at future subdivision stage.

8.3. Effects on Infrastructure and Servicing

140. An Infrastructure Servicing Report has been prepared by Eliot Sinclair and is attached in Appendix C. The report has assessed and detailed the infrastructure and servicing requirements for the proposed rezoning and possible future subdivision including stormwater, water supply and wastewater.
141. The Townsend Fields subdivision services were designed with capacity for an approximate 50 ha catchment which includes that of 163, 191, 199 and 203 Johns Road with sewer, water supply and stormwater infrastructure connections being made available. Therefore, the increased demand on services has already been anticipated by the adjoining downstream development.

8.4. Effects on Natural Hazards

142. The letter containing Supporting Geotechnical and Contamination Information was undertaken by Eliot Sinclair environmental engineers to assess the level of risk and suitability of rezoning the site to GRZ and MRZ.
143. The Geotechnical characteristics as well as specific risk from natural hazards such as earthquakes and flooding were assessed for the site. All risks were determined to be acceptable or tolerable, and therefore it is considered that any adverse effects from natural hazards for rezoning the site to GRZ and MRZ are considered to be less than minor.
144. The only natural hazard risk identified for the site is flooding from the 200-year Ashley River breakout scenario which has been addressed within the Infrastructure Servicing Report in Appendix C. It is proposed that the existing Townsend Fields bund be decommissioned and moved to the western boundary of 163, 191, 199 & 203 Johns Road land areas, to reduce the flood impacts in the same manner as was achieved for the Townsend Fields subdivision. In addition to the bund, a channel will be formed to convey flood waters to the south.
145. The second round of modelling by Fluent Solutions was undertaken which included the proposed channel and bund configuration. The modelling indicated that the channel and bund combination conveyed flood waters to the south successfully and did not result in

adverse effects on surrounding dwellings (flood depths did not increase). The modelled channel was 20 m wide (top width), 1 m in depth, with bank batters of 4.

146. The modelling did indicate that flood waters could over top the southern-most reach of the channel resulting in an approximate 50-200 mm flood depth increase within the southern-most areas of the 205 Johns Road and 117 Townsend Road properties. However, there are no dwellings within this area (land is pasture) and both properties at this location are already subject to a modelled food depth ranging from 0.45 m to 1 m. This land is identified within the medium to high-hazard flood area.
147. The proposed provisions of the bund and channel configuration and raising the ground level of residential allotments to avoid inundation will mitigate the effects of flooding in a 200-year Ashley River Breakout scenario. It is anticipated that additional modelling will be undertaken when the sites subdivision and roading layout are known for more detailed investigation and flood reporting.
148. Waimakariri District Natural Hazards assessment indicates the site is located in an area where liquefaction damage is unlikely. The deep clay-bound gravels found in the geotechnical testing of the site are accepted to have a low risk of liquefaction; therefore, correlating with the natural hazards assessment.

8.5. Effects on Health of Land

77. The NES for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS) has been assessed through a desktop study of the entire submission site and accompanying PSI reports for 163 and 199 Johns Road. The letter containing Supporting Geotechnical and Contamination Information was undertaken by Eliot Sinclair environmental engineers to support the rezoning submission.
149. It concluded that the land is suitable for rezoning and future development and any potential HAIL activities identified as part of the recommended site walkover are to be investigated further prior to submitting for subdivision consent.
150. The NES-CS continues to apply to the land if a property is undergoing a change of use, subdivision or soil disturbance (earthworks) to determine any risks to human health. Therefore, act of rezoning the site to GRZ and MRZ proposes no risk to human health and any such risk is required to be identified prior to undertaken the residential development.
151. In conclusion, there will be no adverse effects on the health of the land from the proposed rezoning.

8.6. Effects on Tangata Whenua and Cultural Values

152. The site is not identified in an area of Wāhi Taonga, Wāhi Tapu, Ngā Wai, Ngā Reporepo, or Ngā Tūranga Tūpuna overlay as shown on the proposed Waimakariri District Plan. The site is not identified in a statutory acknowledgement area, silent file area, or rūnanga sensitive area as shown on Canterbury Maps.
153. The site is in the Waimakariri catchment, and a full assessment of the Mahaanui Iwi Management Plan (IMP) is provided below in 9.2.

154. The proposed rezoning and future subdivision and development that this submission will enable is unlikely to have any adverse effects on water quality, and therefore less than minor adverse effects on tangata whenua and cultural effects.
155. Overall, this submission for rezoning and proposed ODP will have less than minor adverse cultural effects and effects on Tangata Whenua.

8.7. Effects on Reverse Sensitivity

156. The potential for reverse sensitivity occurs when a change in land use is incompatible with, and causes new conflicts with, existing activities nearby. Typical reverse sensitivity effects are typically noise, odour, and dust. The change to residential use as a result of the rezoning request needs to consider the reverse sensitivity effects related to the site's proximity to the rural zoned land.
157. The rural land to the west will also be affected by the outlook onto the residential development. The proposed temporary bund (for flood mitigation) on the western side of the site will mitigate these effects by providing a buffer between the zones.
158. The rural land to the west is also identified as an area for future residential development, so it is anticipated that this land could also be developed in the short – medium term. At the time of rezoning of this land it is considered that there would be no adjacent rural land and therefore no reverse sensitivity issues.
159. Overall, it is considered that any potential reverse sensitivity effects that may arise from the future subdivision and residential development will be less than minor.

8.8. Positive Effects

160. The proposed rezoning would allow for a potential yield of 200+ future residential dwellings. This would provide housing supply for Rangiora, and thus contribute to increasing the housing capacity available in the Waimakariri District in the short-medium term. This is a positive effect as it is providing housing choice in an additional location for Waimakariri residents.
161. In the case of this site, the rezoning of the land to residential would provide for a future residential development in close proximity to the existing township of Rangiora. The site is considered walkable to community amenities, such as the nearby school.
162. The proposed residential growth would be managed effectively through an ODP which ensures there is sufficient vehicular and pedestrian movement throughout the site, and that the site can be serviced efficiently and effectively. It is also the land that needs to be developed first to enable the provision of services to the West Rangiora Development Area. Thus, a positive effect of rezoning is that it specifically enables servicing in a timely manner (first) for adjoining development to occur in the future following their certification (in West Rangiora).
163. This rezoning submission is an opportunity for Council to enable residential land to come forward to enable future residential supply and housing choice in Rangiora and Waimakariri.

8.9. Summary of Effects

164. It is considered that the re-zoning of the site from RLZ to GRZ/MRZ provides for high level of certainty and integrated development where any potential adverse effects will be less than minor. Additionally, there will be positive effects by developing the site in accordance with the ODP and site-specific provisions. It is considered there is no impediment to re-zoning the site.
165. Overall, it is considered that the site is suitable for residential development under the GRZ and MRZ provisions.

9. Consistency with other Relevant Planning Documents

166. In accordance with 74(2) the proposed rezoning has been considered in regard of other management plans and strategies. As such the proposal has been assessed against the following relevant planning documents:

- Waimakariri District Development Strategy
- Mahaanui Iwi Management Plan
- Our Space Strategy

9.1. Waimakariri 2048 District Development Strategy (2018)

167. The Waimakariri 2048 District Development Strategy (2018) *"sets out broad directions for growth and development, acting as a platform to inform decision making within the context of a long-term view"*. The strategy is part of the ongoing growth management within Waimakariri and the Greater Christchurch context.
168. The Strategy's vision is *"Our District – the very best of town and country"* which is achieved by the seven principles identified throughout the strategy. The Strategy identifies that additional feasible greenfield residential land will be needed in the District's main centres, including Rangiora.
169. There are 7 principles that set out the development strategy for the District. These are; Our Environment, Our Growing Communities, Our Rural Area and Small Settlements, Our Connections, Our Economy, Our Centres and Our Community Spaces and Places.
170. The proposed rezoning is consistent with the principle of Our Environment because it will achieve the strategic aim of being environmentally rich and sustainable. The natural environment will be managed to ensure that there will be minimal adverse effects on resources such as groundwater, surface water, and soil health. The site is not identified in any areas of unacceptable natural hazard risk, or biodiversity or significant flora and fauna areas.
171. The Our Growing Communities principles aims to achieve consolidated and integrated urban growth that provides housing choice. Residential growth in Rangiora is anticipated to occur to the east and to some extent to the west. This rezoning submission gives effect to this principle because it is providing land for new houses within the residential growth direction identified for Rangiora.
172. The Our Connections principle has the strategic aim of well-connected through infrastructure. The proposed rezoning and South West ODP demonstrates that the future development can be well-connected and efficiently serviced. Water supply, stormwater, and wastewater has all been assessed in the attached Infrastructure Servicing Report (Appendix C), which determined

that the site is able to be serviced. The proposal has good connectivity to neighbouring communities and proposed adjoining West Rangiora ODP.

173. The Our Centres principle identifies that Rangiora will continue as the primary centre role in the District. This proposal will focus residential growth around Rangiora which will support the town centre.
174. The Community Spaces and Places principle has the strategic aim of community facilities and green space that meet community needs. The proposed South West Rangiora ODP does not seek to create a new community facility but does provide for green space and the nearby school is walkable.
175. The Rural Area and Small Settlement and Our Economy, principles are not considered relevant to this submission.
176. The Rangiora snapshot provides information regarding where the town was at the time of writing (2018) and where the town is going (2048). The Strategy identifies that 5025 new households will be needed in Rangiora by 2048 and there are future residential long-term growth directions proposed to the east and west of the current town, which includes this submission site.
177. Overall, the Waimakariri District Development Strategy identifies this site as an area for future residential development as further greenfield residential land is required in Rangiora to accommodate the predicted residential growth in the area and in the wider Waimakariri District.
178. This rezoning submission achieves the Strategies vision and achieves the relevant principles such as Our Environment, Our Growing Communities, Our Connections and Our Community Spaces and Places.

9.2. Mahaanui Iwi Management Plan

179. The Mahaanui Iwi Management Plan (IMP) was lodged with the relevant Councils on the 1st March 2013, including the Waimakariri District Council. The Resource Management Act contains a number of provisions in regard to Maori interests, including the principles of the Treaty of Waitangi, and gives statutory recognition to Iwi Management Plans.
180. The Mahaanui Iwi Management Plan 2013 is a written document, it is an expression of kaitiakitanga which is fundamental to the relationship between Ngai Tahu and the environment. The IMP sets out how to achieve the 'protection of natural and physical resources according to Ngai Tahu values, knowledge and practices' (IMP section 5.1). It identifies a number of issues and associated policies, including subdivision and development guidelines. This promotes early engagement at various levels of the planning process to ensure certain outcomes are achieved within the development.
181. The Mahaanui IMP 2013 has been prepared by the six Papatipu Rūnanga of the takiwā:
 - Ngāi Tūāhuriri Rūnanga
 - Te Hapū o Ngāti Wheke (Rāpaki) Rūnanga
 - Te Rūnanga o Koukourārata
 - Ōnuku Rūnanga

- Wairewa Rūnanga
 - Te Taumutu Rūnanga
182. The site is located within the area covered by the Mahaanui Iwi Management Plan 2013 (IMP) and as such it is considered appropriate to assess the application under the IMP, as required under Section 74(2A) of the RMA, to assess any potential effects on Tāngata Whenua vales.
183. The relevant sections and policies to the applications are addressed as follows;

Section 5.1 Kaititakiganga

184. The objectives of this section of the IMP acknowledge that the Mahaanui IMP 2013 is a manawhenua planning documents for the six Papatipu Rūnanga in the region. It is acknowledged that there is a relationship with the Rūnanga have with the land and water, kaitiakitanga and Treaty of Waitangi. This section of the IMP provides an overarching policy statement on kaitiakitanga and is relevant to all other sections of the IMP.

Section 5.2 Ranginui

185. This section of the IMP addresses objectives and policies for air and provides guidance to the protection and use of air in a manner that respects the life supporting capacity and ensures that it is passed onto the next generation in a healthy state.
186. Air discharges will be changes from rural to residential in nature. This is considered to provide a possible benefit in that residential discharges have less potential to contaminate air.
187. The IMP also identifies the need to support reduction of emissions for climate change mitigation. The proposal allows for walking and cycling transport connections through the site, with future possible connections to adjoining land.

Section 5.3 Wai Maori

188. Section 5.3 addresses objectives and policies for freshwater and provides guidance to freshwater management in a manner consistent with Ngai Tahu cultural values and interests. It is recognised that Ngai Tahu and Rūnanga have interests and relationships with freshwater resources.
189. The residential development of the land will obtain water supply from the Council's reticulated network. The existing natural spring areas will be protected through setbacks to maintain the natural riparian margins which will be enhanced with native planting. All stormwater runoff will be conveyed by Councils reticulated stormwater network to the stormwater management area for treatment and detention before being discharged to the Southbrook Stream.
190. There will be no effluent discharges to ground or waterways. The site is located adjoining an existing urban area and will connect to the Council reticulated wastewater network.
191. It is considered that the application is consistent with the Wai Maori section of the IMP.

Section 5.4 Papatūānuku

192. This section of the IMP addresses objectives and policies of issues of significance in regard to the land. It recognises the relationships and connections between land, water, biodiversity and the sea.
193. The site is not in any known site or place of importance to tangata whenua, there are no protected places on the site, no archaeological sites or any other protection, as identified on

the Waimakariri District Planning Maps, the New Zealand Archaeological Association website, the New Zealand Historic Places Trust list or in the IMP.

194. Throughout the preparation of the rezoning request and the Outline Development Plan, the potential effects involved with changing the land use and any potential effects on the environment have been considered, with the intended aim to minimise any potential adverse effects. A full assessment of potential effects has been addressed in the Assessment of Environmental Effects.

Section 6.4 Waimakariri

195. This section of the IMP addresses issues of particular significance to the lands and water of the Waimakariri catchment. The submission site is located in Waimakariri District and issues around water quality and quantity and the potential effects of subdivision and development are relevant considerations as part of this submission. The issues and policies focus on discharges to surface water, discharges to groundwater, subdivision and development, and cultural landscapes. The rezoning of the site and any future subdivision development will manage and mitigate any potential effects on groundwater, on surface water, and reduce any potential effects on the environment and the cultural values of the wider area.
196. The site will be connected to existing Council infrastructure services, and as a result any potential discharge of contaminants will be controlled and treated. This will minimise the adverse effects on waterways and groundwater.

Summary

197. The proposed change of zoning from proposed Rural Lifestyle Zone to proposed General Residential Zone and Medium Density Residential Zone is considered to have less than minor adverse effects on the natural and cultural environment and is considered to be consistent with the provisions of the Mahaanui Iwi Management Plan 2013 and is therefore consistent with Tangata Whenua values.

9.3. Our Space Strategy 2018 – 2048

198. Our Space 2018-2048: Greater Christchurch Settlement Pattern Update Whakahāngai O Te Hōrapa Nohoanga (Our Space Update) has been prepared by the Greater Christchurch Partnership. The partnership includes;
- Christchurch City Council
 - Environment Canterbury
 - Selwyn District Council
 - Waimakariri District Council
 - Iwi – Te Rūnanga o Ngāi Tahu
 - Waka Kotahi New Zealand Transport Agency
 - Canterbury District Health Board
 - Greater Christchurch Group – the Department of Prime Minister and Cabinet
199. The Our Space update has been prepared to respond to the changes needed to growth and development of the region and complements the Urban Development Strategy (UDS) and to

address the NPS-UD 2020. It provides the high-level guidance about future changes needed to accommodate future growth and development in a sustainable and integrated manner.

- 200. The update identified addressing the projected shortfall of residential housing, redevelopment in the central city, providing a range of housing, integrated land use and transport and supporting investments as the key priority for the update.
- 201. The strategy identified that 36% of housing demand should be met through development of existing greenfield areas in Christchurch, Selwyn and Waimakariri and 19% through Selwyn and Waimakariri.
- 202. The proposed rezoning is consistent with the Our Space Strategy and will contribute to the 19% housing demand in Selwyn and Waimakariri Districts.

10. Part 2 of the Resource Management Act 1991

- 203. Section 74 of the Act requires the Plan Change Request to be assessed under the provisions of Part 2 of the Act. Part 2 sets out the purpose and principles of the Act.
- 204. Section 5 of the RMA outlines that the purpose of the RMA is the promotion of sustainable management of natural and physical resources. Sustainable management is defined as the management of:
 - (2) [...] 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.*
- 205. The proposed rezoning will provide for people and communities social, economic and cultural wellbeing by providing a well-designed and sustainable residential development with transportation, infrastructure and servicing connections. The site has been assessed as a suitable option for residential development and can promote the sustainable management of natural and physical resources. It is considered that any adverse effects can be avoided, remedied or mitigated therefore resulting in less than minor adverse effects on the environment.
- 206. Section 6 identifies matters of national importance to be recognised and provided for. It is considered only *Section 6(h) the management of significant risks from natural hazards* is relevant to this proposal. This rezoning request has recognised the potential flooding effects of the Ashley River Breakout scenario. The proposed mitigation measures identified in this report will successfully manage the risk of flooding.
- 207. Section 7 relates to 'other matters' which persons must have particular regard to. This submission for rezoning has given particular regard to (a) Kaitiakitanga, (b) the efficient use and development of natural and physical resources, (c) the maintenance and enhancement of amenity values and (f) maintenance and enhancement of the quality of the environment. The submission to rezone the site has had regard to these matters through the well-designed proposed South West Rangiora Outline Development Plan, which has incorporated the natural

features of the site, such as water course, to ensure the maintenance of the quality of the environment and the amenity values.

208. Section 8 requires persons to take into account the principles of the Treaty of Waitangi. An assessment of the Mahaanui Iwi Management Plan has been undertaken in 9.2 of this report. It is considered that the proposed rezoning is consistent with the principles of the Treaty of Waitangi.
209. Overall, the submission to rezone the site is considered to achieve the principle and purpose of Part 2 of the RMA.

11. Conclusion

210. The 'Submitters' have made this submission on the proposed Waimakariri District Plan to request the rezoning of the site at 163, 191, 199 & 203 Johns Road, Rangiora from the proposed Rural Lifestyle Zone (RLZ) to proposed General Residential Zone (GRZ) and Medium Residential Density Zone (MRZ).
211. The purpose of this submission is to allow for future residential development in the short term by providing housing supply and increased housing capacity in Rangiora.
212. This submission **supports** and **opposes** other provisions of the pWDP that either assist or prevent the successful development of the site.
213. The Section 32AA assessment in Section 7 of this report demonstrates that rezoning of the land to proposed GRZ/MRZ is the most effective and efficient option for this site when considering the costs and benefits of the other option, retaining the RLZ with the associated certification process.
214. The Assessment of Environmental Effects in Section 8 of this report identifies those adverse effects from the proposed rezoning and future residential development can be mitigated through detailed design at the time of subdivision consent and engineering approval and will be less than minor. The assessment also identifies that there are positive effects that would result from the proposal.
215. An assessment of the relevant National Policy Statements, Canterbury Regional Policy Statement, proposed District Plan and other statutory and non-statutory documents has been undertaken in accordance with Section 74 of the RMA which demonstrates that the proposal gives effect to all provisions. The proposal provides for the logical, integrated provision of residential growth in Rangiora, and provides housing choice with respect to location and typology in the Waimakariri District and gives effect to the Waimakariri District Development Strategy. The proposal is an efficient and effective use of the site, is able to be serviced, can mitigate potential adverse effects, can contribute positively to the amenity and housing choice in Rangiora, and is consistent with Part 2 of the RMA in providing for sustainable use of resources for future generations.
216. For the reasons detailed throughout this report, the relief sought is to rezone the submission site at 163, 191, 199 & 203 Johns Road, Rangiora to proposed GRZ and MRZ, and to amend the planning maps to include the site as proposed GRZ/MRZ and insert the new South West Rangiora ODP.
217. In conclusion, this site has been identified as being suitable for residential development under the Canterbury Regional Policy Statement, Our Space Strategy Update 2018-2048 and

Waimakariri 2048 District Development Strategy (2018). The proposed provisions for GRZ and MRZ in the Proposed Waimakariri District Plan and new South West Rangiora ODP will ensure any future development is consistent with and promote the purpose and principles of the Resource Management Act.

Disclaimer

This report has been prepared by Eliot Sinclair & Partners Limited ("Eliot Sinclair") only for the intended purpose as a submission to the 2021 Proposed Waimakariri District Plan to request General Residential Zoning for 163, 191, 199 & 203 Johns Road, Rangiora.

The report is based on:

- Eliot Sinclair Infrastructure Servicing Report
- Eliot Sinclair Natural Hazards and Soil Contamination Report
- Eliot Sinclair Natural Hazards Risk Assessment
- Canterbury Maps
- Waimakariri Proposed District Plan website

Where data supplied by the Submitters or other external sources, including previous site investigation reports, have been relied upon, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Eliot Sinclair for incomplete or inaccurate data supplied by other parties.

Whilst every care and reasonable effort has been taken during our investigation and interpretation to ensure that the conclusions drawn, and the opinions and recommendations expressed are correct at the time of reporting, Eliot Sinclair has not performed an assessment of all possible conditions or circumstances that may exist at the site. Variations in conditions may occur between data sources and Eliot Sinclair has provided conclusions in this report based on the best available information at the time of writing. Eliot Sinclair does not provide any warranty, either express or implied, that all conditions will conform exactly to the assessments contained in this report.

The exposure of conditions or materials that vary from those described in this report may require a review of our recommendations. Eliot Sinclair should be contacted to confirm the validity of this report should any of these occur.

This report has been prepared for the benefit of the Submitters and the regulatory authority for the purposes as stated above. No liability is accepted by Eliot Sinclair or any of their employees with respect to the use of this report, in whole or in part, for any other purpose or by any other party.

Appendix A. Proposed South West Outline Development Plan

Appendix B. Record of Title



RECORD OF TITLE (PREVIEW)

DERIVED FROM LAND INFORMATION NEW ZEALAND DATA SERVICE

Freehold

Information automatically generated on 26-11-2021 14:04

Identifier	138040
Land Registered Distict	Canterbury
Date Issued	02-07-2004
Prior references	CB37B/1119

Type	Fee Simple
Area	41850 square metres more or less
Legal Description	Lot 1 DP 333694
Estate Description	Fee Simple, 1/1, Lot 1 Deposited Plan 333694, 41,850 m2
Registered owners	Allan Downs Limited

Current Memorials

- The easements created by Easement Instrument 6030983.4 are subject to Section 243 (a) Resource Management Act 1991
- Subject to a right of way over part marked A on DP 333694 created by Easement Instrument 6030983.4 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9:00 am
- Fencing Covenant in Easement Instrument 6030983.5 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9:00 am
- Land Covenant created by Easement Instrument 8389689.2 - 18.1.2010 at 12:19 pm

Historic Memorials

- Land Covenant in Easement Instrument 6030983.5 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9:00 am
- 7379149.1 Transmission to John Ross Stackhouse and Gerald Warrad Alexander as Executors - 21.5.2007 at 9:00 am
- 7627412.1 Transfer to New Zealand Pork Corporation Limited - 10.12.2007 at 10:27 am
- 8389689.1 Surrender of the land covenant specified in Easement Instrument 6030983.5 - 18.1.2010 at 12:19 pm
- 10999771.1 Transfer to Allan Downs Limited - 1.2.2018 at 4:45 pm

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Freehold

Information automatically generated on 26-11-2021 14:04

Identifier

138041

Land Registered Distict

Canterbury

Date Issued

02-07-2004

Prior references

CB382/289
CB37B/1119

Type

Fee Simple

Area

45320 square metres more or less

Legal Description

Lot 2 DP 333694

Estate Description

Fee Simple, 1/1, Lot 2 Deposited Plan 333694, 45,320 m2

Registered owners

199 Johns Road Limited

Current Memorials

- 6030983.1 Consent Notice pursuant to Section 221 Resource Management Act 1991 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am
- Subject to a right of way over part marked B on DP 333694 created by Easement Instrument 6030983.4 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am
- The easements created by Easement Instrument 6030983.4 are subject to Section 243 (a) Resource Management Act 1991
- Appurtenant hereto is a right of way created by Easement Instrument 6030983.4 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am
- Fencing Covenant in Easement Instrument 6030983.5 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am
- Land Covenant created by Easement Instrument 8389689.2 - 18.1.2010 at 12:19 pm
- 11490001.3 Mortgage to Westpac New Zealand Limited - 1.8.2019 at 2:29 pm

Historic Memorials

- 6030983.1 Consent Notice pursuant to Section 221 Resource Management Act 1991 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 ay 9.00 am
- Appurtenant hereto is a right of way created by Easement Instrument 6030983.4 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am
- Land Covenant in Easement Instrument 6030983.5 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am
- Fencing Covenant in Easement Instrument 6030983.5 - produced 4.6.2004 at 9:00 am and entered 2.7.2004
- 6099500.1 Transfer to Simon John Skelton - 2.8.2004 at 9:00 am
- 6381542.1 Transfer to George Ferguson Timperley, Clarence Ross Timperley and David George Timperley - 13.4.2005 at 9:00 am
- 8389689.1 Surrender of the land covenant specified in Easement Instrument 6030983.5 - 18.1.2010 at 12:19 pm
- 10355134.1 Transmission to Clarence Ross Timperley and David George Timperley as survivor(s) - 6.4.2016 at 4:41 pm
- 10800775.1 Transfer to Jennifer Ann Todd - 13.6.2017 at 4:14 pm
- 11490001.2 Transfer to 199 Johns Road Limited - 1.8.2019 at 2:29 pm
- 11146857.1 Mortgage to Bank of New Zealand - 26.6.2018 at 10:57 am
- 11490001.1 Discharge of Mortgage 11146857.1 - 1.8.2019 at 2:29 pm

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RECORD OF TITLE (PREVIEW)

DERIVED FROM LAND INFORMATION NEW ZEALAND DATA SERVICE

Freehold

Information automatically generated on 26-11-2021 14:05

Identifier	138042
Land Registered District	Canterbury
Date Issued	02-07-2004
Prior references	CB37B/1119 CB382/289
Type	Fee Simple
Area	45260 square metres more or less
Legal Description	Lot 3 DP 333694
Estate Description	Fee Simple, 1/1, Lot 3 Deposited Plan 333694, 45,260 m2
Registered owners	Carolina Rental Homes Limited
Current Memorials	<ul style="list-style-type: none">• Appurtenant hereto is a right of way created by Easement Instrument 6030983.4 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am• The easements created by Easement Instrument 6030983.4 are subject to Section 243 (a) Resource Management Act 1991• Fencing Covenant in Easement Instrument 6030983.5 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am• Land Covenant created by Easement Instrument 8389689.2 - 18.1.2010 at 12:19 pm• 11103245.3 Mortgage to Bank of New Zealand - 16.5.2018 at 11:16 am
Historic Memorials	<ul style="list-style-type: none">• 6030983.1 Consent Notice pursuant to Section 221 Resource Management Act 1991 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am• Appurtenant hereto is a right of way created by Easement Instrument 6030983.4 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am• Land Covenant in Easement Instrument 6030983.5 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am• 6167385.2 Transfer to Drago Carolus Garb and Hope Elizabeth Garb (1/2 share) and Raymond Milan Garb (1/2 share) - 1.10.2004 at 9:00 am• 6167385.1 Cancellation of Consent Notice 6030983.1 - 1.10.2004 at 9:00 am• 8389689.1 Surrender of the land covenant specified in Easement Instrument 6030983.5 - 18.1.2010 at 12:19 pm• 6167385.3 Mortgage to Bank of New Zealand - 1.10.2004 at 9:00 am• 11103245.2 Transfer to Carolina Rental Homes Limited - 16.5.2018 at 11:16 am• 11103245.1 Discharge of Mortgage 6167385.3 - 16.5.2018 at 11:16 am
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RECORD OF TITLE (PREVIEW)

DERIVED FROM LAND INFORMATION NEW ZEALAND DATA SERVICE

Freehold

Information automatically generated on 26-11-2021 14:03

Identifier	138043
Land Registered Distict	Canterbury
Date Issued	02-07-2004
Prior references	
	CB382/289

Type	Fee Simple
Area	65875 square metres more or less
Legal Description	Lot 4 DP 333694
Estate Description	Fee Simple, 1/1, Lot 4 Deposited Plan 333694, 65,875 m2
Registered owners	
	Carolina Homes Limited

Current Memorials

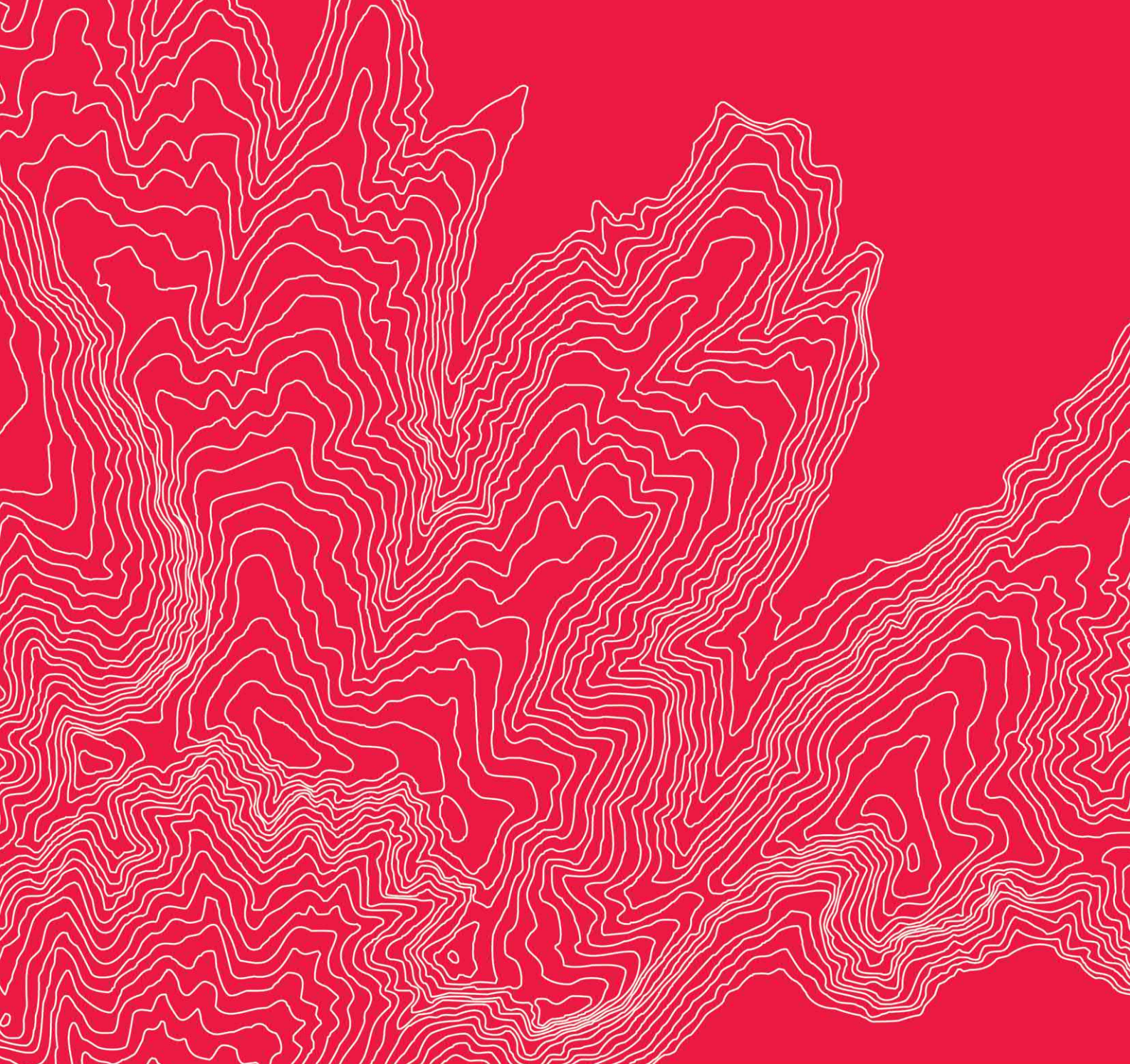
- Fencing Covenant in Easement Instrument 6030983.5 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am
- Land Covenant created by Easement Instrument 8389689.2 - 18.1.2010 at 12:19 pm
- Subject to a right (in gross) to drain water over part marked A on DP 534339 in favour of Waimakariri District Council created by Easement Instrument 11485458.2 - 14.8.2019 at 10:57 am
- The easements created by Easement Instrument 11485458.2 are subject to Section 243 (a) Resource Management Act 1991

Historic Memorials

- Land Covenant in Easement Instrument 6030983.5 - produced 4.6.2004 at 9:00 am and entered 2.7.2004 at 9.00 am
- 7379149.1 Transmission to John Ross Stackhouse and Gerald Warrad Alexander as Executors - 21.5.2007 at 9:00 am
- 7627444.1 Transfer to George Ferguson Timperley, Clarence Ross Timperley and David George Timperley - 10.12.2007 at 10:27 am
- 8389689.1 Surrender of the land covenant specified in Easement Instrument 6030983.5 - 18.1.2010 at 12:19 pm
- 10355134.1 Transmission to Clarence Ross Timperley and David George Timperley as survivor(s) - 6.4.2016 at 4:41 pm
- 11008997.1 Transfer to Jennifer Ann Todd - 23.1.2018 at 10:14 am
- 11274488.1 Discharge of Mortgage 11190393.3 - 23.11.2018 at 3:13 pm
- 11190393.3 Mortgage to Bank of New Zealand - 20.8.2018 at 3:58 pm
- 11274488.2 Transfer to Carolina Homes Limited - 23.11.2018 at 3:13 pm

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Appendix C. Infrastructure Servicing Report



Infrastructure Services Report

**Submission to Proposed Waimakariri
District Plan**

Prepared for 199 Johns Road Limited
500189

**eliot
sinclair**

Infrastructure Services Report

Submission to Proposed Waimakariri District Plan

Prepared for 199 Johns Road Limited

500189

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		23 November 2021
Reviewed by:	Kieran Stuart Surveyor BSurv MS+SNZ (Assoc) kieran.stuart@eliotsinclair.co.nz		24 November 2021
Directed and approved for release by:	Claire McKeever Resource Management Planner Associate BSurv(Hons) MS+SNZ MNZPI claire.mckeever@eliotsinclair.co.nz		26 November 2021
Status:	Final		
Release date:	26 November 2021		
Reference no:	500189		
Distributed to:	199 Johns Road Limited Waimakariri District Council		

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Appendix A. Proposed West Rangiora and South West Rangiora Development Integration Plan

Appendix B. 200 Year Ashley River Breakout and ARI Flood Modelling

1. Introduction

Eliot Sinclair has been engaged by 199 Johns Road Limited to address the servicing requirements for stormwater, wastewater and drinking water (three waters) for a residential rezoning submission for 163, 191, 199 and 203 Johns Road, Rangiora (the 'Site'), legally described as Lots 1-4 DP 333694. The Site has a total land area of 19.8305 ha and is currently zoned as Rural under the Waimakariri District Plan.

This Infrastructure Servicing Report has been prepared in support of a submission as part of the Waimakariri District Plan review process to confirm the site is not constrained in respect of future residential development, should the rezoning submission to General Residential Zone (GRZ) and Medium Residential Density Zone (MRZ) be successful.

Appendix A provides the Proposed West Rangiora and South West Rangiora Development Integration Plan.

2. Site Description

2.1. General

The Site currently consists of four smaller rural blocks with dwellings on each allotment that are serviced by individual private wells and septic tanks. Historically the Site was pastoral farmland. The Site is bounded by Johns Road to the north. The land to the west is zoned Rural, while the land to the south and east is zoned Residential 2 under the Operative District Plan and includes the new Te Matauru primary school (MOE D092).

The adjoining Residential 2 zone is currently known as the Townsend Fields subdivision. New roads Angus Place, Lusk Place, McCahon Drive and Goldie Drive will provide additional access to this Site once the Townsend Fields development is completed.

This site is within the urban limits of Rangiora and has been identified as a Greenfield Priority Area in the CRPS.

2.2. Existing Services

The Townsend Fields subdivision services were designed with capacity for an approximate 50 ha catchment which includes that of 163, 191, 199 and 203 Johns Road with sewer, water supply and stormwater infrastructure connections being made available.

The Townsend Fields Stormwater Management Area (SMA), located within the South of the subdivision, was designed/sized to provide both treatment and attenuation for a 50 ha upstream catchment which includes that of 163, 191, 199 and 203 Johns Road.

The existing infrastructure capacities are discussed in later sections of this report.

2.3. Topography

The Site has a gently sloping topography towards the south and southeast with a gradient of around 0.5%.

2.4. Geology

Previous geotechnical investigations completed by Eliot Sinclair as part of the Townsend Fields development described the overall area as being underlain by a surface geology comprising of

'unweathered brownish-grey, variable mix of gravels/sand/silt/clay in low river terraces with locally to a 2 m silt cap'.

Geotechnical pre purchase investigations and testing at 199 Johns Road indicated a top soil thickness of 250-350 mm, overlying silt/silty clay and silty sand to a depth of approximately 1.4 m below ground level (bgl) where gravels were encountered.

Geotechnical desktop investigations of 163 Johns Road indicate a top soil of 200-300 mm overlying clay bound gravels that extended to at least 12 m bgl.

Generally the soils across the entire area comprise of around 0.3 m depth of topsoil, with and underlying mix of sands, silts, clays and gravels.

2.5. Hydrogeology

Groundwater within the local vicinity is within the unconfined/semi-confined aquifer zone and groundwater flows in a southeast direction (Canterbury Maps, 2021).

For the period 2011-2015, groundwater levels were monitored frequently by Eliot Sinclair as part of the Townsend Fields development design, at the six locations shown in Figure 1.



Figure 1. Groundwater Monitoring Locations (2011-2015)

Table 1 provides the recorded groundwater monitoring depths (2011-2015) and indicates a seasonal fluctuation across the monitoring area of 0.4 m – 0.5m.

Table 1. Groundwater Monitoring Depths (2011 – 2015)

Bore	Lowest Groundwater (m bgl)	Mean Groundwater (m bgl)	Highest Groundwater (m bgl)
A	3.8	2.7	0.9
B	1.4	0.9	0.2
C	1.1	1.0	0.8
D	0.7	0.6	0.3
E	1.6	0.9	0.2
F	0.8	0.6	0.3

2.6. Surface Waters

There are three surface waters within the direct vicinity of the Site. South Brook flows in an easterly direction and is located to the south and two unnamed spring fed streams which form confluences with South Brook. The western unnamed stream is within the Site, as shown in Figure 2.



Figure 2. South Brook and Two Unnamed Spring Fed Streams (Canterbury Maps, 2021)

2.6.1. Eastern Unnamed Stream

The eastern unnamed stream is located within the Townsend Fields subdivision and was realigned as part of the Townsend Fields development works to free up available land for the siting of a SMA and discharges to South Brook. The stream generally has a permanent flow of water throughout the year however, site observations suggest this could potentially be due to groundwater interception as the spring itself has not be visually observed. The stream can become ephemeral during dry summer periods.

2.6.2. Western Unnamed Stream

The western unnamed stream originates within the 203 Johns Road property and flows in a southeast direction prior to forming a confluence with South Brook. The stream has similar characteristics to the eastern unnamed stream and is likely to have a similar flow regime.

2.6.3. South Brook

South Brook is spring feed and runs in an easterly direction to the south of the Site, prior to passing under Townsend Road via a 4 m wide and 1.8 m high box culvert. Little is known about the groundwater/South Brook interaction and connectivity, but it is reasonable to assume that the South Brook bed depth will intercept the underlying groundwater potentially year round.

2.6.4. Springs

Multiple springs are associated with South Brook and its various tributaries. Figure 3 shows 16 spring locations along an approximate 1,500 m reach of South Brook, sited between Lehmans Road and Townsend Road.



Figure 3. Spring Locations (Canterbury Maps, 2017)

It is assumed that the springs are related to weak zones in the upper semi-confining silty horizon and localised low spots in topography. However, no specific study has been carried out to define spring/soil horizon/groundwater interactions across the locality.

3. Stormwater

3.1. Stormwater Management

3.1.1. Overview

The existing SMA, located to the south of the Townsend Fields subdivision, is an extended detention wet pond facility designed to treat the water quality volume (also known as the 'first flush' of rainfall runoff) and to provide detention for the water quantity volume for rainfall events up to and including the 2% Annual Exceedance Probability (AEP, 1 in 50 year) storm of 12 hours in duration.

The existing SMA was sized with sufficient treatment and attenuation capacity to cater for an approximate 50 ha Residential 2 (R2) zoned upstream catchment, which has a minimum allotment size of 600 m². At the time of the original design WDC specified the percentage of impervious area within each allotment, which defined the basin capacity requirement.

It is our understanding that subsequent plan changes could potentially allow the building coverage and impervious areas within each allotment to be increased beyond the original SMA design assumptions; should this be the case then the downstream SMA may not have sufficient capacity to provide treatment and attenuation for the full 50 ha upstream catchment.

Figure 4 shows the SMA upstream catchment (note: the land area shown as Residential West covers 163, 191, 199 and 203 Johns Road,).

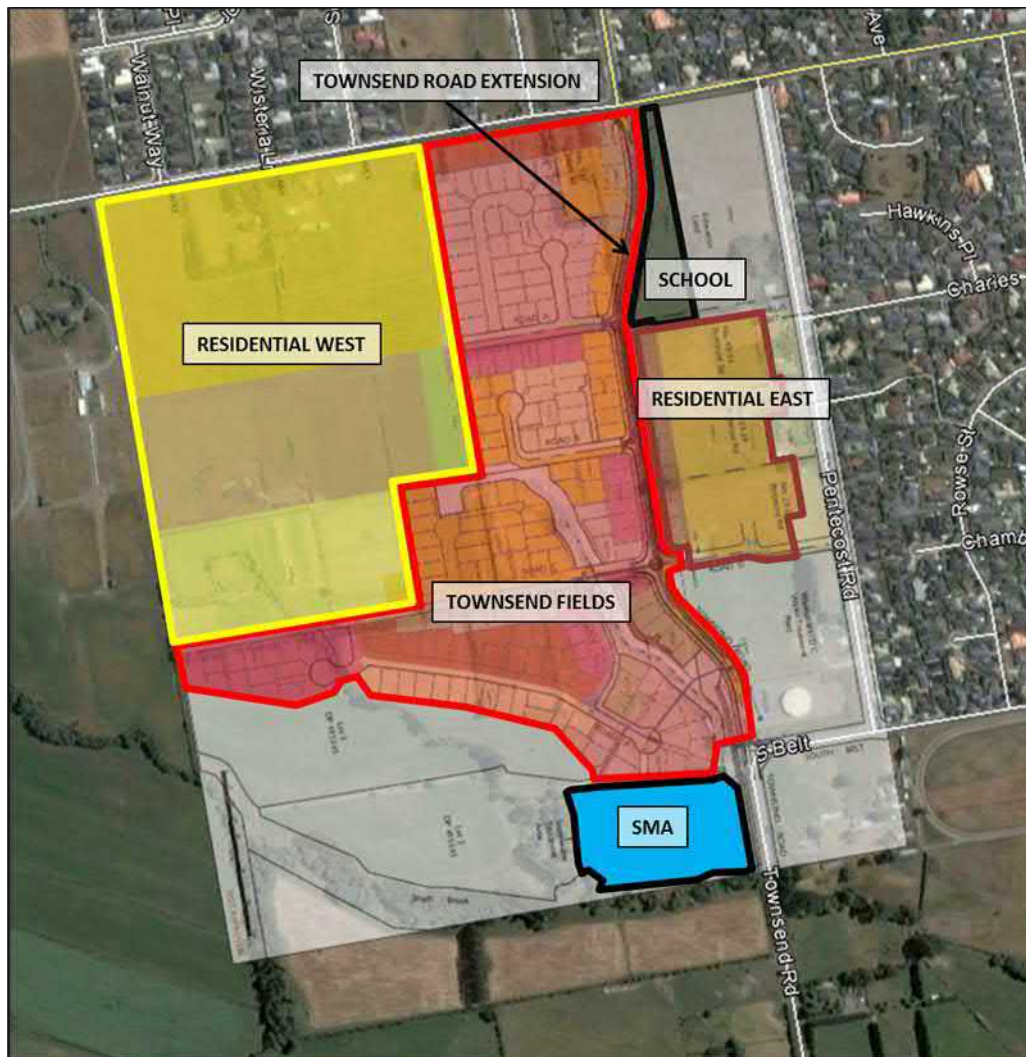


Figure 4. SMA Contributing Catchments

3.1.2. Treatment

The SMA is designed to provide treatment for stormwater runoff resulting from the first 25 mm rainfall depth and a runoff coefficient of 0.41 (based on the Christchurch City Council's (CCC) Waterways, Wetlands and Drainage Guide (WWDG)).

For subdivisions with a higher percentage of impervious area (up to 70%), as could potentially be the case for future development within 163, 191, 199 and 203 Johns Road, the WWDG recommends a runoff coefficient of 0.63 which would result in an increase in the volume of stormwater runoff requiring treatment.

Table 2 provides an approximate indication of the additional treatment capacity that would need to be provided by the SMA should the impervious areas within the Site increase beyond the original design assumptions.

Table 2. Potential Additional Volume of Stormwater Requiring Treatment

	Land Area (ha)	Runoff Coefficient	Rainfall Depth (mm)	Runoff Volume Requiring Treatment (m ³)
Original design parameters	19.8305	0.41	25	2,033
Updated design parameters	19.8305	0.63	25	3,123
Additional treatment capacity required to services the Site				1,091

3.1.3. Detention

The SMA detention storage capacity is designed to ensure that post development stormwater discharges from the upstream 50 ha catchment do not exceed that of the pre developed state (green field) for all rainfall events up to and including the 2% AEP of 12 hours in duration.

Hydrological and hydraulic modelling was originally carried out to define the SMA detention storage design parameters. As part of this rezoning submission, simplistic Manning's hand calculations have been completed to provide a rough gauge of the additional detention storage requirement that may result from a potential increase in impervious area.

Based on the WWDG recommendations a runoff coefficient of 0.53 was assumed for the original R2 design parameters and a runoff coefficient of 0.65 to account for the potential increase in impervious area. Rainfall data was taken from HIRDS RCP8.5 for the period 2081 – 2100; the results are presented in Table 3.

Table 3. Potential Additional Detention Storage Requirement

2% AEP Duration (hours)	Land Area (ha)	R2 Zoning Runoff Volume (m ³)	New Zoning Runoff Volume (m ³)	Additional Detention Storage Requirement
2	19.8305	5,476	6716	1,240
6	19.8305	8,965	10995	2,030
12	19.8305	11,982	14694	2,713

3.1.4. Proposed New Stormwater Detention Basin

To mitigate the increase in runoff from the Site (should the impervious area increase beyond the original SMA design parameters), it is proposed that a new stormwater basin be constructed within the Site. The basin would undergo hydrological and hydraulic modelling to confirm the required design parameters and would act as a detention storage basin to hold back the additional volume of stormwater generated. The stored water would be discharged via an outlet structure at a rate no greater than the original R2 design parameters, thereby ensuring the existing SMA capacity is not exceeded.

3.2. Primary Conveyance

The land areas of 163, 191, 199 & 203 Johns Road were included within the original Townsend Fields Stage 1 subdivision stormwater modelling and capacity was included within the pipe reticulation to convey stormwater discharges from the western land areas to the SMA.

A DN900 stormwater pipe has been terminated at the end of Goldie Drive and a DN750 terminated at the end of Angus Place, both these pipes have been sized to convey stormwater runoff from the future development of 163, 191, 199 & 203 Johns Road.

Figure 5 shows the western land areas which were included within the Townsend Fields Stage 1 stormwater modelling.

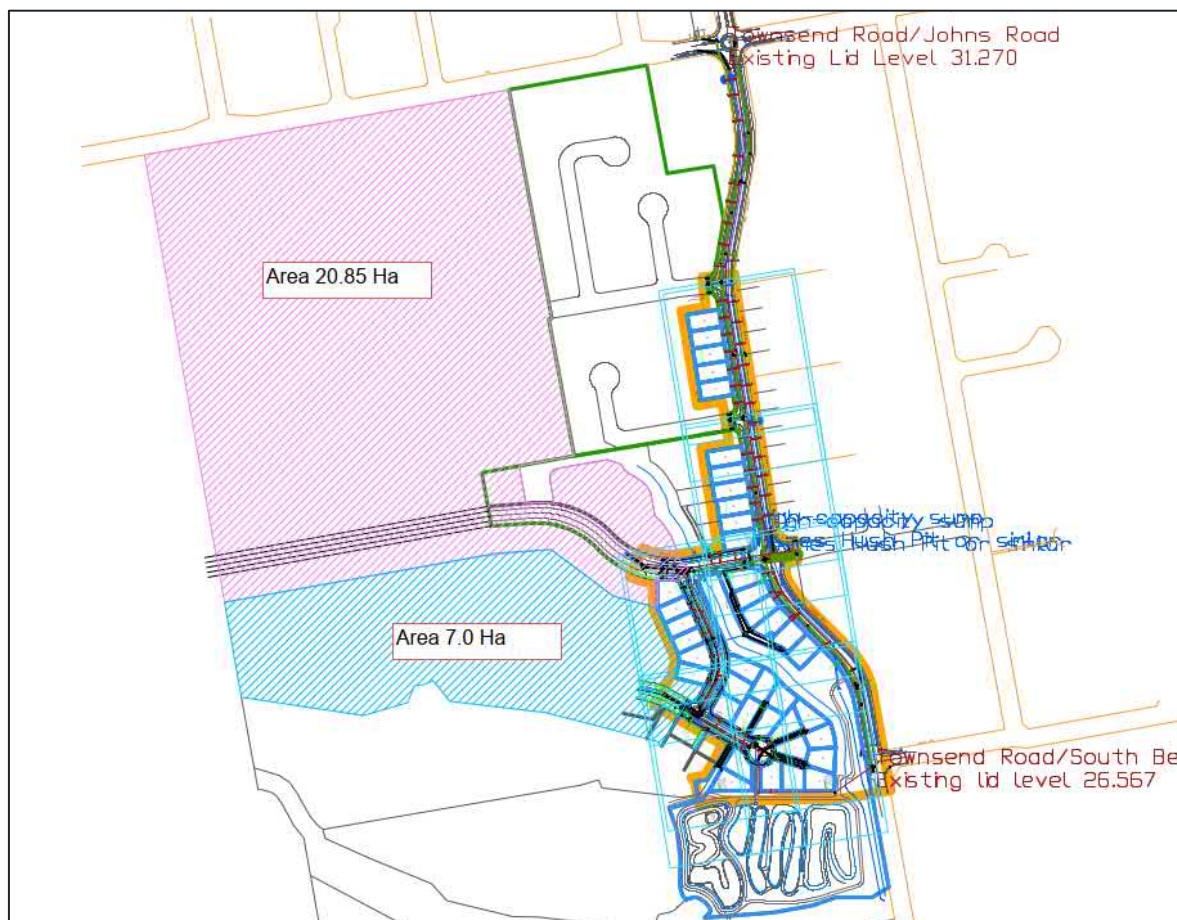


Figure 5. Original Townsend Fields Subdivision Stormwater Modelling Catchments

Stormwater runoff from future residential allotments and roading can be conveyed by swales, kerb and channel, sumps and pipe reticulation to a new stormwater detention basin (if one is required), from where it would be released to the downstream SMA at a rate not exceeding that of the original R2 design parameters. The basin would discharge to either the Goldie Drive and/or Angus Place existing reticulation (this is a detailed design component).

The future stormwater network would be required to have capacity to convey the 10% AEP (1 in 10 year) critical duration rainfall runoff and will need to adhere with the WDC Engineering Code of Practise.

Each future allotment would be provided with a connection of sufficient capacity to take the 10% AEP runoff, as required by the New Zealand Building Code.

The minimum stormwater pipe diameter would be DN225 and all double sumps would have DN300 connections, as required by the WDC Engineering Code. All double sumps would be fitted with submerged outlets, as per CCC SD 329.

Hydrological and hydraulic modelling would be carried out to ensure the pipe network capacity is sized adequately.

3.3. Secondary Conveyance

Stormwater runoff flow rates beyond the pipe or sump capacities will discharge into the road network and will be conveyed via the roads to the new detention basin previously mentioned (if one is required), prior to discharging to the downstream existing SMA. Depending on the outcome of future stormwater modelling potentially some secondary flow may discharge directly to the existing SMA with the remainder being held back within the new detention basin.

Angus Drive (and applicable upstream Townsend Fields Rounding) was designed with sufficient capacity to cater for secondary discharges from the upstream 50 ha catchment, prior to discharging into the SMA.

The secondary conveyance network would be sized/designed in accordance with the WDC Engineering Code of Practice to convey the 2% AEP.

4. 200 Year Ashley River Breakout and ARI Flooding

As part of the Townsend Fields development, 200 year Ashley River breakout and ARI flood modelling was completed to define the required dwelling finished floor levels and to ensure the subdivision did not exacerbate flooding within neighbouring properties. A bund was constructed down the western boundary of the Townsend Fields subdivision (eastern boundary the 163, 191, 199 & 203 Johns Road land areas). The purpose of the bund was to divert flood waters to the south away from the Townsend Fields subdivision, with the goal of reducing the potential flood impact on the area.

It is proposed that the existing Townsend Fields bund be decommissioned and moved to the western boundary of the 163, 191, 199 & 203 Johns Road land areas, to reduce the flood impacts in the same manner as was achieved for the Townsend Fields subdivision.

Fluent Solutions has completed flood modelling of the bund if it were to be located along the western boundary of the 163, 191, 199 & 203 Johns Road land areas. The model indicated that flooding was exacerbated (flood depth increase) around neighbouring dwellings to the west. Therefore, it is proposed that a channel be constructed down the western boundary to convey flood waters to the south. It is also proposed that a bund be positioned down the eastern bank of the channel to prevent flood waters overtopping the channel and spilling into the future residential area to the east (within 163, 191, 199 & 203 Johns Road).

Fluent Solutions has completed a second round of flood modelling which included the proposed channel and bund configuration. The modelling indicated that the channel and bund combination conveyed flood waters to the south successfully and did not result in adverse effects on surrounding dwellings (flood depths did not increase). The modelled channel was 20 m wide (top width), 1 m in depth, with bank batters of 1 in 4. The proposed bund width is 10m.

The modelling did indicate that flood waters could over top the southern-most reach of the channel resulting in an approximate 50-200 mm flood depth increase within the southern-most areas of the 205 Johns Road and 117 Townsend Road properties. However, there are no dwellings within this area (land is pasture) and both properties at this location are already subject to a modelled food depth ranging from 0.45 m to 1 m.

Appendix B provides the Fluent Solutions flood modelling maps.

During the design of the 163, 191, 199 & 203 Johns Road subdivision further modelling will be carried out which will include the potential new stormwater detention basin (if required), road layouts and will optimise the channel and bund dimensions. The design will also be adjusted to mitigate any adverse effects within the southern land areas of 205 Johns Road and 117 Townsend Road (should WDC consider this necessary given that these areas are already subject to a significant flood depth).

Overall, and based on preliminary modelling carried out to date, it is not considered that the 200 year Ashley River Breakout and ARI flood event presents a constraint to the proposed submission for General Residential and Medium Residential Density Zone.

5. Wastewater

As part of the Townsend Fields development the gravity sewer network was designed with sufficient capacity to cater for the of the future subdivision of the 163, 191, 199 & 203 Johns Road land areas. The wastewater pipe sizes were provided by WDC to serve the Townsend Fields Subdivision and the surrounding land area to the west. Wastewater discharges from the area gravitate to an existing DN450 pipe in South Belt.

As part of the Townsend Field subdivision the following future connections are available:

- DN375 sewer main has been terminated at the end of Goldie Drive allowing for a future connection.
- DN150 sewer main has been terminated at the end of McCahon Drive allowing for a future connection.
- DN150 sewer main has been terminated at the end of Lusk Crescent allowing for a future connection.
- DN150 sewer main has been terminated at the end of Angus Place allowing for a future connection.

The Proposed Waimakariri District Plan makes an allowance for the wastewater servicing of the West Rangiora Development Area, and states:

"Gravity wastewater infrastructure will service the West Rangiora Development Area and only the key trunk infrastructure is shown. Trunk mains run through the centre of the catchments to eventually connect to the Townsend Fields trunk main (and the Rangiora Central Sewer Upgrades). Ideally, the network would be constructed from south to north, so that there is infrastructure for subsequent catchments to connect into. Temporary solutions would need to be discussed if development was to occur in the north first."

In accordance with the District Plan, the 163, 191, 199 & 203 Johns Road area would ideally be developed prior to any other land areas to the west or north, as the infrastructure servicing future areas would be brought up through the Site.

Figure 5, shows the West Rangiora Development Area Proposed Wastewater and Water Supply servicing.



Figure 6. West Rangiora Development Area Water & Wastewater Proposed Servicing (WDC, 2021)

6. Drinking Water

The existing points of water supply for the Townsend Fields subdivision are the DN300 main in South Belt near Pentecost Road and the DN300 main at the Johns Road and West Belt intersection. The initial water supply modelling was completed by WDC who provided the Townsend Fields water main sizes, during this initial Townsend Fields water supply modelling it is our understanding the 163, 191, 199 & 203 Johns Road land areas were accounted for.

As part of the Townsend Field subdivision the following future connections are available:

- DN300 water main has been terminated at the end of Goldie Drive allowing for a future connection.
- DN150 water main has been terminated at the end of McCahon Drive allowing for a future connection.
- DN100 water main has been terminated at the end of Lusk Crescent allowing for a future connection.
- DN150 water main has been terminate at the end of Angus Place allowing for a future connection.

The Proposed Waimakariri District Plan makes an allowance for the water supply servicing of the West Rangiora Development Area, and states:

"The provision of reticulated water supply assumes a skeleton network where only water pipes of 100 mm in diameter and greater are specified. The exact location of the reticulation may change when road layouts are confirmed.....

"Reticulation upgrades for proposed for Rangiora are both within Development Areas (East, North East and West) and within the existing network. Due to their location, all of the existing network upgrades can be attributed to the Development Areas. Source and headworks upgrades are not Development Area specific, rather they apply to the whole scheme.

A number of water network upgrades are required to service West Rangiora Development Area's four catchments. Reticulation requirements include upgrades to the existing network and extra over upgrades to development reticulation. These upgrades are required to maintain the existing levels of service to current and future customers. New mains along key roads are required to upgrade the Southwest Rangiora Supply Main, Johns Road West Supply Main, Lehman's Road Ring Main and Ayers Street Supply Main.

Development in the West Rangiora, North East and East Development Areas also contribute to the requirement to upgrade a number of wider Rangiora sources and headworks, such as additional wells and associated pipework at Rangiora Source, new Surface Pumps and Generator at Ayers Street Headworks, new reservoirs at Ayers Street and South Belt, and a new Surface Pump at South Belt Headworks.

Existing water reticulation extends to the edge of the West Rangiora Development Area, making it straight-forward to connect to the scheme. High groundwater levels in the very southern portions of the Development Area may lead to some elevated costs."

The district plan requirements are not prohibitive towards supplying potable and firefighting water to the Site and sufficient infrastructure has been brought through the Townsend Fields subdivision area. Water supply modelling carried out during the design of Townsend Fields Stages 2 and 3 easily achieved the pressure and water supply flow requirement, indicating there is additional capacity available to service 163, 191, 199 & 203 Johns Road. At the time of design water supply modelling will be carried out for confirmation and to determine if any upgrades to the existing infrastructure are required.

7. Conclusion

It is concluded that the sites at 163, 191, 199 & 203 Johns Road are suitable, from a servicing perspective, for residential rezoning. The sites can be provided with necessary stormwater, wastewater and drinking water services and there are no constraints to the proposed submission for General Residential Zone.

The Site is located within the 200 year Ashley River Breakout and ARI flood path and preliminary flood modelling has been carried out to determine the effects on surrounding land areas. It is concluded that management and conveyance of the flood waters can be via a channel and bund located down the western boundary (with further conveyance via the internal road network) and that the effects on surrounding land areas will be less than minor (negligible).

Disclaimer

This report has been prepared by Eliot Sinclair & Partners Limited ("Eliot Sinclair") only for the intended purpose as technical supporting documentation for a district plan review submission.

The report is based on:

- Review of Canterbury Maps (2021).
- Review of WDC Services Maps.
- Review of Townsend Fields subdivision engineering drawings.
- Correspondence with WDC (2021).

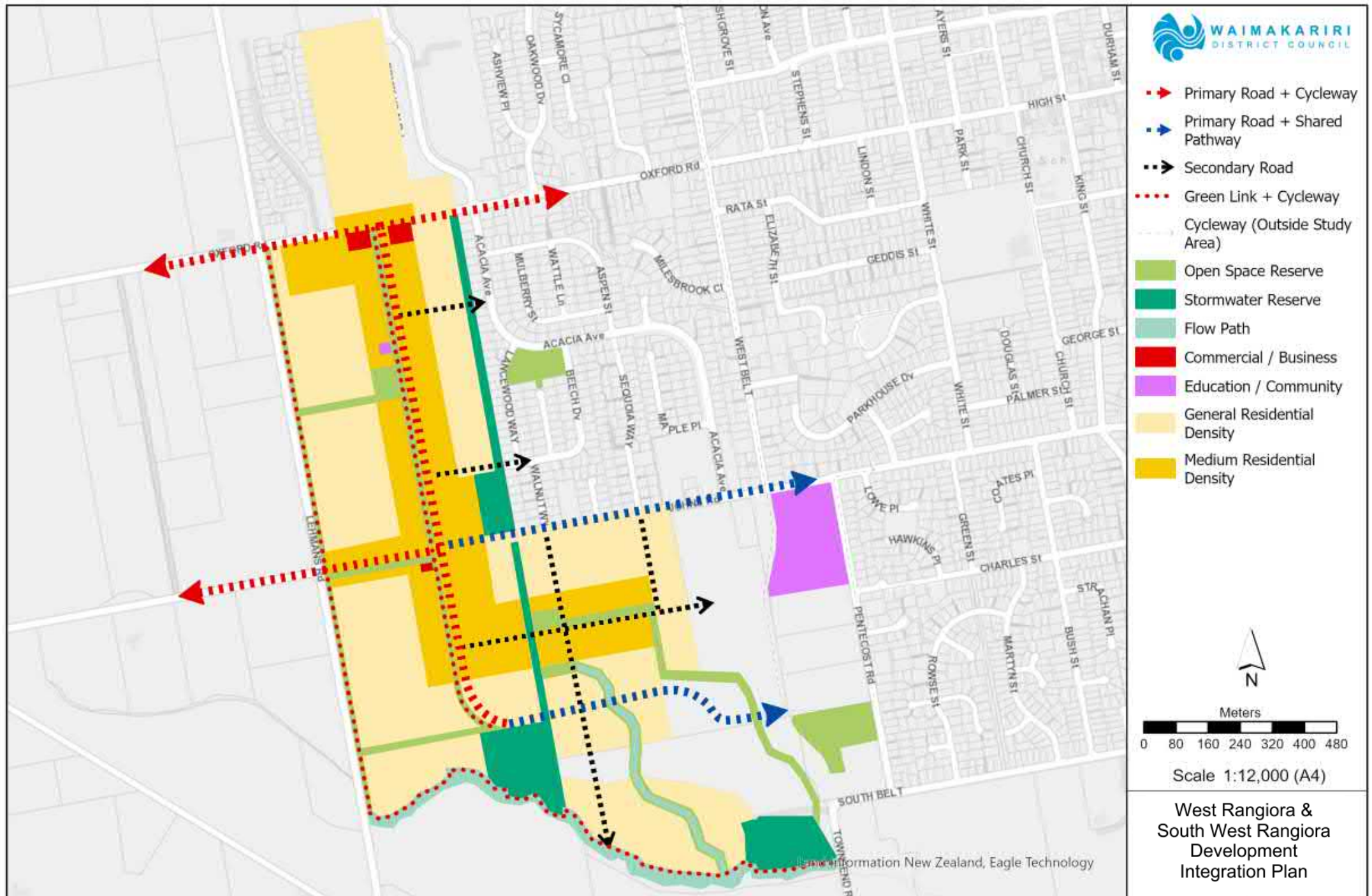
Where data supplied by 199 Johns Road Limited or other external sources, including previous site investigation reports, have been relied upon, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Eliot Sinclair for incomplete or inaccurate data supplied by other parties.

Whilst every care and reasonable effort has been taken during our investigation and interpretation of the site characteristics and services to ensure that the conclusions drawn, and the opinions and recommendations expressed are correct at the time of reporting, Eliot Sinclair has not performed an assessment of all possible conditions or circumstances that may exist at the site. Variations in conditions may occur between investigatory locations and there may be conditions such as the ability of the site to discharge stormwater etc. that were not detected by the scope of the investigation that was carried out or have been covered over or obscured over time. Eliot Sinclair does not provide any warranty, either express or implied, that all conditions will conform exactly to the assessments contained in this report.

The exposure of conditions or materials that vary from those described in this report may require a review of our recommendations. Eliot Sinclair should be contacted to confirm the validity of this report should any of these occur.

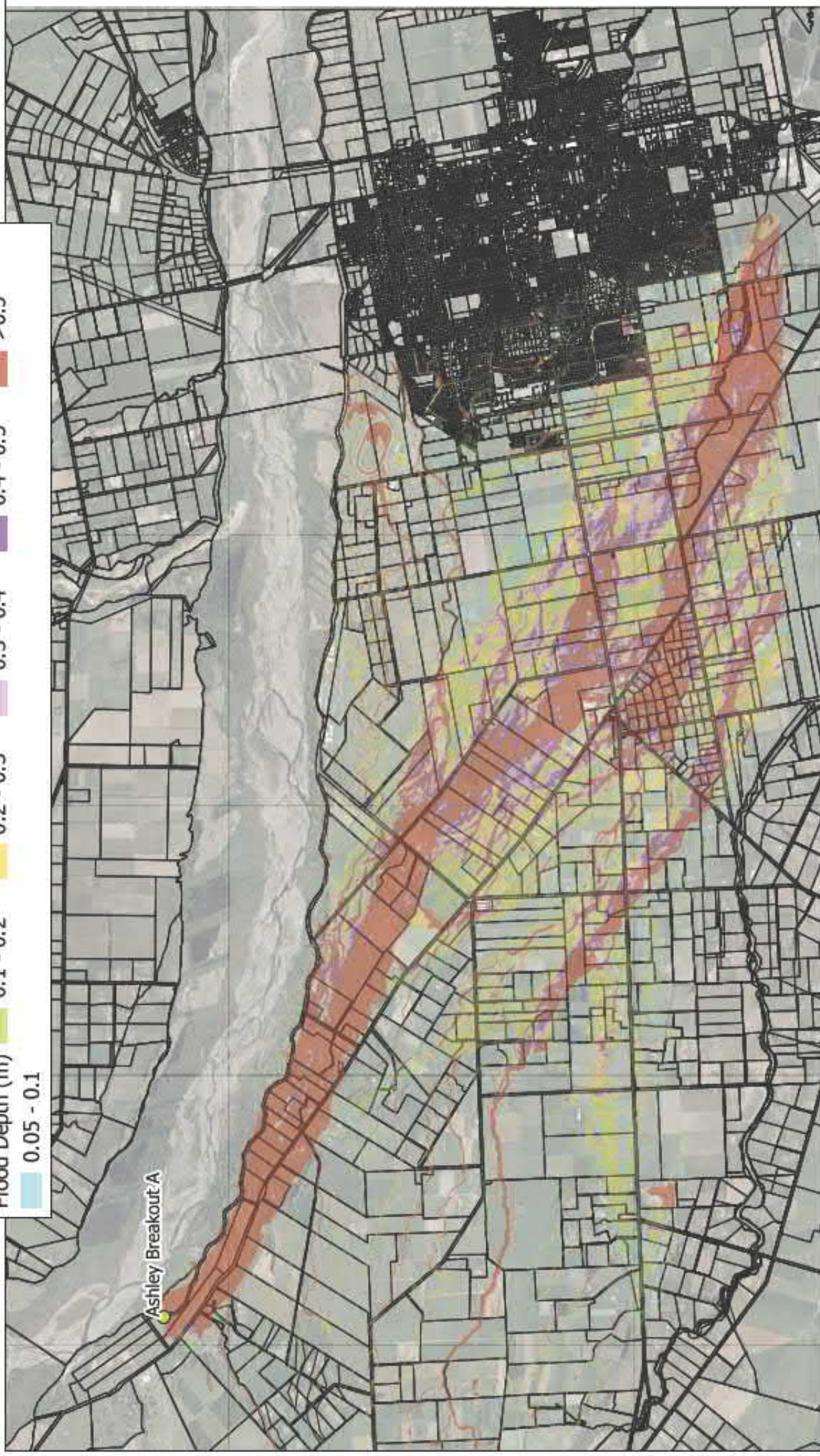
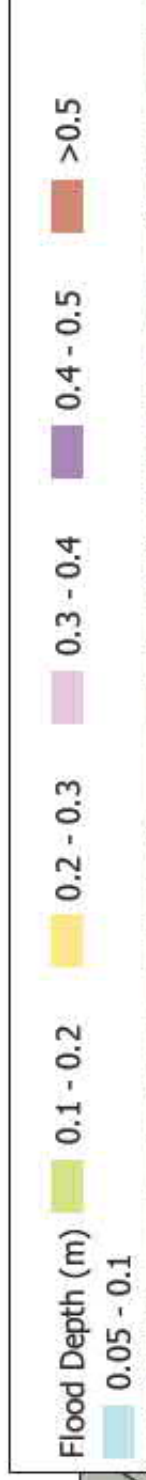
This report has been prepared for the benefit of 199 Johns Road Limited for the purposes as stated above. No liability is accepted by Eliot Sinclair or any of their employees with respect to the use of this report, in whole or in part, for any other purpose or by any other party.

Appendix A. Proposed West Rangiora and South West Rangiora Development Integration Plan



Appendix B. 200 Year Ashley River Breakout and ARI Flood Modelling

TOWNSEND FIELDS - FULL CATCHMENT - POST-DEVELOPMENT
ASHLEY RIVER BREAKOUT + RAINFALL - 200YR ARI
Preliminary Move Bund West
Presented 1 October 2021

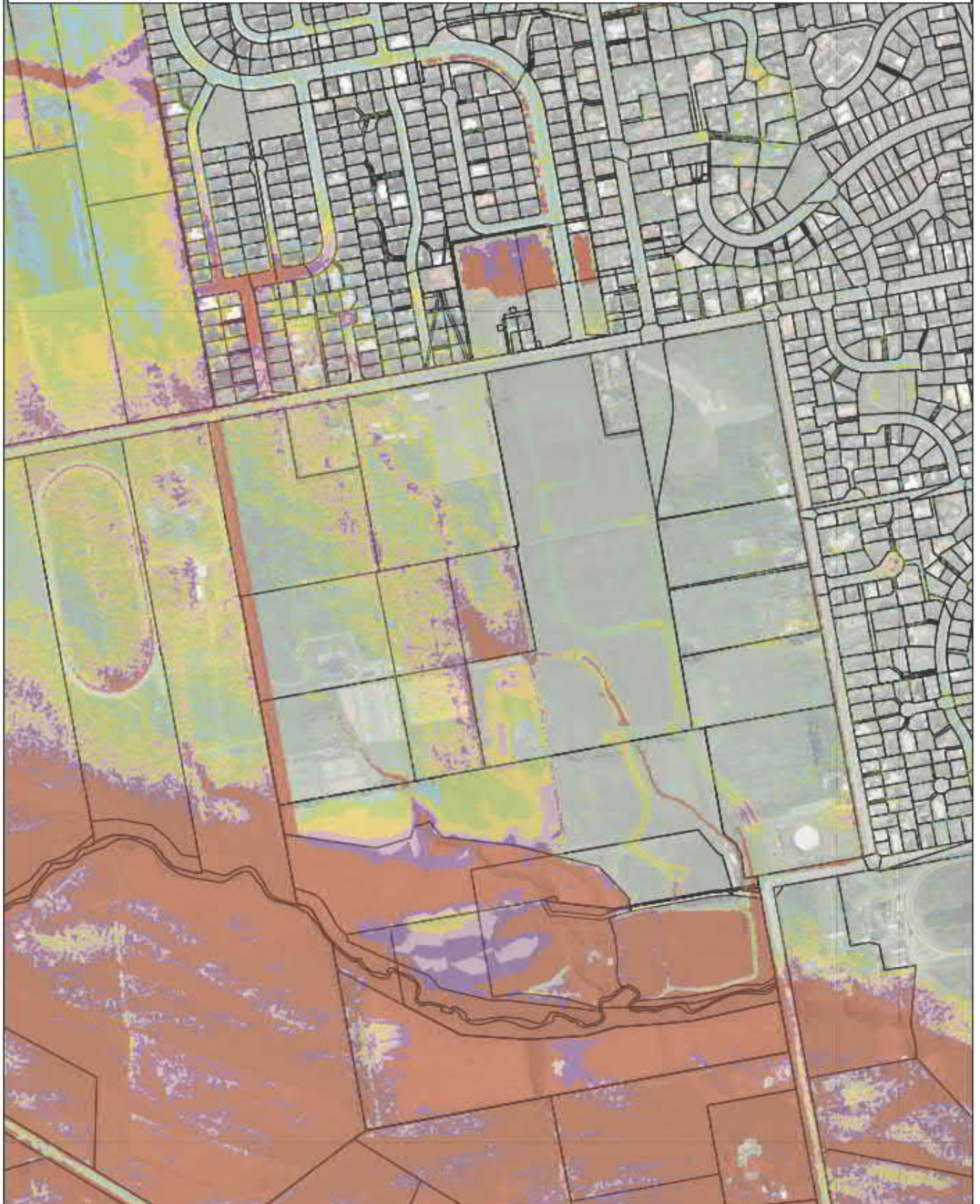


TOWNSEND FIELDS - LOCAL SITE - POST-DEVELOPMENT
ASHLEY RIVER BREAKOUT + RAINFALL - 200YR ARI

Preliminary Move Bund West

Presented 1 October 2021

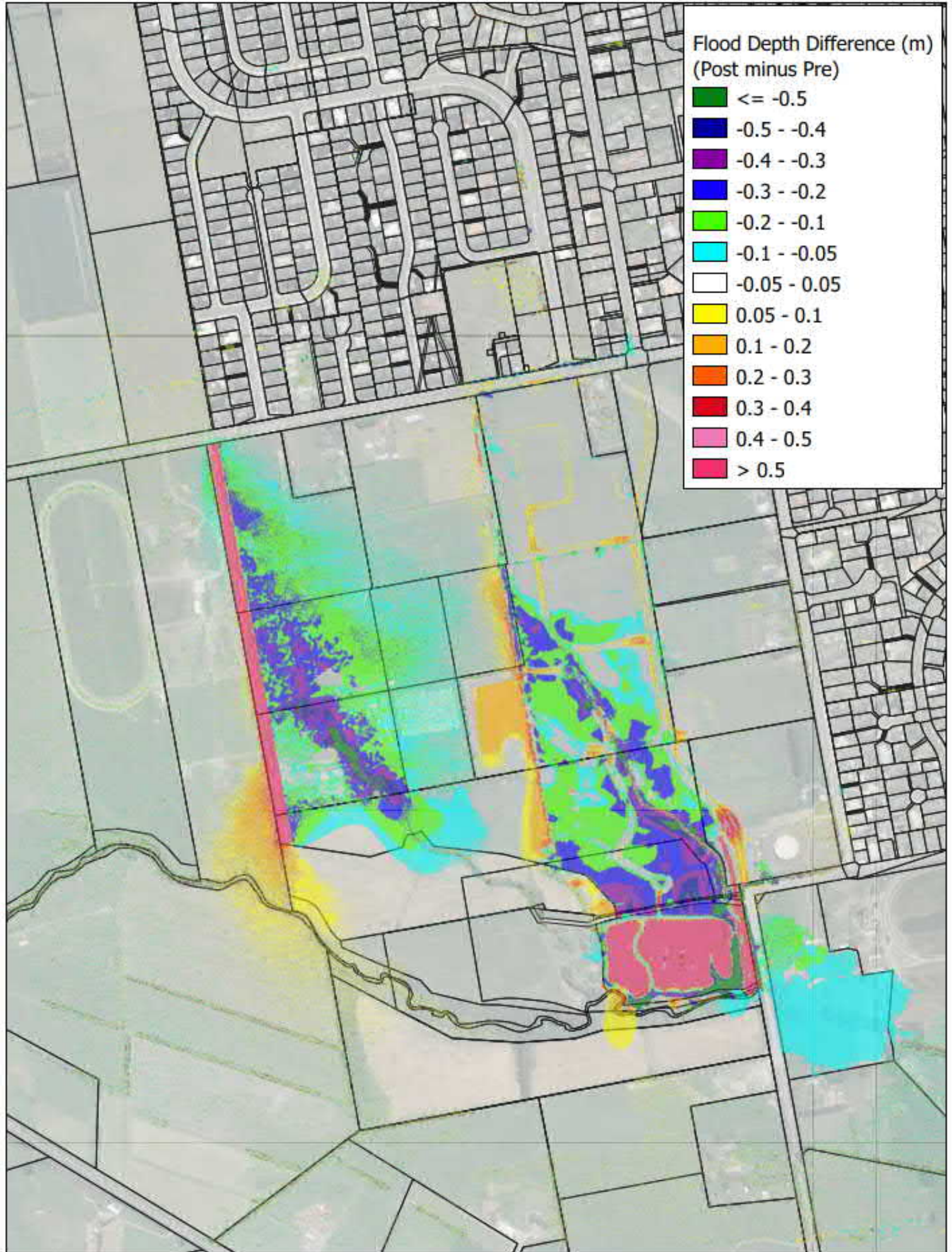
Flood Depth (m) 0.1 - 0.2 0.2 - 0.3 0.3 - 0.4 0.4 - 0.5 >0.5
0.05 - 0.1



TOWNSEND FIELDS - FLOOD DEPTH DIFFERENCE
ASHLEY RIVER BREAKOUT + RAINFALL - 200YR ARI

Preliminary Move Bund West

Presented 1 October 2021



Appendix D. Risk of Natural Hazards & Soil Contamination at 163-203 Johns Road, Rangiora

25 November 2021

199 John Road Ltd.
P O Box 945
Christchurch 8140
New Zealand

Our reference:

Risk of Natural Hazards & Soil Contamination at 163 ~ 203 Johns Rd, Rangiora

Eliot Sinclair have been asked to comment on the general geotechnical conditions and the risk of soil contamination for the properties the extend from 163 ~ 203 Johns Rd, Rangiora to support of an application to the Waimakariri District Council (WDC) to rezone the land to 'General Residential Density' and 'Medium Residential Density'.

The properties addressed by this report are listed in Table 1.

Table 1. Properties addressed by this report

Address	Legal Description	Record of Title	Area	Owner
163 Johns Road	Lot 4 DP 333694	138043	6.5875 Ha	Carolina Homes Ltd
191 Johns Road	Lot 1 DP 333694	138040	4.185 Ha	Allan Downs Ltd
199 Johns Road	Lot 2 DP 333694	138041	4.532 Ha	199 Johns Road Ltd
203 Johns Road	Lot 3 DP 333694	138042	4.526 Ha	Carolina Rental Homes Ltd

Eliot Sinclair have previously provided pre-purchase geotechnical and soil contamination advice for 199 and 163 Johns Road. A copy of these two reports are attached.

Eliot Sinclair have now carried out a supplementary review of the geotechnical conditions and risk of soil contamination for 191 and 203 Johns Rd to determine if the conditions at these properties are similar to those documented for 199 and 163 Johns Road.

This letter comments on any obvious or known risk associated with natural hazards, the potential for soil contamination, and provides an opinion on whether the land identified in Table 1 is suitable for the proposed residential land use.

1. Natural Hazards

The geotechnical characteristics of the four properties are summarised below;

Geology ¹	Surface soils typically comprise unweathered, brownish-grey silts and clayey silts, overlying silty gravels.
Topography	The area is generally flat, with a slight fall down to the southeast. There is a shallow depression that is associated with a spring
Risk of Fault Rupture ³	The Ashley Fault is located approximately 5km north of the site. There are no known Active Faults that are located within 20m of the site. Refer to Appendix C.
Risk of Coastal Inundation & Tsunami	The site is located around 11km inland and is not likely to be affected by Coastal Inundation or Tsunami. Refer to Appendix C.
Risk of Flooding ⁶	There is a risk of flooding from a breakout of the Ashley River. Refer to Appendix C. This hazard is identified on WDC Hazard Mapping. This risk has been mitigated. However, this may be able to be avoided or reduced by construction of a flood protection bund & channel to the west to divert surface flooding around the site.
Risk of Erosion & Sedimentation	<p>While there is a risk of surface flooding associated with South Brook, given the existing geomorphology of the area, erosion and sedimentation is unlikely to occur.</p> <p>If a protection bund is formed to protect the site, flood flows from an Ashley River breakout event would be diverted to the west and south of the site. In this case, erosion and sedimentation of the proposed residential land would be unlikely to occur.</p>
Risk of Fault Rupture ⁷	The Ashley Fault is located approximately 5km north of the site. There are no known Active Faults that are located within 20m of the site. Refer to Appendix C.
Risk of Liquefaction ³	The site is located in an area where there is only a 'low risk' of liquefaction occurring. Refer to Appendix C.
Risk of Subsidence due to soft ground or peat	The shallow soils encountered south of Johns Rd typically comprise a clayey silt that is firm to stiff when dry and provides firm bearing conditions that are capable of supporting residential foundation loads. No areas of peat have been found to date. In summary, subsidence due to soft ground and peat is not a likely hazard
Risk of Falling debris	The site is flat. There are no steep slope or areas of forestry that could pose a risk of rockfall, windfall, etc.
Risk of Slope Instability	The site is flat. There is no risk of slope instability associated with the existing topography.

¹ 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

³ <https://data.gns.cri.nz/af/>

⁶ <https://waimakariri.maps.arcgis.com/apps/MapSeries/>

⁷ <https://data.gns.cri.nz/af/>

2. Soil Contamination

None of the properties are listed on the LLUR database. However, the potential HAIL activities were identified by Eliot Sinclair's previous reports, or from our more-recent review of the historic aerial photographs that are shown on Canterbury Maps. Refer below;

HAIL Category	Activity Description	Property
HAIL I, HAIL E1	Old house; construction materials may have contained lead-based paint and asbestos-cement cladding.	163 Johns Road
HAIL A8	Livestock dip or spray race	163 Johns Road
HAIL G5	Burn pad; Contaminated ash from burning	163 Johns Road

Both 199 and 203 Johns Road contain dwellings that were constructed sometime between 2004-2010. The historic aerial photographs from this period indicate a large garden was constructed on each of these properties. Given these works were carried out sometime between 2004-2010, it is unlikely the new buildings and gardens will contain unacceptable levels of soil contamination.

Ultimately, a Preliminary Site Investigation report that complies with the requirements of the National Environmental Standard: Contaminated Soil (NEC:CS) will need to be carried out to support any future development proposal, and this will determine the need for further investigation and/or remediation activities (if unacceptably high levels of contaminants in the soil are found to be present).

In summary, while there is a potential for soil contamination to have occurred in some places, the preliminary assessment indicates the extent of potential soil contamination is likely to be relatively small, and it would be reasonable to expect these areas to be relatively easily remediated as part of any future land development activity.

3. Conclusion

In conclusion, while there is a potential risk of inundation associated with a breakout of the Ashley River, and for some areas of soil contamination associated with potential HAIL activities, these risks can be avoided, mitigated or remediated, and would be normally undertaken as part of the land development process, and therefore do not prevent the rezoning of the land for proposed 'General Residential Density' and 'Medium Residential Density' zoning.

Kind regards



John Aramowicz

Geotechnical & Civil Engineer | Director

BE(Hons) Mining CMEngNZ CPEng

john.aramowicz@eliotstinclair.co.nz

Appendix A. Pre-Purchase Reports for 163 Johns Road

Pre-Purchase Geotechnical Desktop Report

163 Johns Road, Rangiora

Prepared for Rochford 163 Ltd

439185

Eliot Sinclair
surveyors | engineers | planners

Pre-Purchase Geotechnical Report

163 Johns Road, Rangiora

Prepared for Rochford 163 Ltd

Quality Control Certificate

Eliot Sinclair
surveyors | engineers | planners

20 Troup Drive, PO Box 9339, Tower Junction, Christchurch 8149, NZ
phone 03 379 4014, fax 03 365 2449

Action	Name	Signature	Date
Prepared by:	Firas Salman PhD, MSc, BSc, MEngNZ Geotechnical Engineer		26 February 2018
Reviewed and Approved for Release by:	John Aramowicz BEng(Hons) CMEngNZ (1008112) CPEng IntPE Principal Senior Civil & Geotechnical Engineer		26 February 2018
Status:	FINAL		
Release Date:	26 February 2018		
Reference No:	439185		
Distributed to:	Rochford 163 Ltd Eliot Sinclair & Partners Ltd		
Limitations This report has been prepared for Rochford 163 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	1
1 Introduction	2
2 Site Location	2
3 Site Geology	4
4 Nearby Geotechnical Investigations	5
4.1 Wells	5
4.2 Nearby deep investigation	5
5 MBIE Residential Foundation Technical Category	6
6 Liquefaction Hazard Assessment	6
7 Historical Aerial Photography	8
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9 ECan's Listed Land Use Register (LLUR)	10
11 Disclaimer	11

Appendices

Appendix A – Well Logs

Appendix B – Historical Aerial Photography

Executive Summary

Eliot Sinclair were engaged to undertake a desktop review of the geotechnical conditions, and to comment on any obvious risk of natural hazards for 163 Johns Road, Rangiora.

The topography across the site is generally flat, but there is a small slope from the northwest down to the southeast.

On-site and nearby well-logs recorded topsoil and silt which extended to between 0.3m to 2m bgl, overlying clay-bound gravels that extend to at least 12m bgl.

Groundwater was recorded between 0.8m bgl to around 3m bgl between March 1999 and September 2011.

Environment Canterbury's 2012 liquefaction hazard assessment for eastern Canterbury, which includes this site, indicates the site is within an area where '*damaging liquefaction (is) unlikely*'.

Deep clay-bound gravels are generally accepted to have a low risk of liquefaction, and therefore the soils recorded by the well-logs are consistent with the conclusions of Environment Canterbury's liquefaction hazard assessment.

The Waimakariri District Plan's Hazards Map indicates there is a '*medium hazard*' of flooding across part of the site, along what may be a shallow surface depression that slopes from the northwest down to the southeast corner of the site.

GNS' Active Faults Database identifies the Ashley and Loburn Faults are 5 to 6km north of the site. The Ministry for the Environment recommends residential buildings be located at least 20m away from any known active faults. There are no known active faults shown on the GNS database that would limit future development of this site.

We are aware that there are areas around the southwest parts of Rangiora that are underlain by shallow clayey soils that tend to be '*slightly reactive*', i.e. their volume can change with changes in soil moisture content, and seasonal swelling and shrinkage can occur. The nature of the soils across this site, and the reactivity of the shallow soils should be assessed as part of any geotechnical investigation for a future development proposal.

In summary, a future development of the site will need to take into account the potential for inundation across parts of the site, the potential to intercept groundwater by deeper excavations that are undertaken during wet winter/spring conditions, and the potential for reactive clayey soils.

We recommend a shallow site investigation be undertaken as part of any future development proposal in order to investigate the depth of topsoil and surficial silts across the site, the depth to gravels, depth to groundwater, to determine the geotechnical properties of the surficial soils, and to specify any geotechnical requirements that need to be taken into account when designing and constructing services, pavements and foundations for any future land development proposal.

1 Introduction

Further to your instruction, Eliot Sinclair has undertaken a desktop investigation of the published geotechnical conditions that relate to 163 Johns Road, Rangiora (refer to Table 1).

This report comments briefly on the general geotechnical conditions that are recorded across the general area, the risk of inundation, and to provide recommendations for any further investigations that may be needed to support a future development proposal.

The comments made in this report are based on information sourced from the New Zealand Geotechnical Database¹ (NZGD), the Waimakariri District Council, the Institute of Geological and Nuclear Sciences (GNS) Geology Web Map Database², GNS Active Faults Database³, Canterbury Maps⁴ and GoogleEarth.

Table 1: Legal Description

Site Information	Details
Legal Description	Lot 4 DP 333694 on Title 138043, 6.5875 ha
Street Address	163 Johns Road, Rangiora

2 Site Location

The site is located southwest of Rangiora, and has road frontage onto Johns Road along the north boundary of the site. Refer to Figure 1 and Figure 2. It comprises a total parcel area of around 6.6ha.

The site is currently zoned "Rural" in the Waimakariri District Plan. Refer to Figure 3.

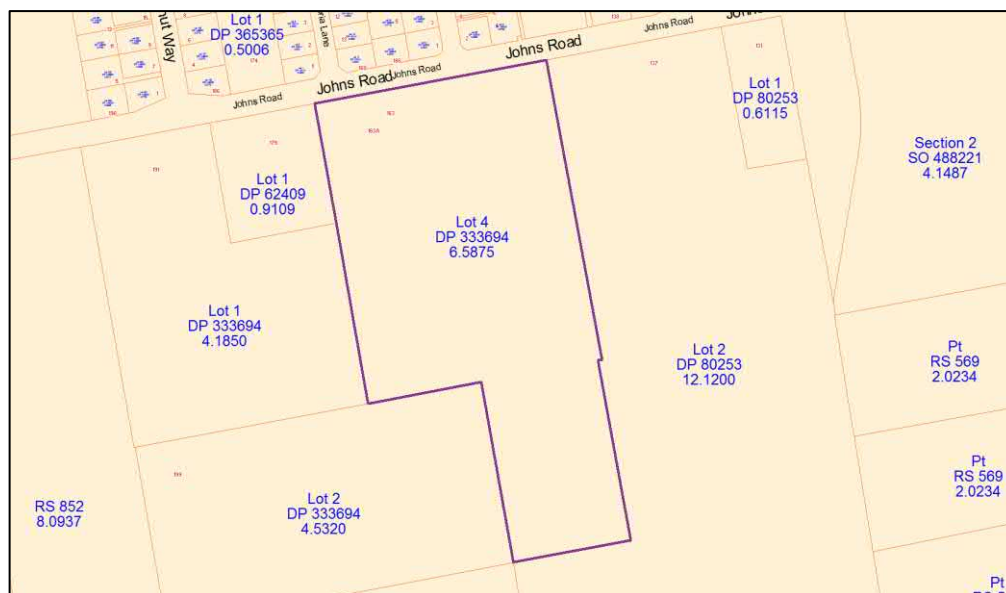


Figure 1: Site location plan. Source: QuickMap V7.5.185, February 2018

¹ New Zealand Geotechnical Database (NZGD). Retrieved in February 2018 from <https://www.nzgd.org.nz/Default.aspx>

² Geological and Nuclear Sciences (2004). Geology Web Map Database. Retrieved February 2018 from <http://data.gns.cri.nz/geology/>

³ Geological and Nuclear Sciences (2004). Active Faults Database. Retrieved Feb. 2018 from <https://data.gns.cri.nz/af/>

⁴ Canterbury Maps. Retrieved in February 2018 from <https://canterburymaps.govt.nz/>



Figure 2: Aerial photo of site. Source: GoogleEarth with approximately boundary in yellow taken from QuickMap. February 2018

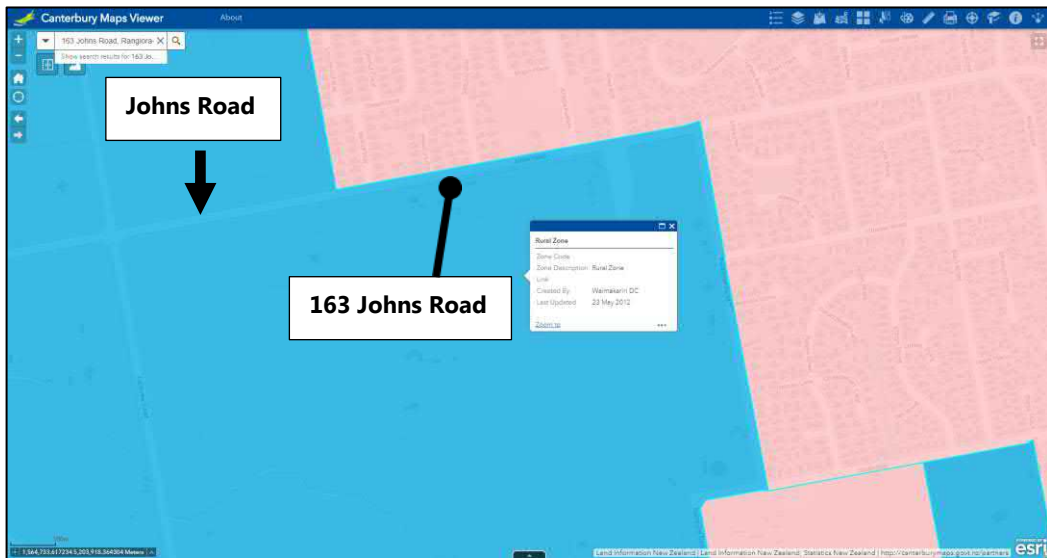


Figure 3: Waimakariri District Council zoning. Source Canterbury Maps4, February 2018

3 Site Geology

Geological mapping infers the site is underlain by 'Brownish-grey river alluvium (Q2a)'⁵. Refer to Figure 4.

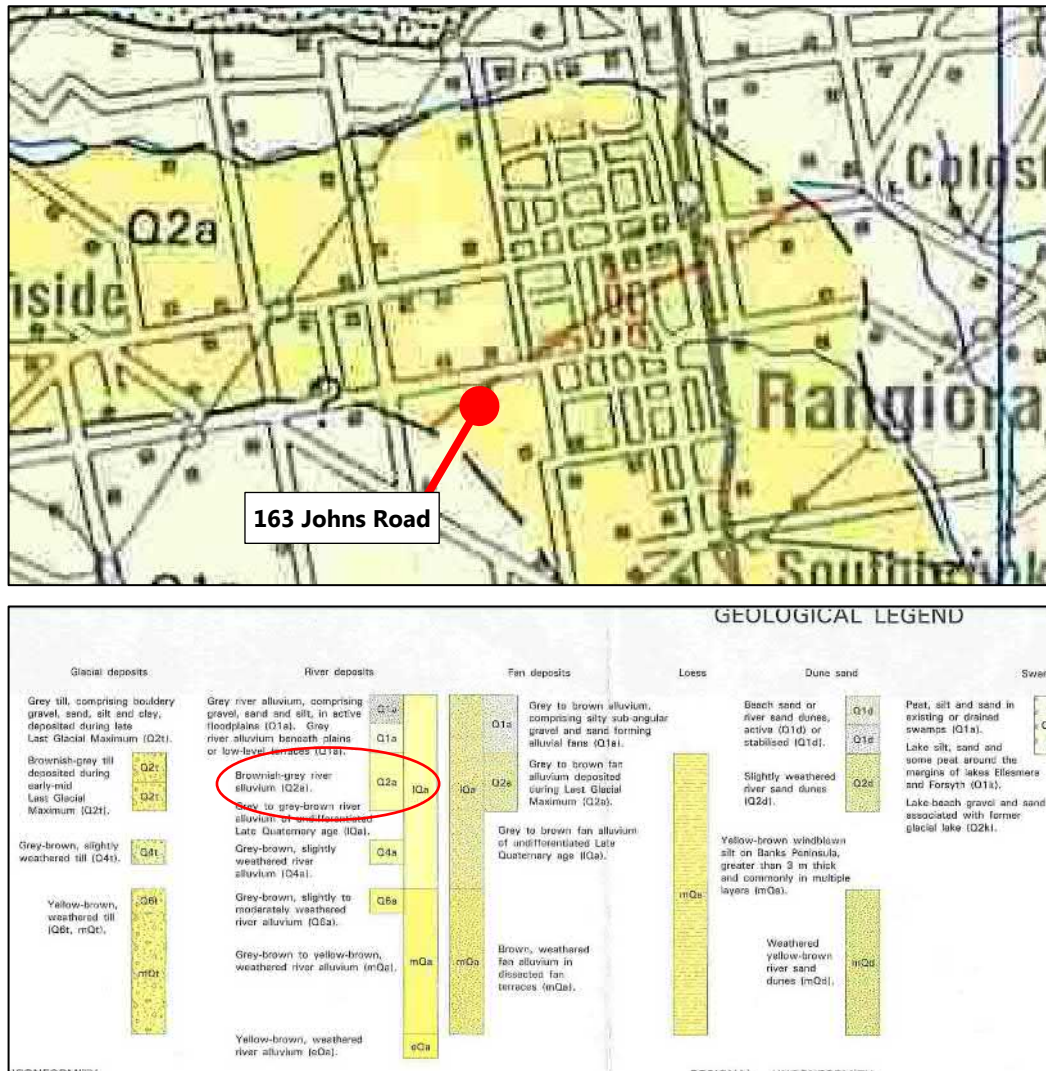


Figure 4: Geology of the Rangiora area⁵

⁵ 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

5 MBIE Residential Foundation Technical Category

The site was not assigned a technical land category by CERA after the Canterbury earthquakes, which implies that obvious ground liquefaction did not occur during the Canterbury Earthquake Sequence (CES). Refer to Figure 6.

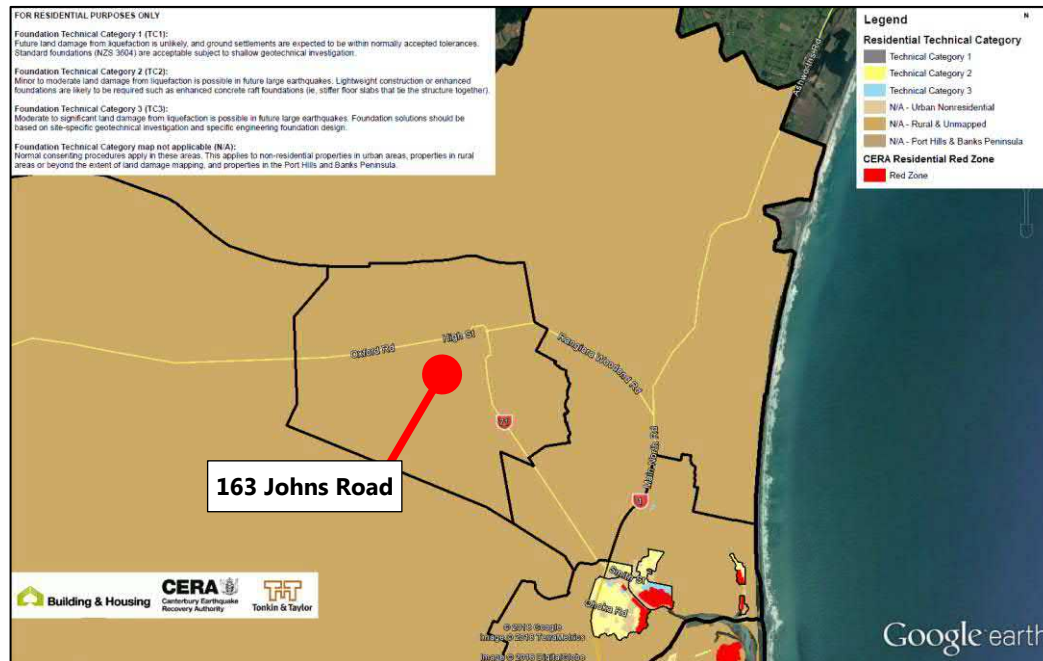


Figure 6: Residential technical category¹.

6 Liquefaction Hazard Assessment

Waimakariri liquefaction susceptibility assessment⁶ indicates the site is located in an area classified as 'Zone 2', and indicates 'Zone of low liquefaction potential - areas of recent Holocene age alluvium (active river beds and flood plains)'. Refer to Figure 7.

Environment Canterbury's (ECan) 2012 liquefaction hazard assessment for eastern Canterbury⁷ indicates the site is within an area where 'damaging liquefaction (is) unlikely'. Refer to Figure 8. This means "the geological nature of the ground is such that future design-level earthquakes are unlikely to cause land damage from liquefaction" and "the ground at this area would likely qualify as TC1."

Deep clay-bound gravels are generally accepted to have a low risk of liquefaction, and therefore the soils recorded by the well-logs tend to correlate with Environment Canterbury's liquefaction hazard assessment⁷.

⁶ Yetton, M; and McCahon, I. (2009): *Earthquake Hazard Assessment for Waimakariri District*. Environment Canterbury report number R09/32

⁷ Bracklye, H.L. (compiler. 2012. Review of liquefaction hazard information in eastern Canterbury, including Christchurch City and parts of Selwyn, Waimakariri and Hurunui Districts, GNS Science Consultancy Report 2012/218. 99 p. Environment Canterbury report number R12/83.

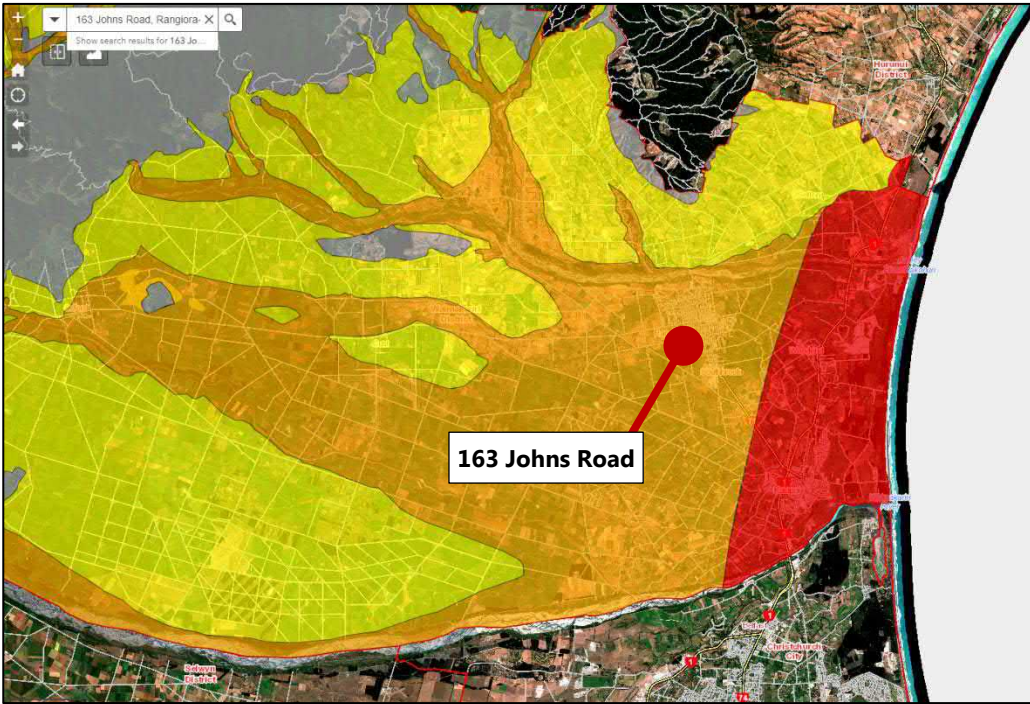


Figure 7: Waimakariri liquefaction susceptibility. Source – Canterbury Maps GIS - WDC, Feb. 2018⁶.



Figure 8: ECan's liquefaction assessment⁷.

7 Historical Aerial Photography

Refer to Appendix B for historical aerial photography of the site dating from 1940 – 2004.

The historical aerial photography infers the site has been used for cropping/grazing since the 1940's, and any geomorphic features that are obvious in the aerial photography from the 1940s appear to be similar to the features that can be seen in the most recent 2017 aerial photography. This implies the ground surface has not been altered substantially by filling or excavation since the 1940's.

8 Natural Hazards

The Waimakariri District Plan's Hazards Map⁸ indicates there is a 'medium hazard' of flooding across the central to south parts of the site, along what may be a shallow surface depression. Refer to Figure 9.

GNS' Active Faults Database³ identifies the Ashley and Loburn Faults are 5 to 6km north of the site. The Ministry for the Environment⁹ recommends residential buildings be located at least 20m away from any known active faults. There are no known active faults that would limit future development of this site. Refer to Figure 10.

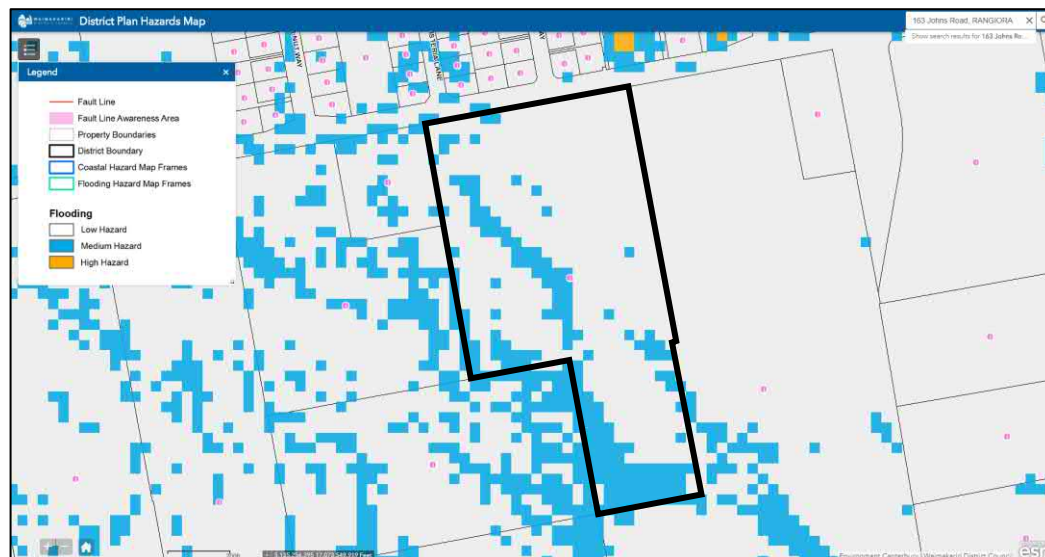


Figure 9: Waimakariri District Plan's Hazards Map, February 2018.

⁸ <http://waimakariri.maps.arcgis.com/apps/webappviewer/index.html?id=a1508164fb474825bd34c34eebfadc46>

⁹ Planning for Development of Land on or Close to Active Faults: A Guideline to Assist Resource Management Planners in New Zealand (Published July 2003)

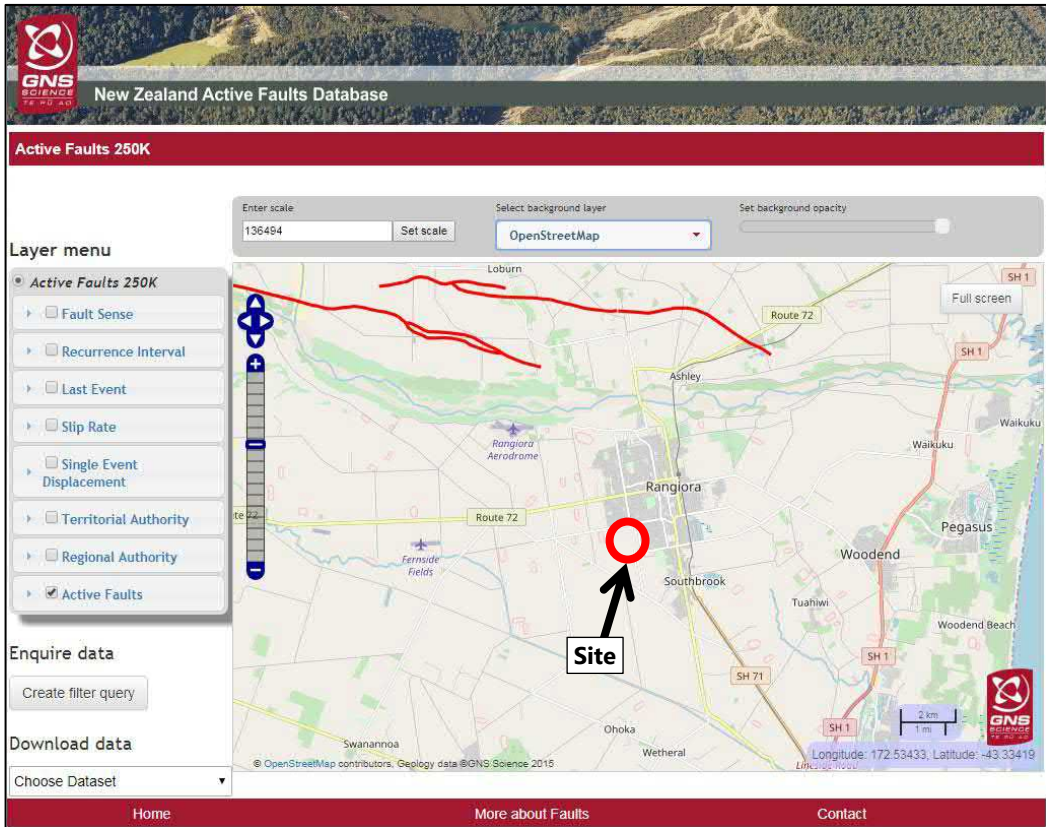


Figure 10: Location of nearest active faults. Ashley and Loburn faults are around 5 to 6km north of the site. Source: GNS Active Faults Database³, February 2018.

9 ECan’s Listed Land Use Register (LLUR)

Site is not listed on the Listed Land Use Register (LLUR)¹⁰ at time of our desktop investigation. Refer to Figure 11.

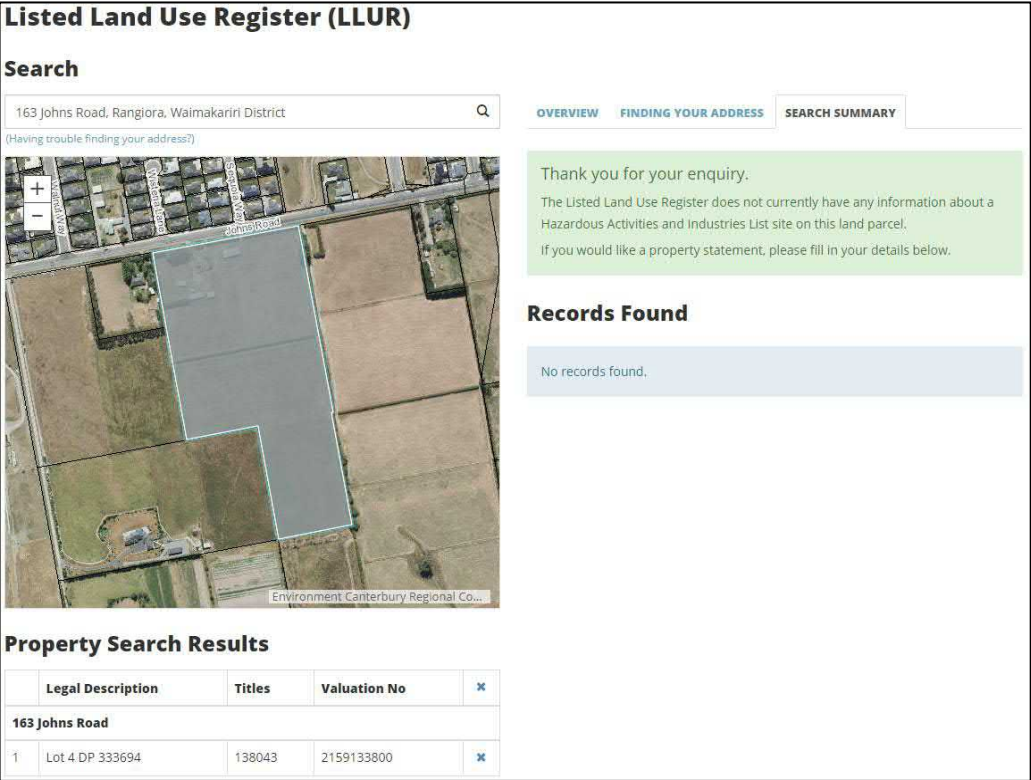


Figure 11: ECan’s Listed Land Use Register, February 2018.

¹⁰ <http://llur.ecan.govt.nz/Public/>

11 Disclaimer

Comments made in this desktop investigation report are intended to provide a brief summary of the relevant published geotechnical information that relates to the site, obtained in February 2018 from the Waimakariri District Council's website, GNS' Active Faults Database, Canterbury Maps website, the New Zealand Geotechnical Database, ECan's Listed Land Use Register website, and QuickMap.

This report should not be used to support an application for subdivision or building consent, unless it is supported by site-specific geotechnical testing and reporting that is undertaken by Eliot Sinclair once the nature of any future development or building proposal is known.

It is possible there may be unidentified subsoil conditions that are not obvious from the information obtained by our desktop investigation, 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 Rochford 163 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.

Appendix A – Well Logs





Bore or Well No	M35/18870		
Well Name	163 JOHNS ROAD		
Owner	MR GEORGE TIMPERLEY		
Well Number	M35/18870	File Number	CO6C/24016
Owner	MR GEORGE TIMPERLEY	Well Status	Active (exist, present)
Street/Road	163 JOHNS ROAD	NZTM Grid Reference	BW24:65700-04278
Locality	Rangiora	NZTM X and Y	1565700 - 5204278
Location Description		Location Accuracy	10 - 50m
CWMS Zone	Waimakariri	Use	Domestic and Stockwater,
Groundwater Allocation Zone	Ashley	Water Level Monitoring	--
Depth	39.21m	Water Level Count	0
Diameter	150mm	Initial Water Level	3.13m below MP
Measuring Point Description		Highest Water Level	
Measuring Point Elevation		Lowest Water Level	
Elevation Accuracy		First reading	
Ground Level	0.00m above MP	Last reading	
Strata Layers	5	Calc Min 95%	
Aquifer Name		Aquifer Tests	0
Aquifer Type		Yield Drawdown Tests	1
Drill Date	08 Sep 2011	Max Tested Yield	1 l/s
Driller	Clemence Drilling Contractors	Drawdown at Max Tested Yield	28 m
Drilling Method	Rotary/Percussion	Specific Capacity	0.03 l/s/m
Casing Material	Steel	Last Updated	03 May 2016
Pump Type		Last Field Check	
Water Use Data	No		

Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	37.21	39.21				500

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
08 Sep 2011	1	0.75	9.898638	27.77	1.5

Comments

Comment Date	Comment
17 Feb 2012	Emergency Replacement Bore

Bore Log

Borelog for well M35/18870

Grid Reference (NZTM): 1565700 mE, 5204278 mN

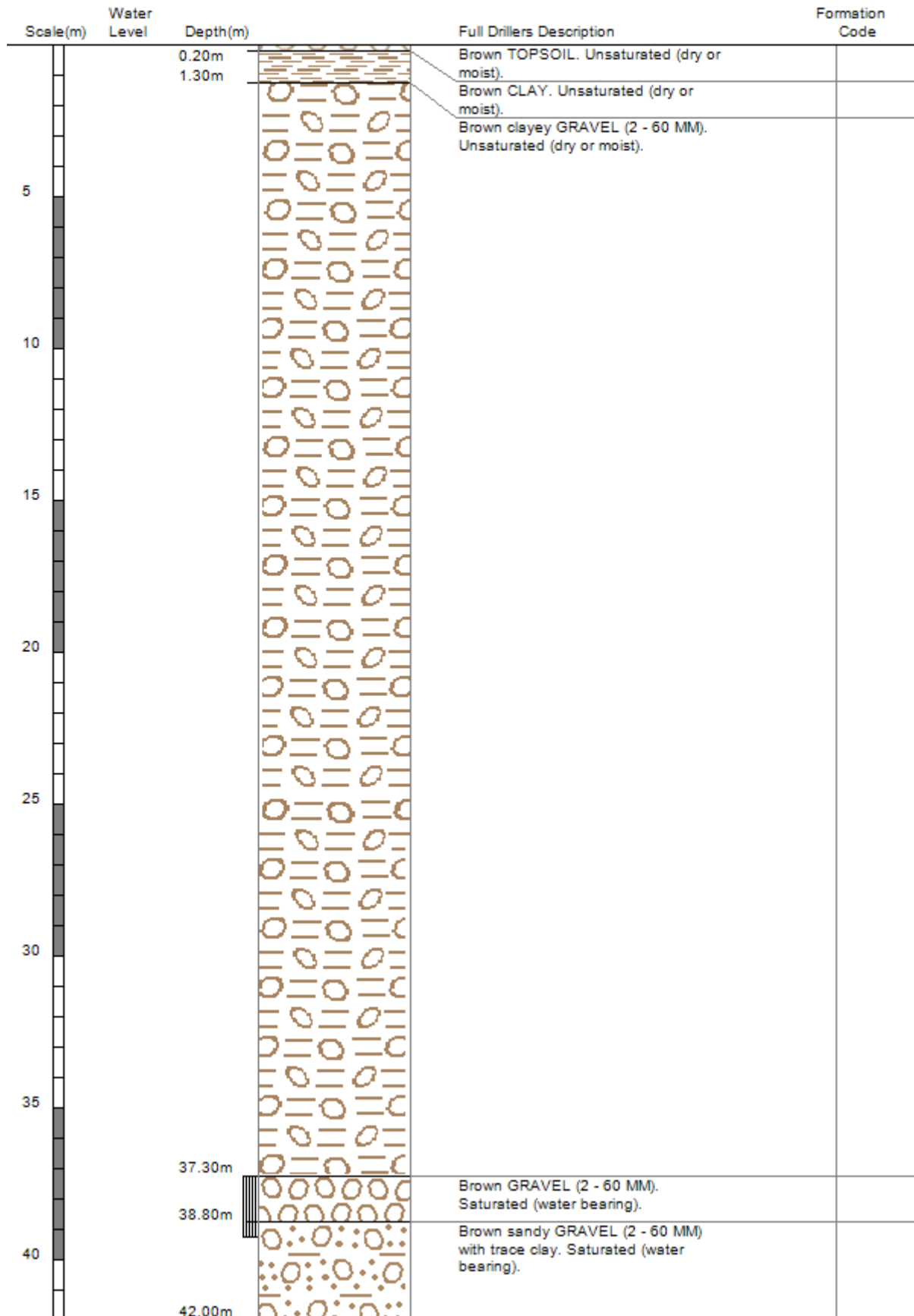
Location Accuracy: 10 - 50m

Ground Level Altitude: m +MSD Accuracy:

Driller: Clemence Drilling Contractors

Drill Method: Rotary/Percussion

Borelog Depth: 42.0 m Drill Date: 08-Sep-2011





Bore or Well No	M35/9868		
Well Name	191 Johns Road		
Owner	Mr William McDonald		
Well Number	M35/9868	File Number	CO6C/21083
Owner	Mr William McDonald	Well Status	Active (exist, present)
Street/Road	191 Johns Road	NZTM Grid Reference	BW24:65541-04239
Locality	Rangiora	NZTM X and Y	1565541 - 5204239
Location Description		Location Accuracy	50 - 300m
CWMS Zone	Waimakariri	Use	Domestic Supply,
Groundwater Allocation Zone	Ashley	Water Level Monitoring	--
Depth	19.61m	Water Level Count	0
Diameter	150mm	Initial Water Level	2.98m below MP
Measuring Point Description		Highest Water Level	
Measuring Point Elevation	33.34m above MSL (Lyttelton 1937)	Lowest Water Level	
Elevation Accuracy	< 5 m	First reading	
Ground Level	0.00m above MP	Last reading	
Strata Layers	5	Calc Min 95%	3.70m below MP
Aquifer Name		Aquifer Tests	0
Aquifer Type		Yield Drawdown Tests	1
Drill Date	26 Jan 2004	Max Tested Yield	2 l/s
Driller	Clemence Drilling Contractors	Drawdown at Max Tested Yield	5 m
Drilling Method	Rotary Rig	Specific Capacity	0.46 l/s/m
Casing Material	Steel	Last Updated	03 May 2016
Pump Type		Last Field Check	
Water Use Data	No		

Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	17.61	19.61				

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
26 Jan 2004	1	2.2	29.036005	4.77	2

No comments for this well

Bore Log

Borelog for well M35/9868

Grid Reference (NZTM): 1565541 mE, 5204239 mN

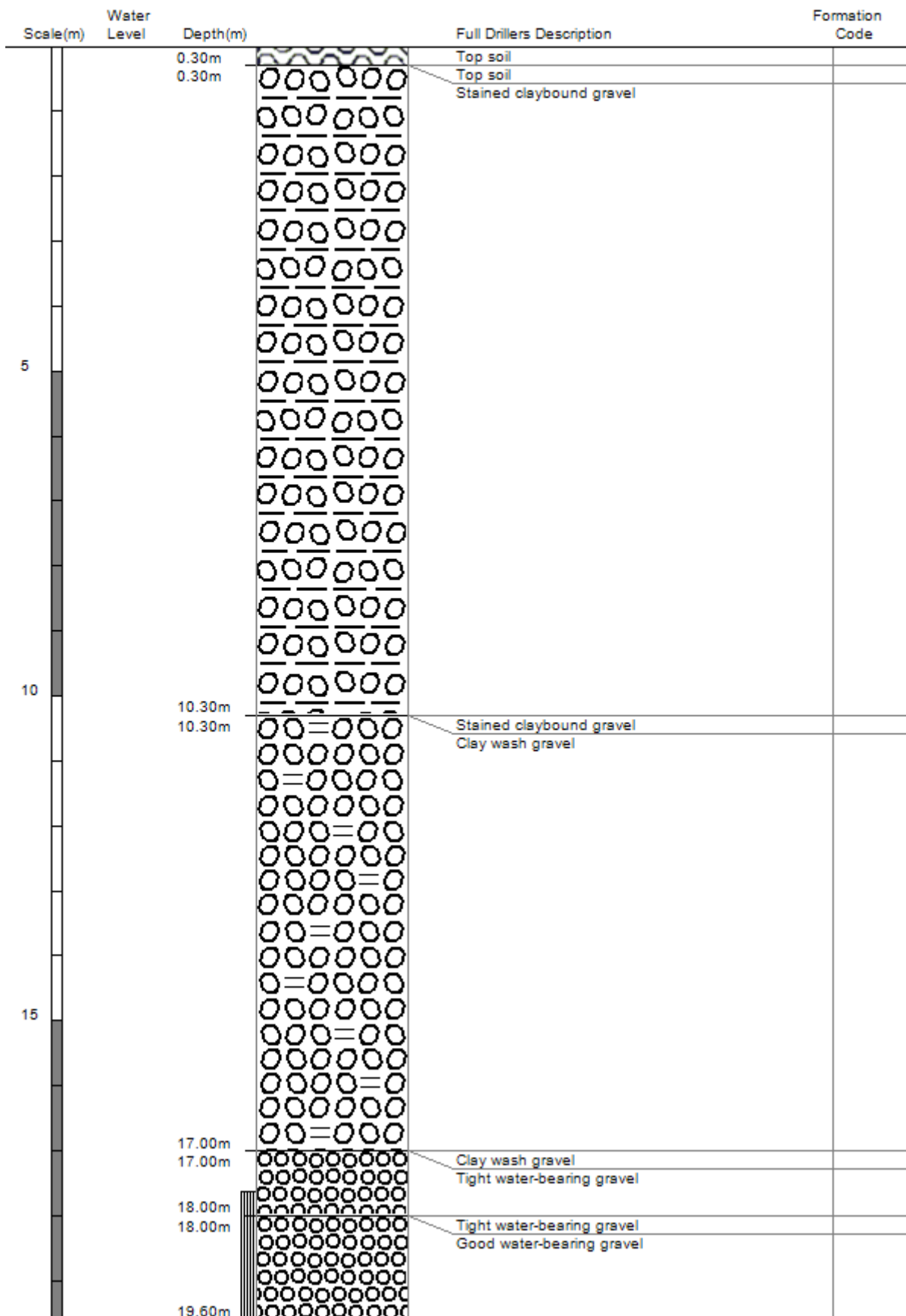
Location Accuracy: 50 - 300m

Ground Level Altitude: 33.3 m +MSD Accuracy: < 0.5 m

Driller: Clemence Drilling Contractors

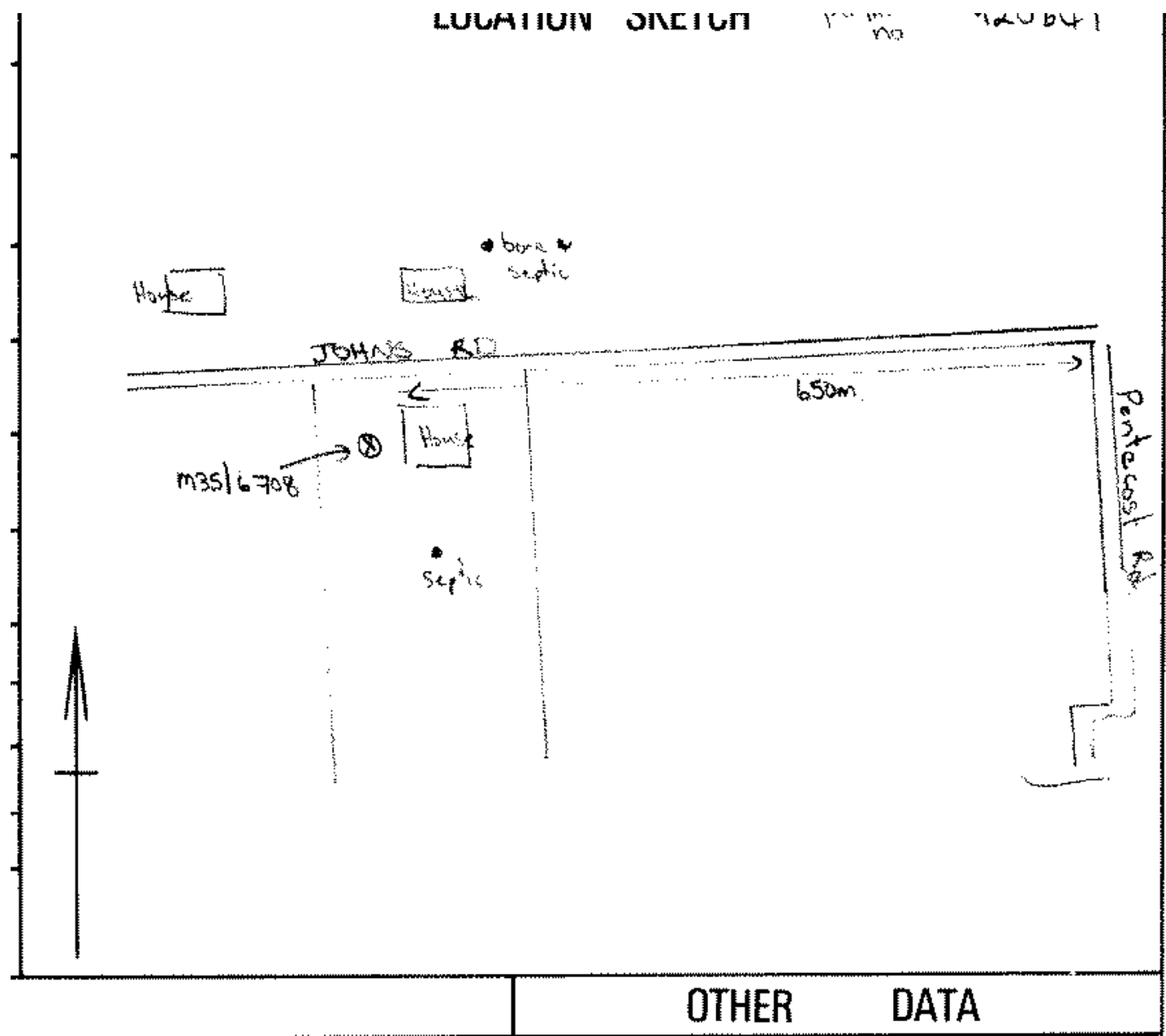
Drill Method: Rotary Rig

Borelog Depth: 19.6 m Drill Date: 26-Jan-2004





Bore or Well No	M35/6708		
Well Name	JOHNS RD		
Owner	HARNETT J. & S.		
Well Number	M35/6708	File Number	CO6C/02631
Owner	HARNETT J. & S.	Well Status	Active (exist, present)
Street/Road	JOHNS RD	NZTM Grid Reference	BW24:65611-04179
Locality	Rangiora	NZTM X and Y	1565611 - 5204179
Location Description		Location Accuracy	50 - 300m
CWMS Zone	Waimakariri	Use	Stock Supply,
Groundwater Allocation Zone	Ashley	Water Level Monitoring	--
Depth	12.00m	Water Level Count	0
Diameter	100mm	Initial Water Level	
Measuring Point Description		Highest Water Level	
Measuring Point Elevation	32.87m above MSL (Lyttelton 1937)	Lowest Water Level	
Elevation Accuracy	< 5 m	First reading	
Ground Level	0.00m above MP	Last reading	
Strata Layers	6	Calc Min 95%	3.40m below MP
Aquifer Name		Aquifer Tests	0
Aquifer Type	Unknown	Yield Drawdown Tests	1
Drill Date	05 May 1992	Max Tested Yield	5 l/s
Driller	McMillan Drilling Ltd	Drawdown at Max Tested Yield	2 m
Drilling Method	Cable Tool	Specific Capacity	3.00 l/s/m
Casing Material		Last Updated	03 May 2016
Pump Type	Unknown	Last Field Check	
Water Use Data	No		



Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	11	12				

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
05 May 1992	1	4.5	59.3918266	1.5	0.5

No comments for this well

Bore Log

Borelog for well M35/6708

Grid Reference (NZTM): 1565611 mE, 5204179 mN

Location Accuracy: 50 - 300m

Ground Level Altitude: 32.9 m +MSD Accuracy: < 0.5 m

Driller: McMillan Drilling Ltd

Drill Method: Cable Tool

Borelog Depth: 12.0 m Drill Date: 05-May-1992



Scale(m)	Water Level	Depth(m)	Full Drillers Description	Formation Code
		0.40m	Topsoil and Grey gravel	
		0.40m	Topsoil and Grey gravel	
			Brown clay	
		2.00m		
		2.00m	Brown clay	
			Brown gravel	
		3.40m		
		3.40m	Brown gravel	
			Brown sandy gravel and Brown clay	
5				
		6.50m		
		6.50m	Brown sandy gravel and Brown clay	
			Brown claybound gravel	
10		10.10m		
		10.10m	Brown claybound gravel	
			Brown sandy gravel, trace Brown clay	
		12.00m		



Bore or Well No	M35/9869		
Well Name	191 Johns Road		
Owner	Mr William McDonald		
Well Number	M35/9869	File Number	CO6C/21083
Owner	Mr William McDonald	Well Status	Active (exist, present)
Street/Road	191 Johns Road	NZTM Grid Reference	BW24:65551-03919
Locality	Rangiora	NZTM X and Y	1565551 - 5203919
Location Description		Location Accuracy	50 - 300m
CWMS Zone	Waimakariri	Use	Domestic Supply,
Groundwater Allocation Zone	Ashley	Water Level Monitoring	--
Depth	21.04m	Water Level Count	0
Diameter	150mm	Initial Water Level	1.74m below MP
Measuring Point Description		Highest Water Level	
Measuring Point Elevation	32.04m above MSL (Lyttelton 1937)	Lowest Water Level	
Elevation Accuracy	< 5 m	First reading	
Ground Level	0.00m above MP	Last reading	
Strata Layers	10	Calc Min 95%	2.80m below MP
Aquifer Name		Aquifer Tests	0
Aquifer Type		Yield Drawdown Tests	1
Drill Date	23 Jan 2004	Max Tested Yield	2 l/s
Driller	Clemence Drilling Contractors	Drawdown at Max Tested Yield	2 m
Drilling Method	Rotary Rig	Specific Capacity	1.37 l/s/m
Casing Material	Steel	Last Updated	03 May 2016
Pump Type		Last Field Check	
Water Use Data	No		

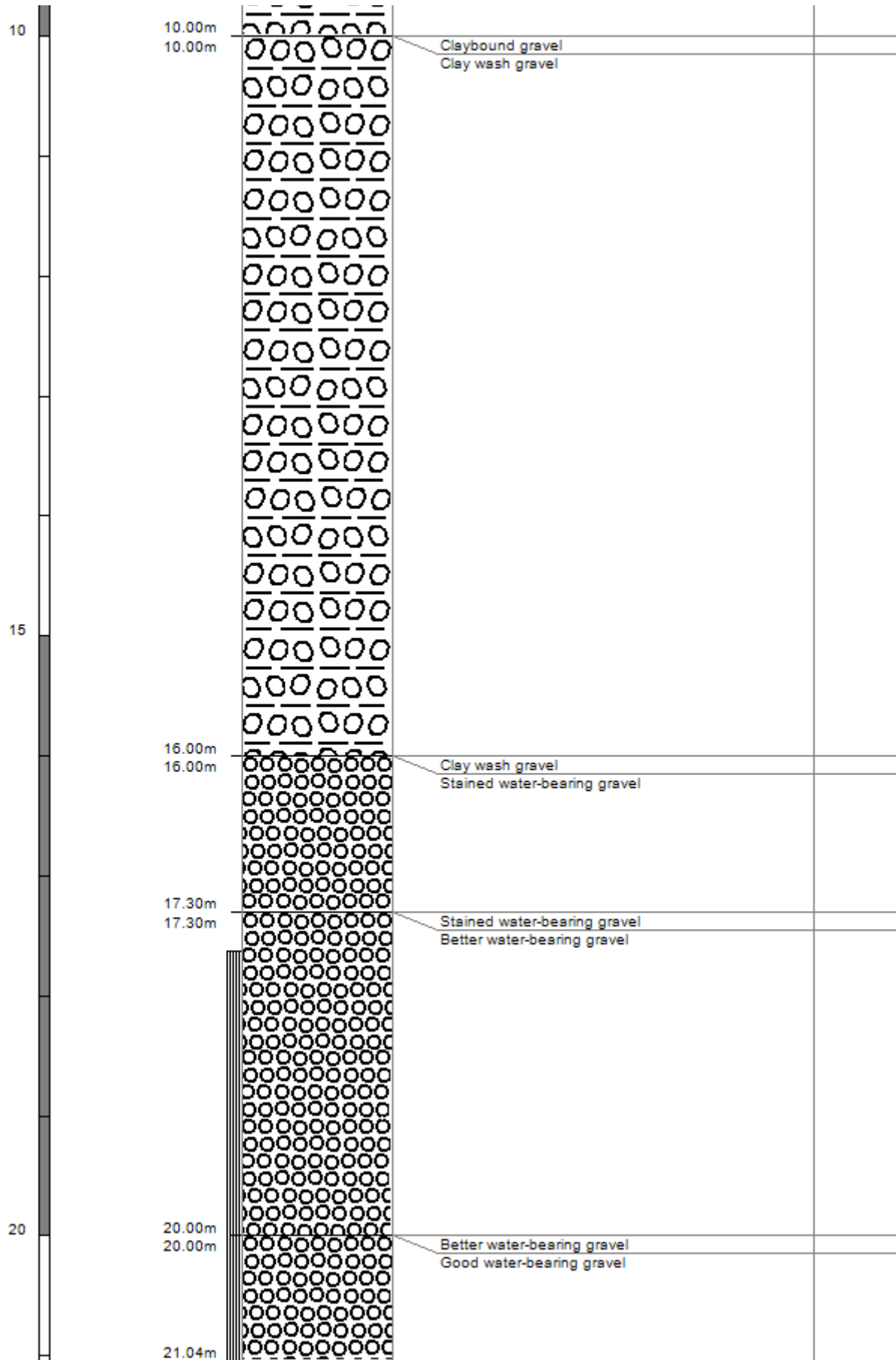
Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	17.61	21.04				

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
23 Jan 2004	1	2.2	29.036005	1.61	2

No comments for this well





Bore or Well No	M35/8035		
Well Name	131 JOHNS ROAD		
Owner	SCHLUTER, RH & MP		
Well Number	M35/8035	File Number	CO6C/14440
Owner	SCHLUTER, RH & MP	Well Status	Active (exist, present)
Street/Road	131 JOHNS ROAD	NZTM Grid Reference	BW24:65971-04279
Locality	Rangiora	NZTM X and Y	1565971 - 5204279
Location Description		Location Accuracy	50 - 300m
CWMS Zone	Waimakariri	Use	Domestic and Stockwater,
Groundwater Allocation Zone	Ashley	Water Level Monitoring	--
Depth	13.98m	Water Level Count	0
Diameter	100mm	Initial Water Level	3.35m below MP
Measuring Point Description		Highest Water Level	
Measuring Point Elevation	31.65m above MSL (Lyttelton 1937)	Lowest Water Level	
Elevation Accuracy	< 5 m	First reading	
Ground Level	0.00m above MP	Last reading	
Strata Layers	9	Calc Min 95%	3.30m below MP
Aquifer Name		Aquifer Tests	0
Aquifer Type		Yield Drawdown Tests	1
Drill Date	19 Mar 1999	Max Tested Yield	3 l/s
Driller	Clemence Drilling Contractors	Drawdown at Max Tested Yield	2 m
Drilling Method	Hydraulic/Percussion	Specific Capacity	2.00 l/s/m
Casing Material	STEEL	Last Updated	03 May 2016
Pump Type		Last Field Check	
Water Use Data	No		

Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	12.975	13.975				

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
19 Mar 1999	1	3.3	43.5540047	1.65	2

No comments for this well

Bore Log

Borelog for well M35/8035

Grid Reference (NZTM): 1565971 mE, 5204279 mN

Location Accuracy: 50 - 300m

Ground Level Altitude: 31.7 m +MSD Accuracy: < 0.5 m

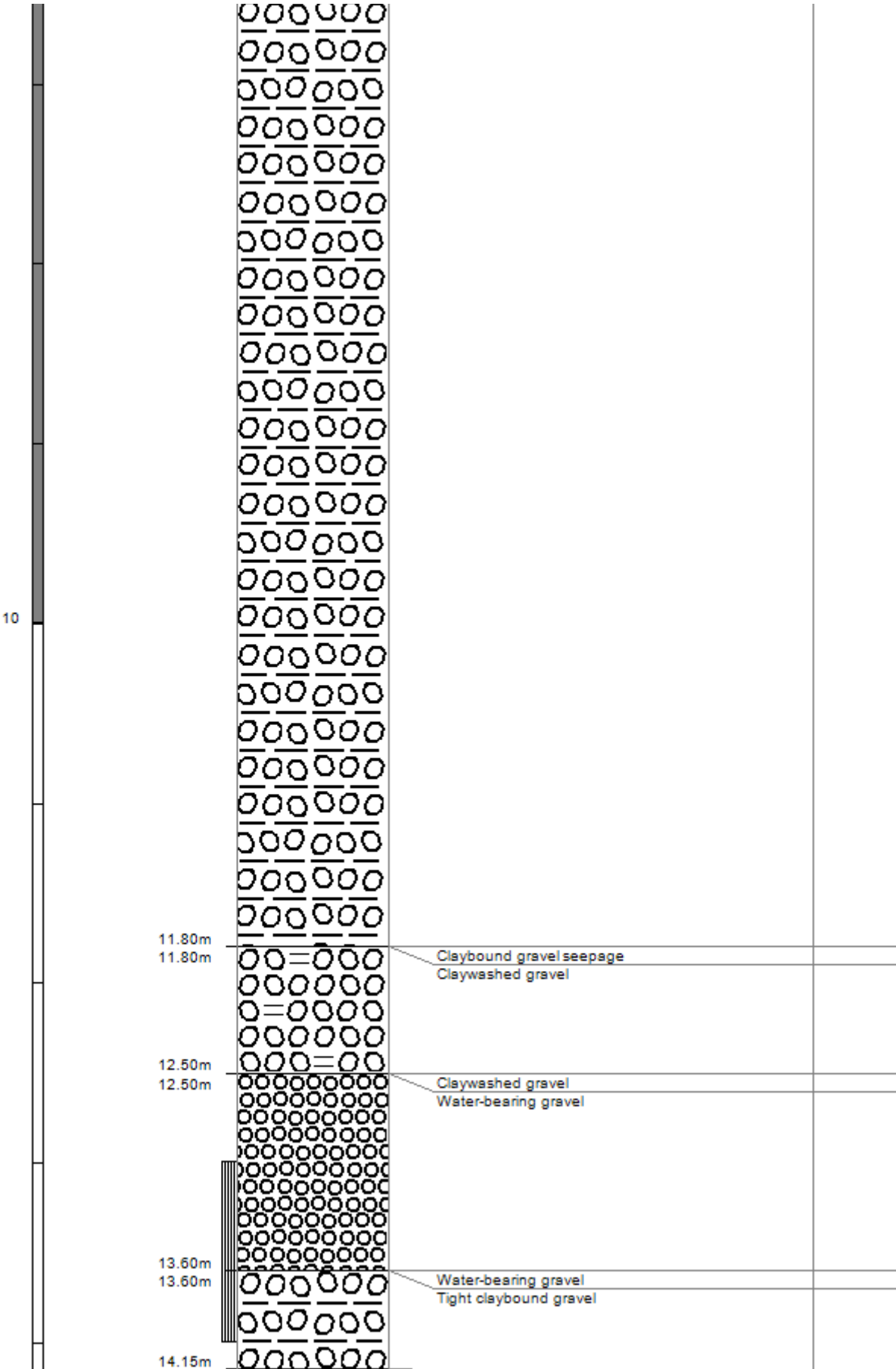
Driller: Clemence Drilling Contractors

Drill Method: Hydraulic/Percussion

Borelog Depth: 14.1 m Drill Date: 19-Mar-1999



Scale(m)	Water Level	Depth(m)	Full Drillers Description	Formation Code
			Topsoil	
		0.40m	Topsoil	
		0.40m	Dry Yellow clay	
		1.80m	Dry Yellow clay	
		1.80m	Yellow claybound gravel	
		2.30m	Yellow claybound gravel	
		2.30m	Damp Yellow claybound gravel	
		3.30m	Damp Yellow claybound gravel	
		3.30m	Moist sandy claybound gravel	
		5.90m	Moist sandy claybound gravel	
		5.90m	Claybound gravel seepage	





Bore or Well No	M35/8316		
Well Name	JOHNS ROAD		
Owner	SCHLUTER, RH		
Well Number	M35/8316	File Number	CO6C/15304
Owner	SCHLUTER, RH	Well Status	Active (exist, present)
Street/Road	JOHNS ROAD	NZTM Grid Reference	BW24:65851-04279
Locality	Rangiora	NZTM X and Y	1565851 - 5204279
Location Description		Location Accuracy	50 - 300m
CWMS Zone	Waimakariri	Use	Domestic and Stockwater,
Groundwater Allocation Zone	Ashley	Water Level Monitoring	--
Depth	12.28m	Water Level Count	0
Diameter	100mm	Initial Water Level	0.80m below MP
Measuring Point Description		Highest Water Level	
Measuring Point Elevation	32.23m above MSL (Lyttelton 1937)	Lowest Water Level	
Elevation Accuracy	< 5 m	First reading	
Ground Level	0.00m above MP	Last reading	
Strata Layers	10	Calc Min 95%	3.50m below MP
Aquifer Name		Aquifer Tests	0
Aquifer Type		Yield Drawdown Tests	1
Drill Date	20 Mar 1999	Max Tested Yield	1 l/s
Driller	Clemence Drilling Contractors	Drawdown at Max Tested Yield	4 m
Drilling Method	Hydraulic/Percussion	Specific Capacity	0.23 l/s/m
Casing Material	UNKNOWN	Last Updated	03 May 2016
Pump Type		Last Field Check	
Water Use Data	No		

Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	11.28	12.28				

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
20 Mar 1999	1	1	13.198184	4.38	2

No comments for this well

Bore Log

Borelog for well M35/8316

Grid Reference (NZTM): 1565851 mE, 5204279 mN

Location Accuracy: 50 - 300m

Ground Level Altitude: 32.2 m +MSD Accuracy: < 0.5 m

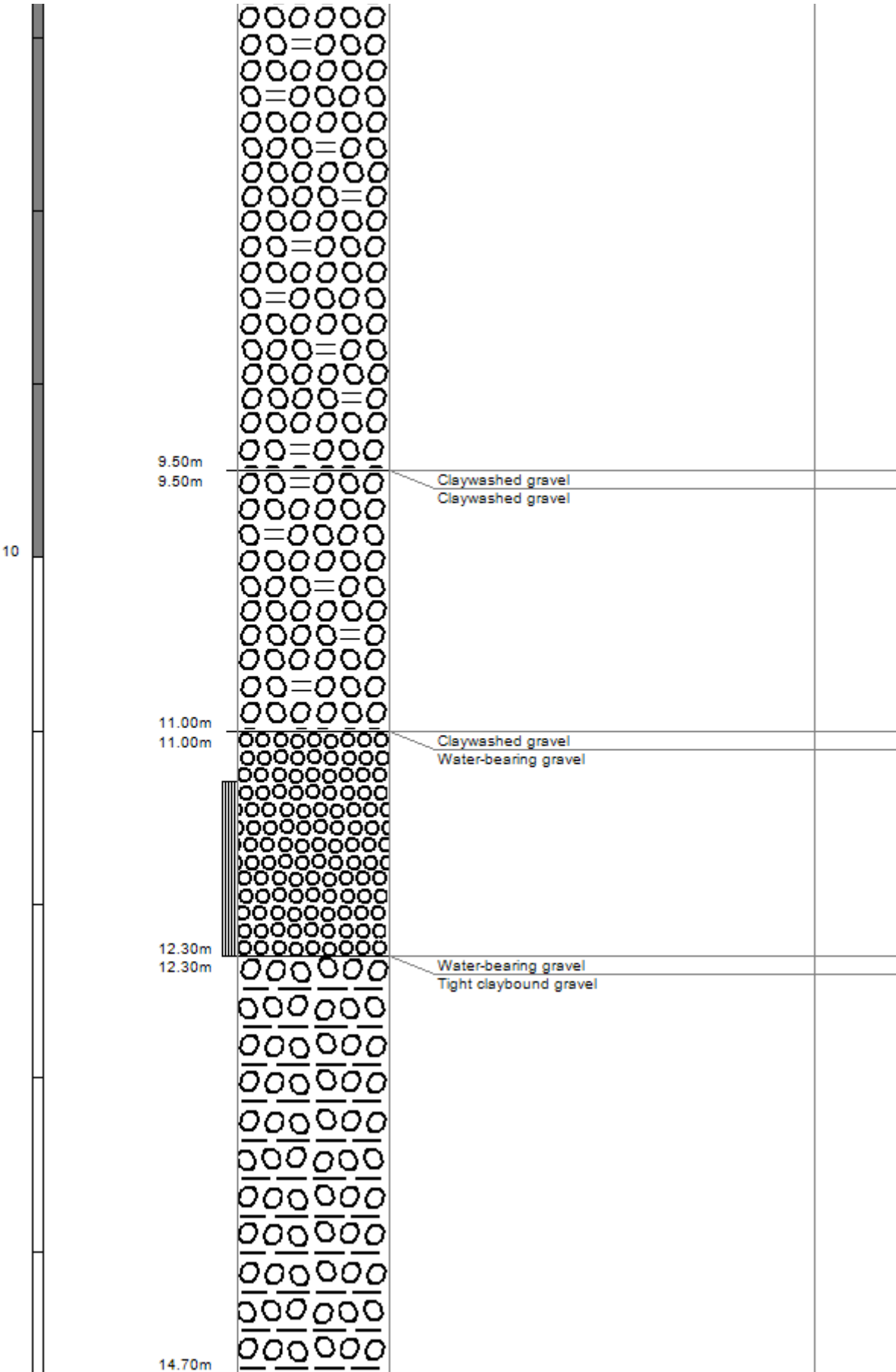
Driller: Clemence Drilling Contractors

Drill Method: Hydraulic/Percussion

Borelog Depth: 14.7 m Drill Date: 20-Mar-1999



Scale(m)	Water Level	Depth(m)	Full Drillers Description	Formation Code
			Topsoil	
		0.40m	Topsoil	
		0.40m	Solid Yellow clay	
		1.70m	Solid Yellow clay	
		1.70m	Yellow claybound gravel	
		2.80m	Yellow claybound gravel	
		2.80m	Damp claybound gravel	
		3.30m	Damp claybound gravel	
		3.30m	Moist claybound gravel	
		5.30m	Moist claybound gravel	
		5.30m	Claywashed gravel	
		5.80m	Claywashed gravel	
		5.80m	Claywashed gravel	



Appendix B – Historical Aerial Photography



Eliot Sinclair
surveyors | engineers | planners

1940-1944

Client
PO Box 9339
Tower Junction
Christchurch

Scale:
NTS

Sources:
Canterbury Maps GIS

Date: 9 February 2018
Author: FAS

ESP reference:
439185



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1960-1964

Client
PO Box 9339
Tower Junction
Christchurch

Scale:
NTS

Sources:
Canterbury Maps GIS

Date: 9 February 2018
Author: FAS

ESP reference:
439185



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1965-1969

Client
PO Box 9339
Tower Junction
Christchurch

Scale:
NTS

Sources:
Canterbury Maps

Date: 9 February 2018
Author: FAS

ESP reference:
439185



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1970-1974

Client
PO Box 9339
Tower Junction
Christchurch

Scale:
NTS

Sources:
Canterbury Maps GIS

Date: 9 February 2018
Author: FAS

ESP reference:
439185



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1975-1979

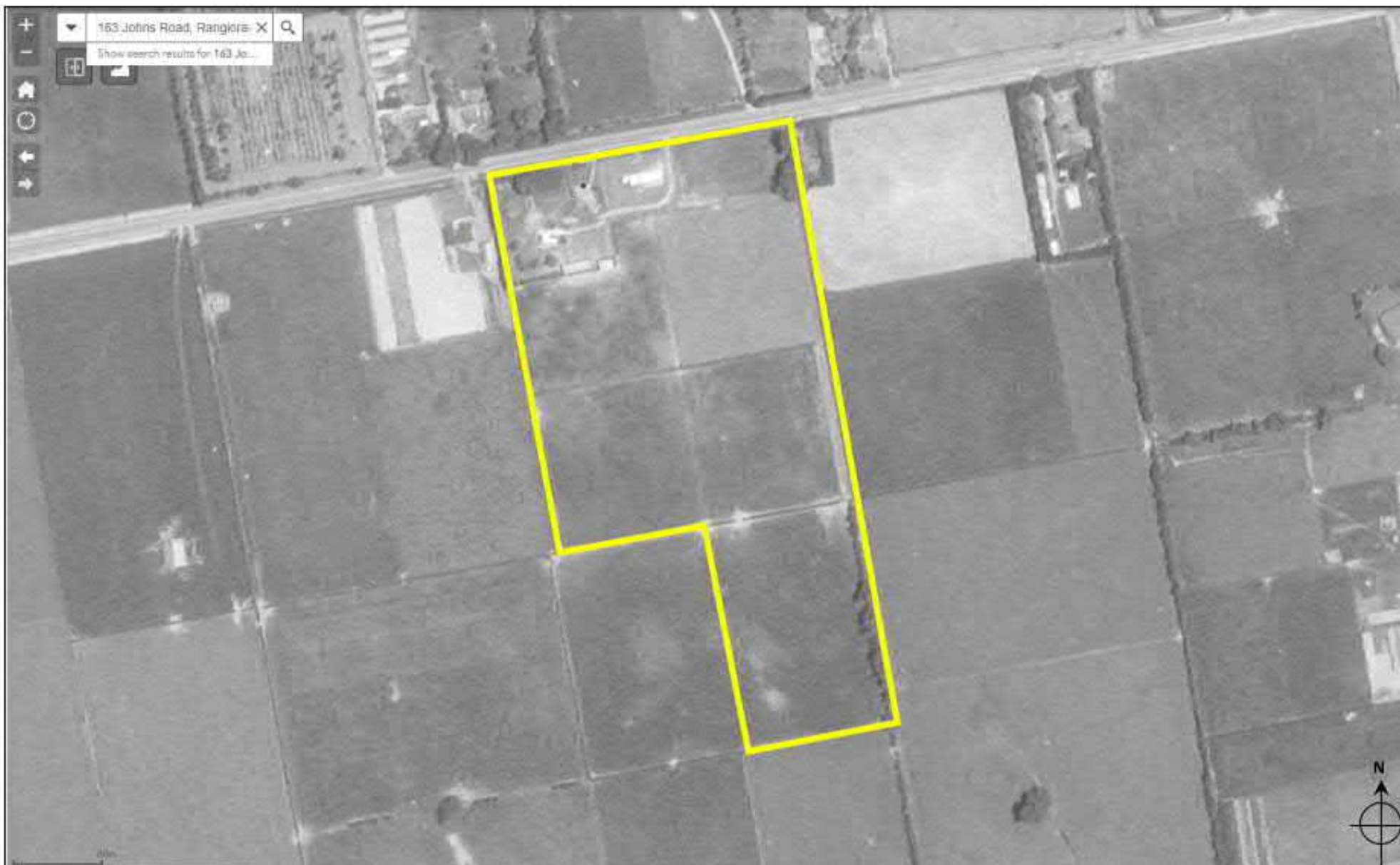
Client
PO Box 9339
Tower Junction
Christchurch

Scale:
NTS

Sources:
Canterbury Maps GIS

Date: 9 February 2018
Author: FAS

ESP reference:
439185



Eliot Sinclair
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1990-1994

Client
PO Box 9339
Tower Junction
Christchurch

Scale:
NTS

Sources:
Canterbury Maps GIS

Date: 9 February 2018
Author: FAS

ESP reference:
439185



Eliot Sinclair
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1995-1999

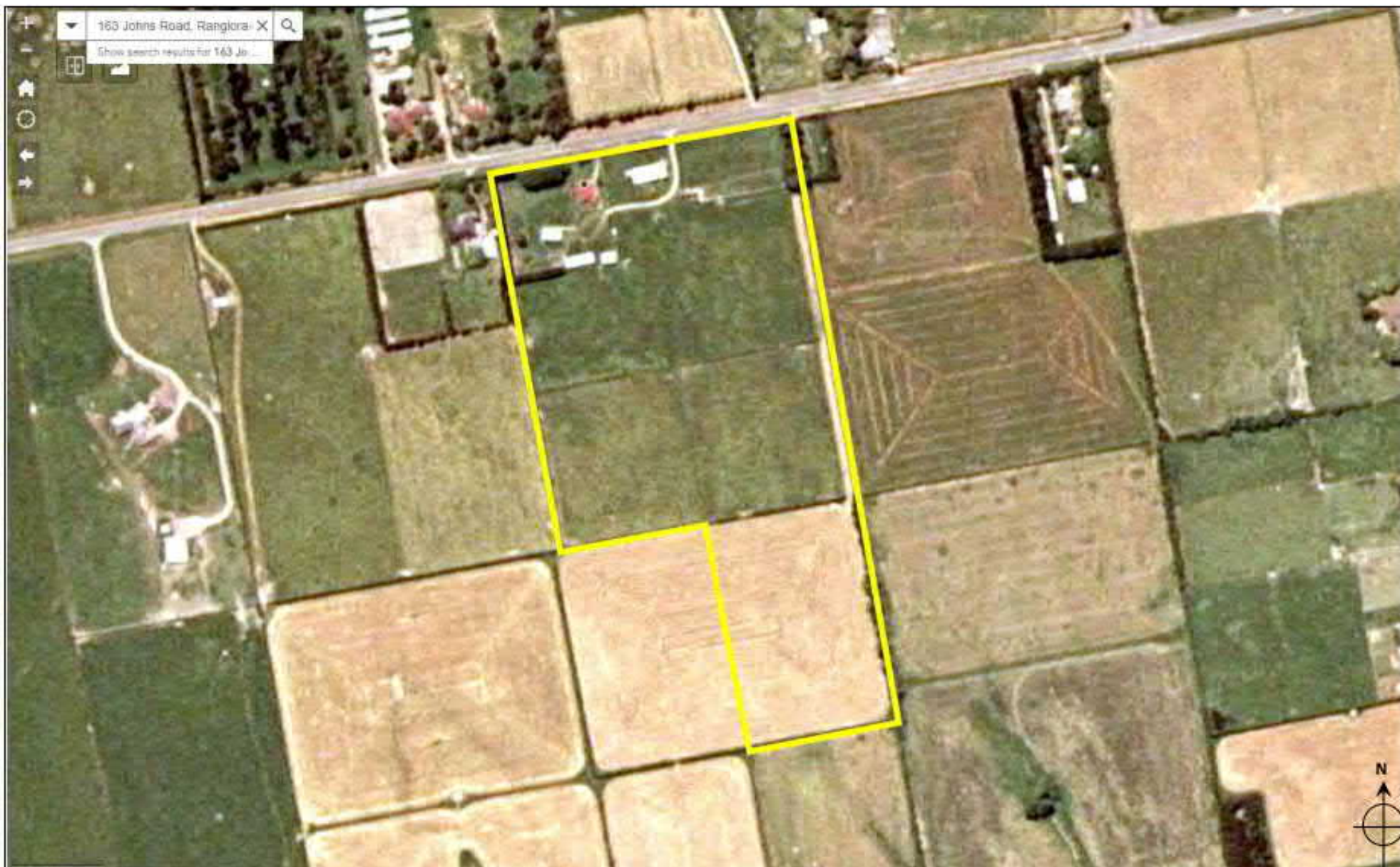
Client
PO Box 9339
Tower Junction
Christchurch

Scale:
NTS

Sources:
Canterbury Maps GIS

Date: 9 February 2018
Author: FAS

ESP reference:
439185



Eliot Sinclair
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2000-2004

Client
PO Box 9339
Tower Junction
Christchurch

Scale:
NTS

Sources:
Canterbury Maps GIS

Date: 9 February 2018
Author: FAS

ESP reference:
439185



Eliot Sinclair
surveyors | engineers | planners

October 2017

Client
PO Box 9339
Tower Junction
Christchurch

Scale:
NTS

Sources:
Canterbury Maps GIS

Date: 9 February 2018
Author: FAS

ESP reference:
439185

Pre-Purchase Ground Contamination Assessment

163 Johns Road, Rangiora

Prepared for Rochford 163 Ltd

439185

Eliot Sinclair
surveyors | engineers | planners

Pre-Purchase Ground Contamination Assessment



163 Johns Road, Rangiora

Prepared for Rochford 163 Ltd

Quality Control Certificate



20 Troup Drive, PO Box 9339, Tower Junction, Christchurch 8149, NZ
phone 03 379 4014, fax 03 365 2449

Action	Name	Signature	Date
Prepared by:	Jens Zollhofer PhD MSc PGCertRS CEnvP Senior Environmental Scientist, SQEP		26 February 2018
Reviewed and Approved for Release by:	John Aramowicz BEng(Hons) CMEngNZ (1008112) CPEng IntPE Principal Senior Civil & Geotechnical Engineer		26 February 2018
Status:	FINAL		
Release Date:	26 February 2018		
Reference No:	439185		
Distributed to:	Rochford 163 Ltd Waimakariri District Council		
Limitations This report has been prepared for Rochford 163 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.			

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1 Introduction and Scope.....1

2 Ground Contamination Assessment Pursuant NES:CS Regulation 6.21

3 Site Information1

4 Records Reviewed & Site Inspection2

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Appendices

Appendix A : Environment Canterbury Listed Land Use Register (LLUR)

Appendix B : Historical Aerial Images

Appendix C : Site Inspection Photographs (13 February 2018)

1 Introduction and Scope

Eliot Sinclair was commissioned to investigate the history of land at 163 Johns Road in Rangiora with regards to potential contamination from historical and recent land uses.

The scope of this report is to prepare an NES:CS ground contamination assessment for a due diligence (pre-purchase) investigation, to confirm that the land is suitable for residential development.

2 Ground Contamination Assessment Pursuant NES:CS Regulation 6.2¹

The NES:CS applies to land where HAIL² activities are taking place, or when it is more likely than not that they have taken place in the past. This is usually established by conducting a Preliminary Site Investigation (PSI) in accordance with the requirements of MfE's Contaminated Land Management Guidelines (CLMG)³. However, NES:CS¹ Regulation 6.2 provides for a second method:

6 Methods

(2) One method is by using information that is the most up-to-date information about the area where the piece of land is located that territorial authority-

(a) holds on its dangerous goods files, property files, or resource consent database or relevant registers; or

(b) has available to it from the regional council.

This method is usually applied to low risk sites, and when detailed reporting is not required. In addition to checking Council records, we have conducted a site walkover inspection in order to identify any obvious common HAIL activities on rural properties that are often only able to be identified in the field.

If HAIL activities are identified during the investigation, then the site is considered 'a piece of land' in terms of the requirements of the NES:CS, and detailed investigation would be required.

3 Site Information

Table 1: Legal description, street address and current land owner.

Site information	Details
Legal description	Lot 4 DP 333694 on Title 138043, 6.5875 ha
Street address	163 Johns Road, Rangiora
Owner	Jennifer Ann Todd ⁴
Occupier	Both residential dwellings on site are un-occupied and the farm sheds are empty. Grass is cropped on the balance of the land.

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). Hazardous Activities and Industries List (HAIL). Available online at www.mfe.govt.nz

³ Ministry for the Environment (MfE). Contaminated Land Management Guidelines (CLMG). No. 1-5.

⁴ Land Information New Zealand records state Clarence Ross Timperley and David George Timperley as owners. This information might be superseded.

4 Records Reviewed & Site Inspection

Table 2: Council records reviewed and site inspection (23 November 2011).

Information sources reviewed	HAIL activity?
Waimakariri District Council Property File	No HAIL activities identified
Environment Canterbury's Listed Land Use Register (LLUR)	The land is not recorded on the LLUR
Environment Canterbury resource consent database	No HAIL activities identified
Environment Canterbury GIS: Historical aerial photos	HAIL I, HAIL A8
Site investigation	HAIL G3, HAIL E1

Correspondence with Waimakariri District Council on 12 February 2018⁵ established that the property file contains three building consents (two from the year 2000, and one from 2010). The consents are for a barn extension, the relocation of a flat, and an addition to a building (closing-in of a deck), respectively. None of these records indicate potential ground contamination.

The land is not recorded on Environment Canterbury's Listed Land Use Register (LLUR). A copy of the search record for 163 Johns Road is attached in Appendix A.

The resource consent database holds no records of past or current consented activities for the site. Resource consents on neighbouring land are for the installation of drinking water bores and highly unlikely to have caused ground contamination of the subject site.

The review of eight historical aerial photographs between 1940 and 2016 is summarised in Table 3.

Annotated historical aerial images are attached in Appendix B. The photos show that a residential dwelling and associated farm sheds have been located on the northern part of the site since before the 1940s. Sanding and re-painting weatherboard dwellings with lead-based paint is well known to be a potential source of local contamination of surface soils with lead and/or arsenic⁶. Although these activities are not itemised as a separate HAIL category, they are generally considered as HAIL I⁷.

The site was inspected on 13 February 2018. Photos from the walkover are attached in Appendix C, and show that the current landuse is grass cropping (Figure 1, Figure 2). The two residential dwellings are unoccupied, and the farm sheds are empty.

It appears that rubbish was incinerated in a concrete bin behind the original (pre-1940s) dwelling (Figure 3), however, the disposal location of ash is unknown. If it was deposited on site, then it could be the potential source of contamination (HAIL G5).

The exterior cladding of the more recent residential dwelling that was established in the 1980s might contain asbestos (Figure 9). Stippled plaster on the ceiling inside the dwelling might also contain asbestos fibres (Figure 10).

⁵ Correspondence with Fiona, Waimakariri District Council, Rangiora office, dated 12 February 2018, 4pm.

⁶ The weatherboards of the original pre-1940s dwelling were plastered over, possibly between the 1950s and the 1970s. This reduces the possible contamination with lead/arsenic. However, the soil around the dwelling might have still been exposed to several decades of sanding and re-painting the cladding with lead-based paint.

Table 3: Reviewed historical aerial images with identified HAIL activities.

Year	Landuse	HAIL category
1940 - today	Residential dwelling and associated farm sheds along Johns Rd. The balance of the land is cropped. The residential dwelling has been there since pre-1940s. This is likely to have caused local contamination with lead (e.g. from sanding lead paint), and/or arsenic. Pre-1940s dwellings also might contain building materials containing asbestos. Although these activities do not have a separate HAIL category, they are generally considered as HAIL I ⁷ .	HAIL I
1960-1964	Stockyards (potentially with a livestock dip or spray race operations) and what appears to be an associated shearing shed are located to the east of the residential dwelling. The balance of the land is cropped.	HAIL I HAIL A8
1970-1974	The stockyards and shearing shed appear to be operational. The balance of the land is cropped. No significant change in landuse identified.	HAIL I HAIL A8
1980-1984	The stockyards and shearing shed appear to be operational. A second residential dwelling has been established to the south-west of the original dwelling. The site visit indicated that the materials used for the exterior cladding and internal plaster might contain asbestos, which might have released fibres during construction. The balance of the land is cropped. No further significant change in landuse identified.	HAIL I HAIL A8 HAIL E1
1990-1994	The stockyards appear to have been removed. Most of the land appears to be grazed, a small part is cropped. 0.7 hectares of neighbouring land to the west is used for market gardening. The subject site is separated by a shelterbelt, and the prevailing winds are from the north-east. On this basis it is considered highly unlikely that spray drift of persistent farm chemicals might have caused ground contamination on the subject site.	HAIL I
1995-1999	Some of the stockyard structures have been removed (the area was later used as a horse yard). The balance of the land appears to be grazed.	HAIL I
2000-2004	No significant change in landuse identified	HAIL I
2016	No significant change in landuse identified Neighbouring land to the south-west is used for market gardening. This is assessed not to affect the subject site.	HAIL I

5 Conclusion

The reviewed information from District and Regional Council, along with our observations across the site indicates there is a risk of ground contamination from the pre-1940s weatherboard dwelling (HAIL I), any former livestock dip or spray race operations that may have been located in the stockyard (HAIL A8) between the 1960s and the 1980s, and the potential that contaminated ash (HAIL G5) was deposited on site over an unknown period. Also, if tests confirm the presence of asbestos fibres in the cladding materials of the more recent residential dwelling then there is a risk of asbestos contamination of the soils around the dwelling, particularly during construction and future demolition (HAIL E1).

Due to the persistency of the associated contaminants of concern (arsenic, lead, asbestos and organochlorine pesticides), potential risks from historical contamination might remain to date.

⁷ HAIL I: Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.

6 Recommendation

It is recommended to investigate potential ground contamination from the identified HAIL activities with a Detailed Site Investigation.

We recommend this investigation is undertaken before the buildings have been demolished.

7 Accidental Discovery Protocol

This ground contamination assessment pursuant NES:CS Regulation 6.2 is based on a review of Council records accessed on 12 February 2018, and a site inspection conducted on 13 February 2018. It is possible that buried contamination is present on the site and will be discovered during the earthworks. Therefore, if any one of the following materials is encountered during future earthworks the actions provided below must be followed.

Potential contamination:

- Stained or odorous soil
- Slag, ash, charcoal
- Refuse comprising putrescible waste, metal or plastics
- Asbestos (bonded) in cement fibre sheets (ACM) or insulation material (friable)

Actions:

- Works must stop immediately, and the site must be secured to stop people entering the area where potential contamination was encountered
- Contact a contaminated land specialist. **Eliot Sinclair (03 379 4014)** can assist, assess the risk, and can determine a practicable course of action.

8 Disclaimer

The comments made in this desktop investigation and report is based on Council records accessed on 12 February 2018 and a site inspection on 13 February 2018. 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 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 Rochford 163 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: Environment Canterbury Listed Land Use Register (LLUR)


Screen shot of Environment Canterbury’s Listed Land Use Register (LLUR), taken on 12 February 2018.

Listed Land Use Register (LLUR)

Search

Q

(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.

Property Search Results

	Legal Description	Titles	Valuation No	
163 Johns Road				
1	Lot 4 DP 333694	138043	2159133800	X

Appendix B: Historical Aerial Images



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surveyors | engineers | planners

1940-1944

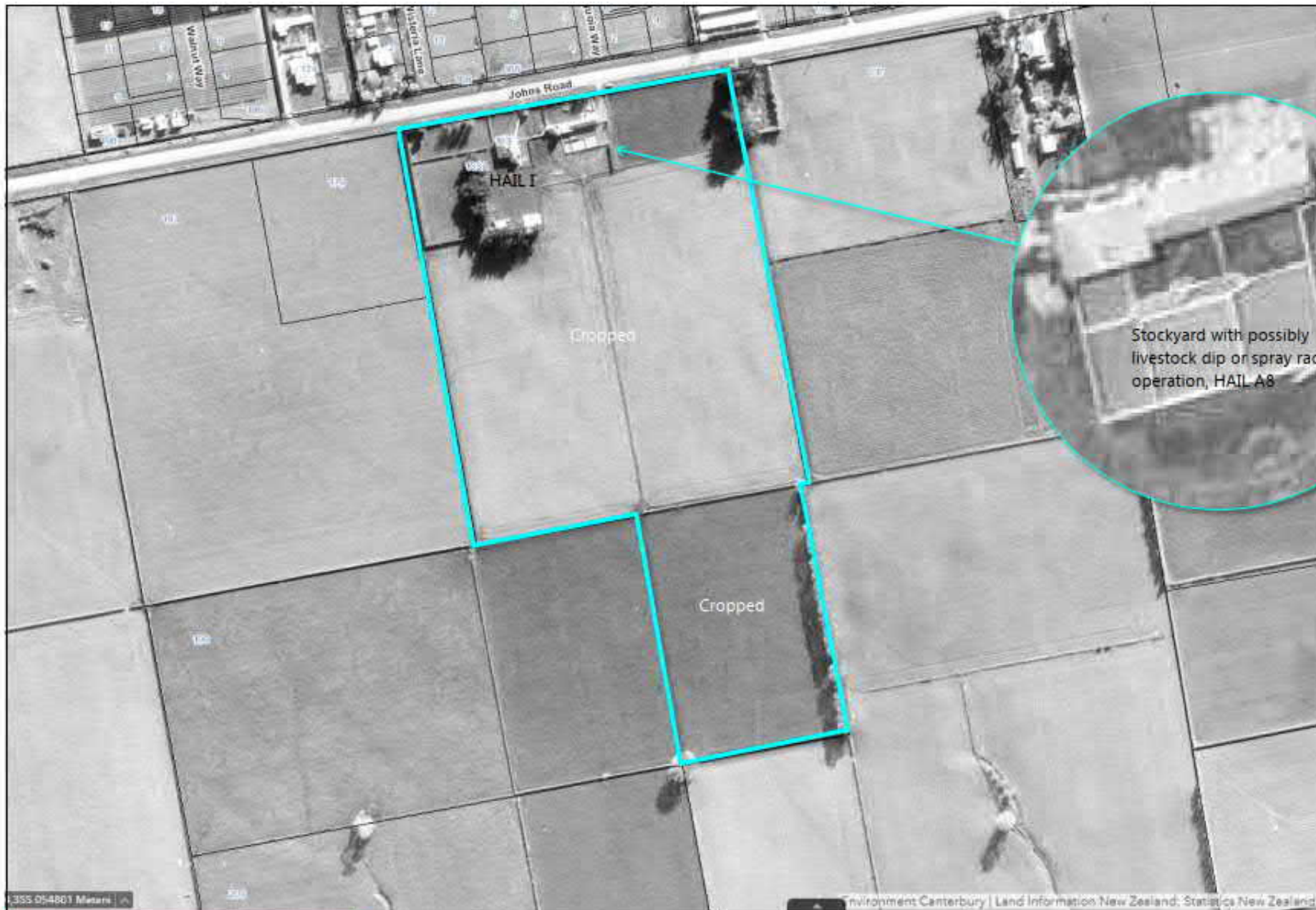
Eliot Sinclair & Partners
20 Troup Drive
PO Box 9339
Christchurch 8149

Scale:
NTS

Sources:
ECan GIS, Google Earth Pro

Date: 12 February 2018
Author: JMZ

ESP reference:
439185



Eliot Sinclair surveyors engineers planners	1960-1964	Eliot Sinclair & Partners 20 Troup Drive PO Box 9339 Christchurch 8149	Scale: NTS	Date: 26 February 2018 Author: JMZ
			Sources: ECan GIS, Google Earth Pro	ESP reference: 439185



Eliot Sinclair surveyors engineers planners	1970-1974	Eliot Sinclair & Partners 20 Troup Drive PO Box 9339 Christchurch 8149	Scale: NTS	Date: 26 February 2018 Author: JMZ
			Sources: ECan GIS, Google Earth Pro	ESP reference: 439185



Eliot Sinclair surveyors engineers planners	1980-1984	Eliot Sinclair & Partners 20 Troup Drive PO Box 9339 Christchurch 8149	Scale: NTS	Date: 26 February 2018 Author: JMZ
			Sources: ECan GIS, Google Earth Pro	ESP reference: 439185



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surveyors | engineers | planners

1990-1994

Eliot Sinclair & Partners
20 Troup Drive
PO Box 9339
Christchurch 8149

Scale:
NTS

Sources:
ECan GIS, Google Earth Pro

Date: 26 February 2018
Author: JMZ

ESP reference:
439185



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1995-1999

Eliot Sinclair & Partners
20 Troup Drive
PO Box 9339
Christchurch 8149

Scale:
NTS

Sources:
ECan GIS, Google Earth Pro

Date: 26 February 2018
Author: JMZ

ESP reference:
439185



Eliot Sinclair
surveyors | engineers | planners

2000-2004

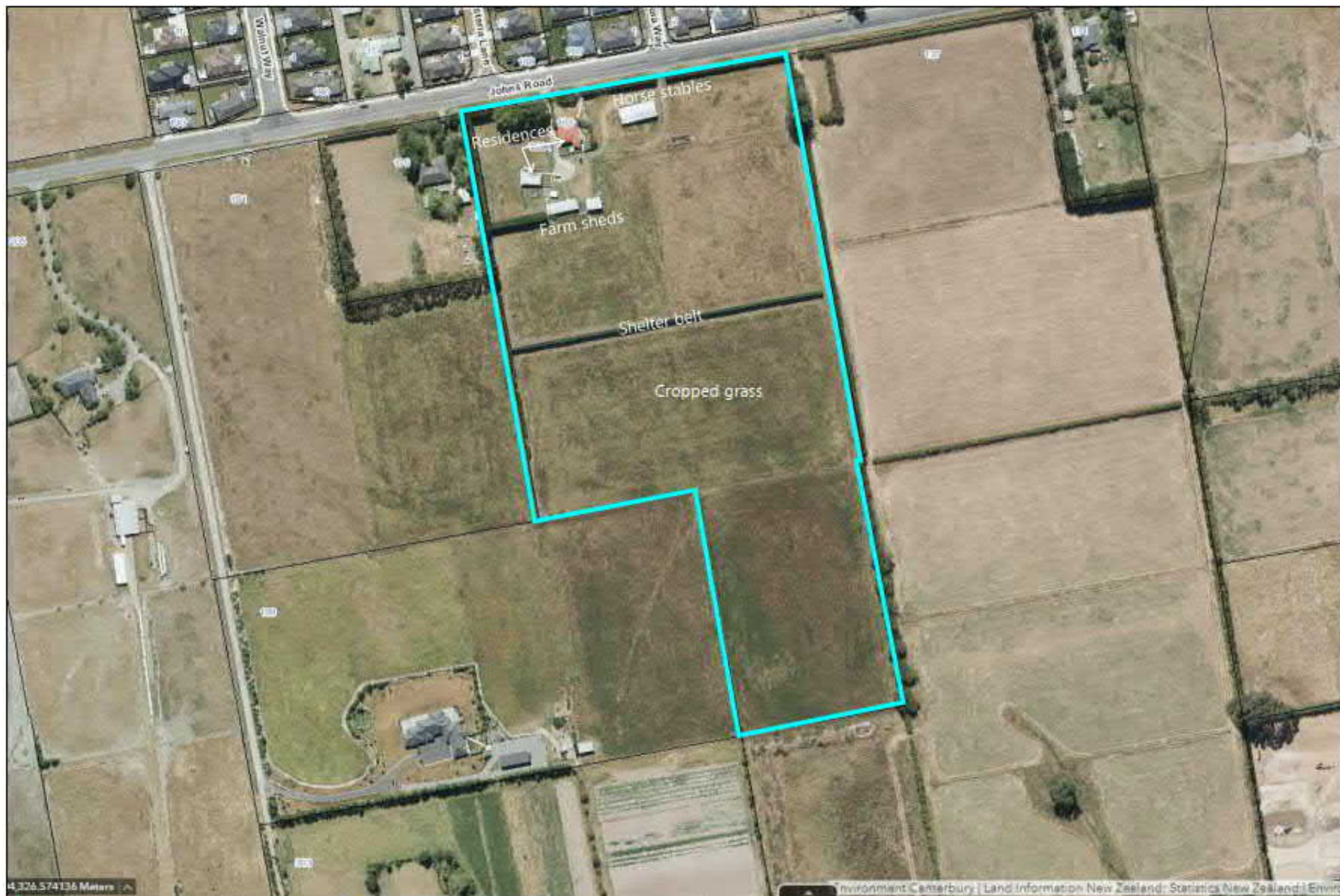
Eliot Sinclair & Partners Ltd
20 Troup Drive
PO Box 9339
Christchurch 8149

Scale:
NTS

Sources:
ECan GIS, Google Earth Pro

Date: 26 February 2018
Author: JMZ

ESP reference:
439185



Eliot Sinclair
surveyors | engineers | planners

22 January 2016

Eliot Sinclair & Partners Ltd
20 Troup Drive
PO Box 9339
Christchurch 8149

Scale:
NTS

Sources:
ECan GIS, Google Earth Pro

Date: 26 February 2018
Author: JMZ

ESP reference:
439185

Appendix C: Site Inspection Photographs (13 February 2018)



Figure 1: View to the south-west across the southern part of the site (south of the central shelter belt).



Figure 2: View to the north-west across the northern part of the site with dwellings, farm sheds and Johns Road in the background.



Figure 3: Plastered pre-1940s weather board dwelling.



Figure 4: Concrete bin that appears to have been used to incinerate domestic rubbish. It is not known where potentially contaminated ash has been deposited.



Figure 5: Disused historical stockyard area with potential spray race (approx. 25m east of original dwelling)



Figure 6: Horse stables, originally constructed pre-1940s, presumably as shearing shed.



Figure 7: Disused sheep holding pen and loading ramp (approx. 12m southeast of stockyard area).



Figure 8: More recent residential dwelling, established in the 1980s. The exterior cladding and internal plaster materials might contain asbestos fibres.



Figure 9: Exterior cladding of the more recent residential dwelling (possibly containing asbestos).



Figure 10: Stippled ceiling plaster in the more recent residential dwelling (possibly containing asbestos).

Appendix B. Pre-Purchase Reports for 199 Johns Road

7 June 2019

Our Ref: 500204

Carolina Homes Ltd
c/- 5 Skara Brae
Christchurch 7604

Attention: Justin Busbridge

Dear Justin

Pre-purchase Geotechnical Report for 199 Johns Road, Rangiora (Lot 2 DP 333694)

1 Introduction

Eliot Sinclair & Partners Ltd were engaged by Carolina Homes Ltd to undertake a pre-purchase geotechnical assessment of 199 Johns Road, Rangiora (the 'site') and to report on the geotechnical suitability of the land for a future residential subdivision.

2 Scope of Work

The scope of work for this pre-purchase geotechnical assessment included:

- Review available data from the New Zealand Geotechnical Database¹ (NZGD), Canterbury Maps² and the Institute of Geological & Nuclear Sciences' (GNS) Active Faults Database³,
- Walkover inspection on 21 May 2019,
- Two hand-auger test holes to confirm the nature of the shallow soils at the site,
- Two Scala penetrometer tests to infer the ultimate bearing capacity associated with the soil profile encountered in the hand augers,
- Summarise the results of this work in the Pre-Purchase Geotechnical Report.

3 Site Description

The site is legally described as Lot 2 DP 333694 and is located at 199 Johns Road, Rangiora. The site is bounded by rural properties on all sides. Access to the site is via a right of way from Johns Road to the northwest corner of the property. The site is generally flat with very minor natural undulations. At the time of the investigation on 21 May 2019, there was one existing dwelling and associated outbuildings located near the mid-south boundary of the site. Refer to Figure 1.

¹ New Zealand Geotechnical Database (NZGD). Retrieved in February 2019 from <https://www.nzgd.org.nz/>

² Canterbury Maps. Retrieved in February 2019 from <https://mapviewer.canterburymaps.govt.nz>

³ Geological and Nuclear Sciences. (2004). Active Faults Database. Retrieved in February 2019 from <http://maps.gns.cri.nz/website/af/viewer.htm>

4 Geology

Published geology⁴ indicates the site is underlain by river deposits described as '*Unweathered, brownish-grey, variable mix of gravels/sands/silt/clay in low river terraces*'. The closest active faults³ are mapped approximately 5km to the north (Ashley Fault) and 6km to the north (Loburn Fault). The results of our desktop study are in Appendix B.



Figure 1: Existing site layout and approximate geotechnical test locations 1 and 2, 199 Johns Road, Rangiora. Base aerial sourced from www.canterburymaps.govt.nz

Environment Canterbury well reference M35/9869 is located on the site, as shown on Figure 1. Well card details indicate the well was drilled in 2004 to a total depth of 21m below ground level (bgl). The borehole log shows gravel was encountered consistently from a depth of 1.3m bgl. Groundwater was recorded 1.7m bgl at the time of drilling.

5 Flood Hazard

The Waimakariri District Council's Hazard Map⁵ notes parts of the site have a "medium" flood hazard

The existing dwelling was constructed in 2008. The Council's 2014 flood hazard map indicates the dwelling is not in an area of medium or high hazard.

The Waimakariri District Council's Ashley River Floodplain Investigation⁶ predicts that in a 1% AEP (100 year return period) event with a peak flow of 860m³/s the site will experience up to 0.5m of surface flooding and in a 0.5% AEP (500 year return period) event with a peak flow of 5,300m³/s the site will experience up to 1m of surface flooding.

⁴ 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

⁵ <https://www.waimakariri.govt.nz/have-a-say/lets-talk/closed-consultations2/natural-hazards-management/flood-hazard-areas>

⁶ Oliver, T., (2008), Ashley River Floodplain Investigation

Eliot Sinclair engaged Fluent Solutions in September 2018 to assess the consequences of a breakout of the Ashley River for the Townsend Fields subdivision to the east of the site. This work concluded that a breakout of the Ashley River, at the location specified by Environment Canterbury, poses a flood hazard at this site. Refer to Appendix B. This hazard would need to be mitigated as part of any future subdivision of the site.

6 Site Investigation

6.1 Geotechnical Testing

Our walkover inspection and shallow soil testing was carried out on 21 May 2019. Two hand auger boreholes and two Scala penetrometer tests were undertaken at locations shown on Figure 1. Test 1 was located near the south eastern corner of the site and Test 2 near the north western corner of the site. Hand auger logs and Scala penetrometer profiles are provided in Appendix A.

The purpose of the testing was to confirm the expected depth to gravel and ground bearing capacity of the overlying soils based on the desktop review and knowledge of the ground conditions encountered within the neighbouring Townsend Fields Subdivision.

The hand auger holes revealed a topsoil thickness of 250 to 350mm, overlying silt/silty clay and silty sand to a depth of approximately 1.4m bgl where gravels were encountered and testing was terminated due to practical refusal. No historical fill was encountered below the topsoil layer at the two locations tested. Groundwater was not present in the shallow boreholes at the time of testing.

Below the topsoil, Scala penetrometer resistances of at least 3 blows per 100mm were recorded. Penetration resistances generally increased with depth until practical refusal on the gravels. This infers the in situ soil overlying the gravel has a static ultimate bearing capacity of at least $q_u=300\text{kPa}$ at the time of testing.

The limited testing rationale is based on confirming the underlying conditions do not greatly differ from those nearby. It is acknowledged that former shallow channel features are typical across river terrace formations; however no significant infilled channels were obvious at the time of our walkover inspection or in a review of the historic aerial photographs.

6.2 Floor Levels

Eliot Sinclair measured the floor levels of the dwelling at 199 Johns Road on 21 May 2019. The floor level was 30.22m RL (Lyttelton 1937 datum).

7 Conclusions

There were no unusual geotechnical conditions or evidence of historic uncontrolled fill that was encountered at the time of our investigation.

The shallow geotechnical investigation carried out by Eliot Sinclair indicate the underlying soil and bearing conditions at 199 Johns Road comprise firm to stiff silts and clayey silts that extend to around 1.4m bgl where gravels were present. The site is geotechnically similar to the Townsend Fields subdivision to the east and is deemed geotechnically suitable for future development.

The risk of inundation posed by a breakout of the Ashley River would need to be mitigated as part of a future subdivision of the site.

8 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 and limited shallow geotechnical testing.

Whilst every care was taken during our interpretation of the subsurface conditions, there may be subsoil strata and features that were not detected. Additionally, on-going seismicity in the general area may lead to deterioration or additional ground settlement that could not have been anticipated at time of writing of this report. 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 Carolina Homes Ltd. This pre-purchase geotechnical report 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.

Yours sincerely
ELIOT SINCLAIR & PARTNERS LTD

Prepared By:



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

Reviewed and Approved By:



John Aramowicz
BEng(Hons) Mining CMEngNZ IntPE(NZ) CPEng (1008112)
Geotechnical Engineer
Principal

Enclosed:

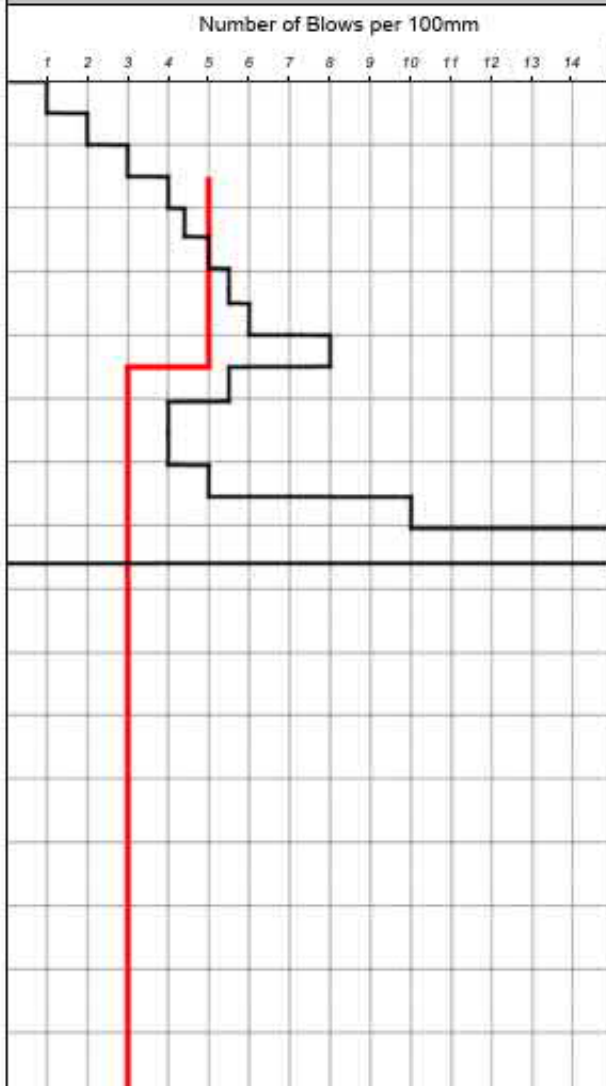
- Site Investigation Records, 2 pages, dated 21 May 2019
- Results of Desktop Study

SITE INVESTIGATION RECORD

Client **Townsend Fields Ltd.**

Site **199 Johns Road, Rangiora**

SCALA PENETROMETER TEST RESULTS



Depth (m)

SOIL PROFILE

Test Location 01

Water

FILL: silty TOPSOIL; dark brown. Non-plastic; moist; trace rootlets.

SILT; dark brown. Non-plastic; dry; trace iron staining.

Silty CLAY; bluish grey with mottled orange. Non-plastic; dry to moist; some iron staining.

1.05m: Trace fine sand.

1.10m: Trace angular gravel, fine to medium.

1.25m: Becoming wet.

Sandy SILT; greyish brown. Non-plastic; moist to wet; sand, fine; some iron staining.

EOH: 1.45m - Inferred gravel, unable to auger further.

Groundwater Not Encountered

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.

COMMENTS

SITE PLAN (Not to Scale)



Field Staff:

CAO/KF

Prepared By:

CAO

Investigation Type

☒ Hand Auger

☐ Spade Hole

☐ Test Pit

Job Manager:

JTA

Approved By:

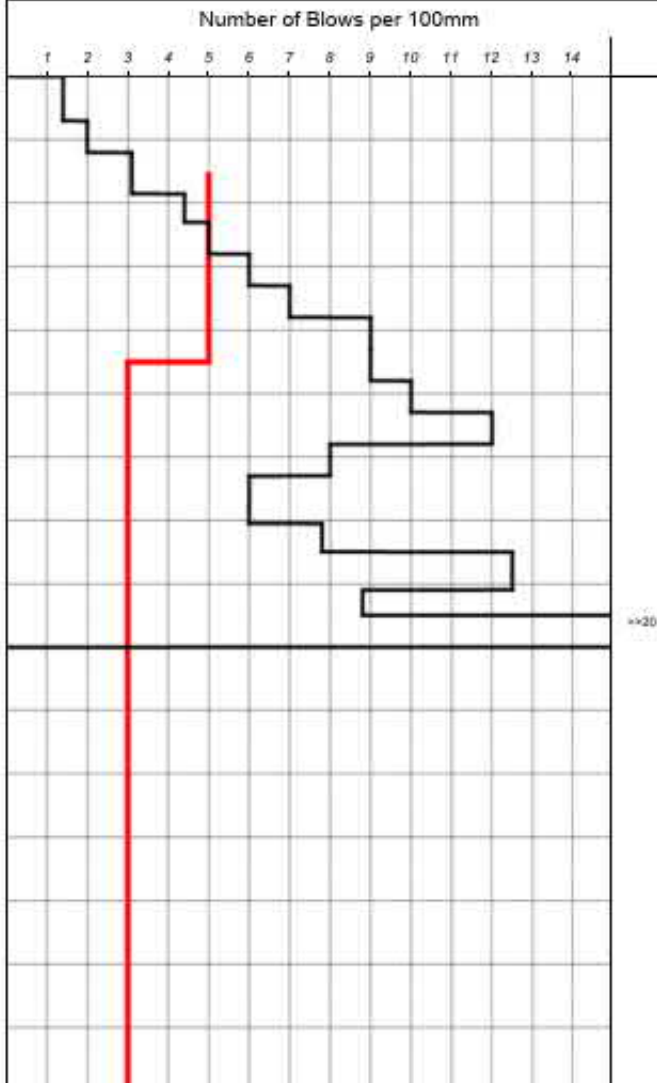
JTA

SITE INVESTIGATION RECORD

Client **Townsend Fields Ltd.**

Site **199 Johns Road, Rangiora**

SCALA PENETROMETER TEST RESULTS



SOIL PROFILE

Depth (m)	Test Location 02	Water
0.0 - 0.2	FILL: silty TOPSOIL; dark brown. Non-plastic; moist; trace rootlets.	Groundwater Not Encountered
0.2 - 0.4	SILT; dark brown. Non-plastic; dry; trace iron staining.	
0.4 - 0.6	Silty CLAY; bluish grey with orange mottles. Non-plastic; dry to moist; some iron staining.	
0.6 - 1.0	Silty CLAY; bluish grey with orange mottles. Non-plastic; dry to moist; some iron staining.	
1.0 - 1.2	Silty sandy; greyish brown. Non-plastic; moist; sand, fine; some iron staining.	
1.2 - 1.4	EOH: 1.4m - Inferred gravel, unable to auger further.	
1.4 - 1.6		
1.6 - 1.8		
1.8 - 2.0		
2.0 - 2.2		
2.2 - 2.4		
2.4 - 2.6		
2.6 - 2.8		
2.8 - 3.0		

COMMENTS

SITE PLAN (Not to Scale)



Field Staff:

CAO/KF

Prepared By:

CAO

Investigation Type

☒ Hand Auger

☐ Spade Hole

☐ Test Pit

Job Manager:

JTA

Approved By:

JTA

21 May 2019

Our Ref: 500204

Appendix B: Results of Desktop Study

1 Google Earth



Retrieved from Google Earth on 23 May 2019

2 Canterbury Maps



Retrieved from Canterbury Maps on 23 May 2019

3 Quickmaps



Retrieved from Quickmaps on 23 May 2019

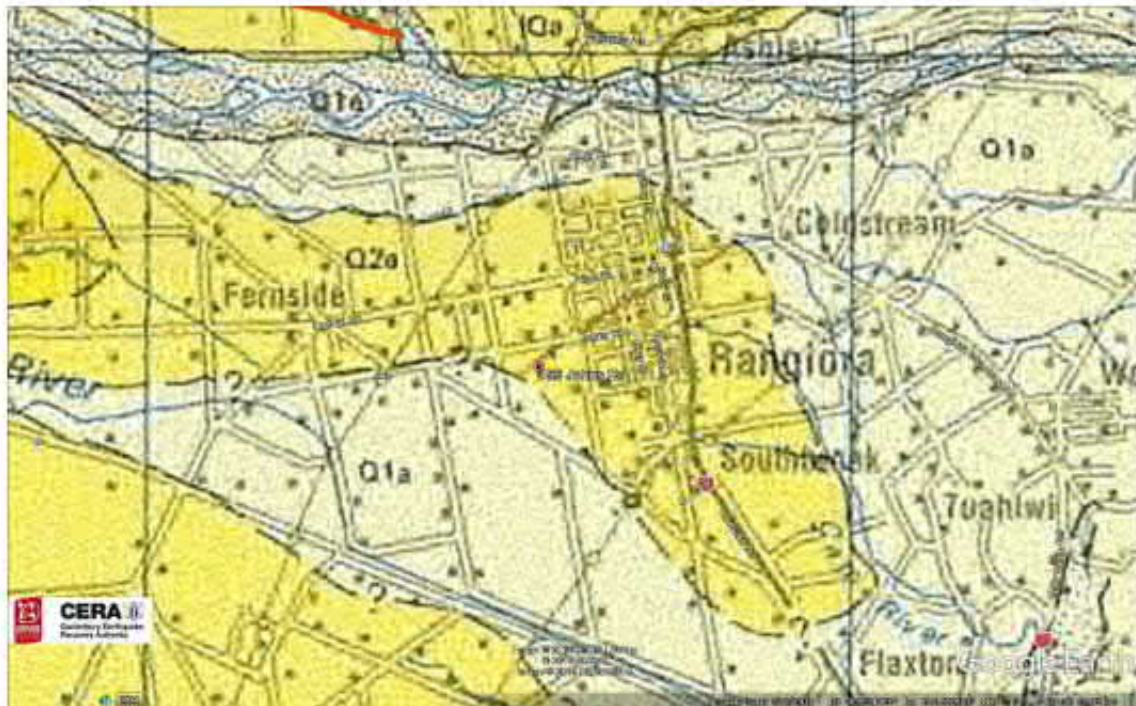
4 New Zealand Geotechnical Database

4.1 MBIE Technical Categories



Retrieved from the NZGD on 23 May 2019

4.2 Geological Maps



Site is underlain by Q2a; 'Brownish grey river alluvium' retrieved from the NZGD on 23 May 2019.

Forsyth, P.J.; Barrel, D.J.A.; Jongens, R. (compilers) 2008: Geology of the Christchurch area. Institute of Geological & Nuclear Sciences 1:250 000 geological map 16. 1 sheet +67 p. Lower Hutt, New Zealand. GNS Science.

4.3 Ecan Liquefaction Assessment Area



Retrieved from the NZGD on 23 May 2019

4.4 Earthquake – Post Feb 2011 observations



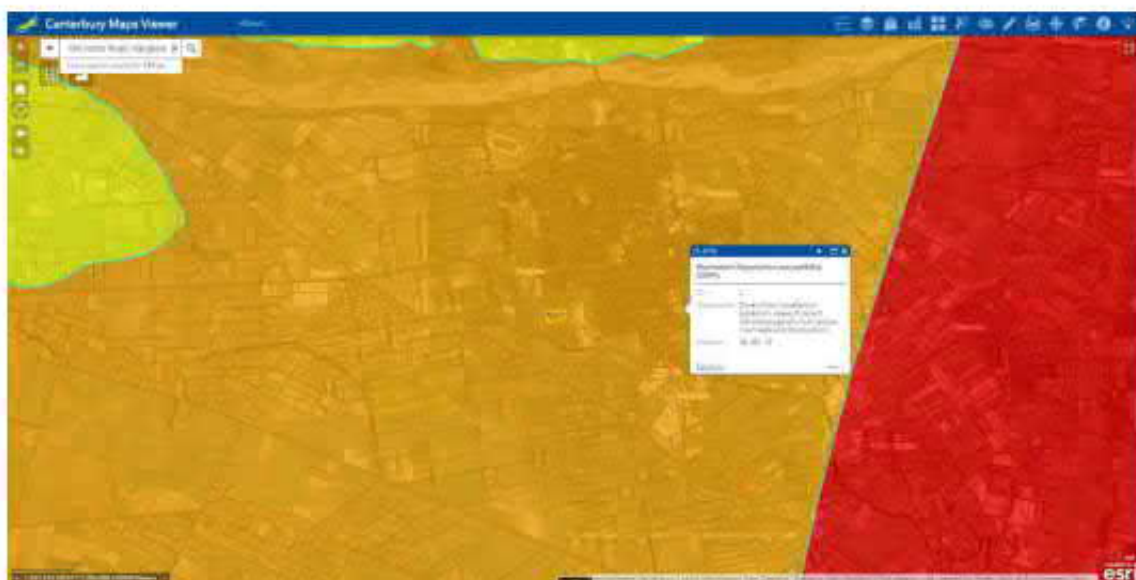
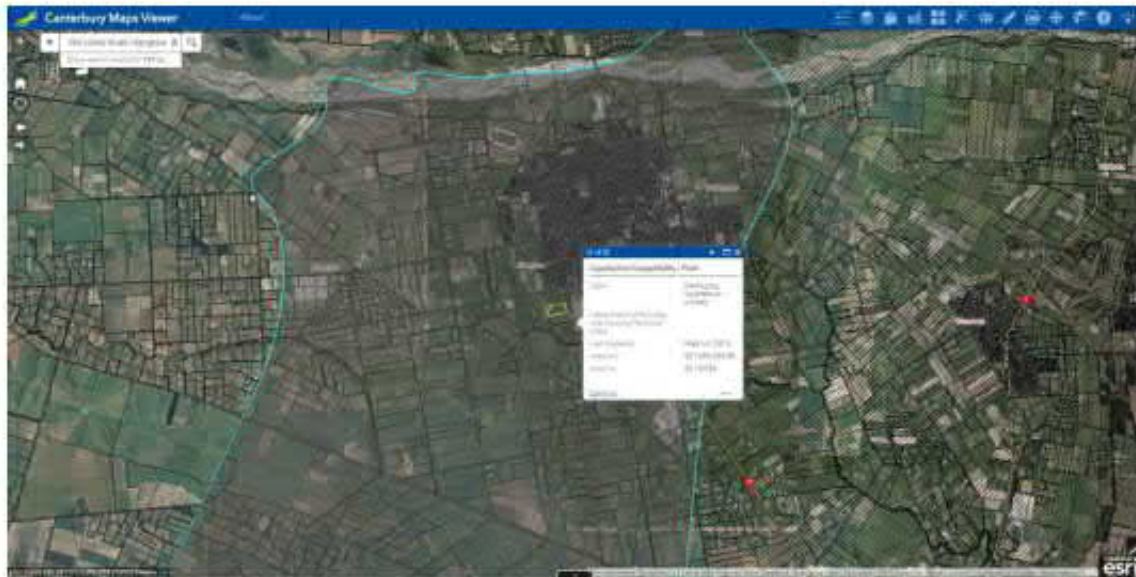
Retrieved from GNS Science on 23 May 2019



Retrieved from Google Earth on 7 June 2019

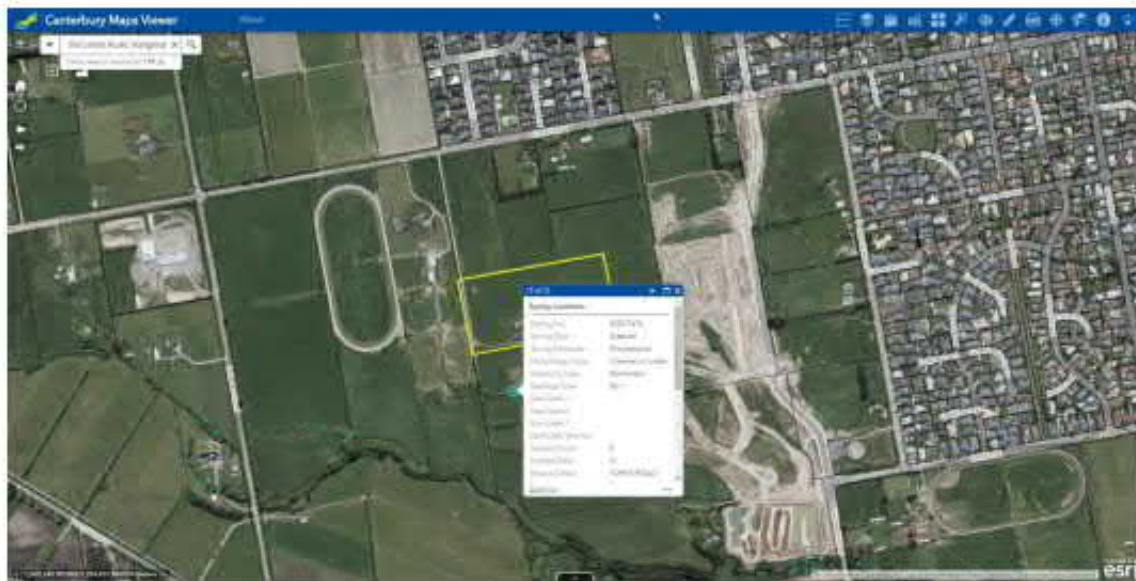
5 Canterbury Maps Layers

5.1 Liquefaction hazard



Retrieved from Canterbury Maps on 23 May 2019

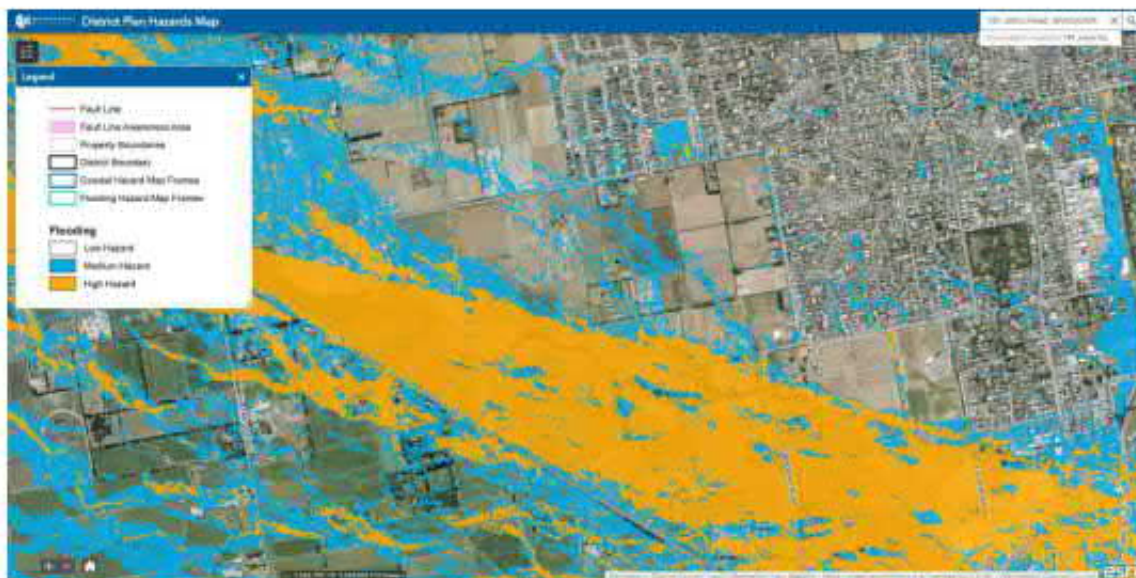
5.2 Spring Locations



Retrieved from Canterbury Maps on 23 May 2019

6 Waimakariri District Council

6.1 District Plan Flood Hazard



Retrieved from Canterbury Maps on 23 May 2019

6.2 Waimakariri District Flood Planning Hazard

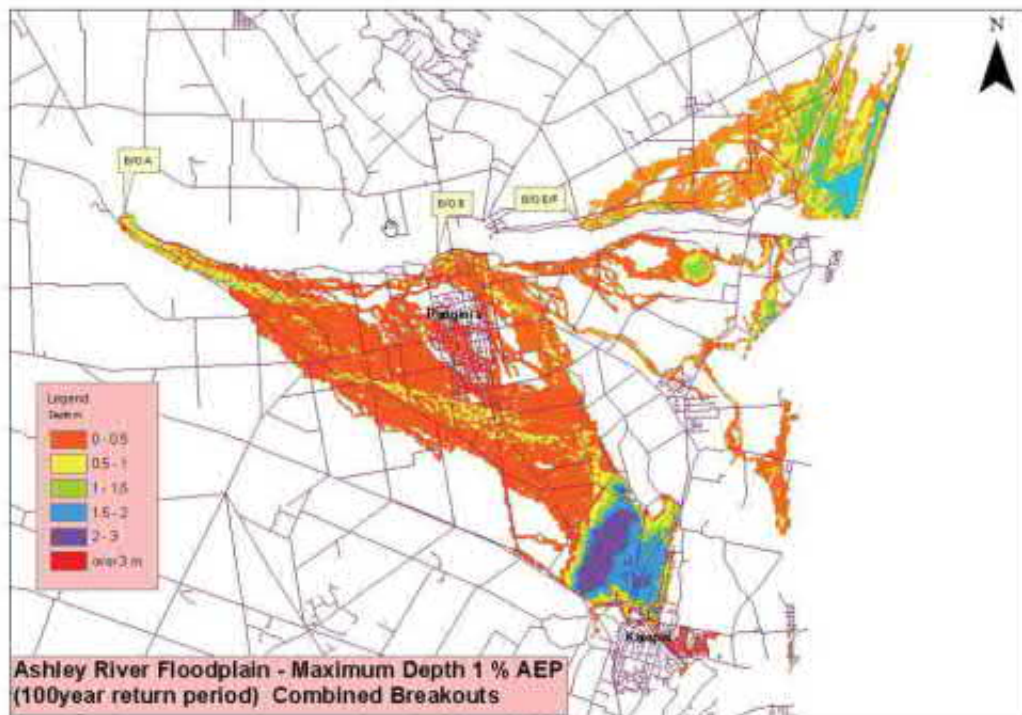


Figure 7:

Retrieved from the Waimakariri District Flood Hazard Management Strategy on 23 May 2019

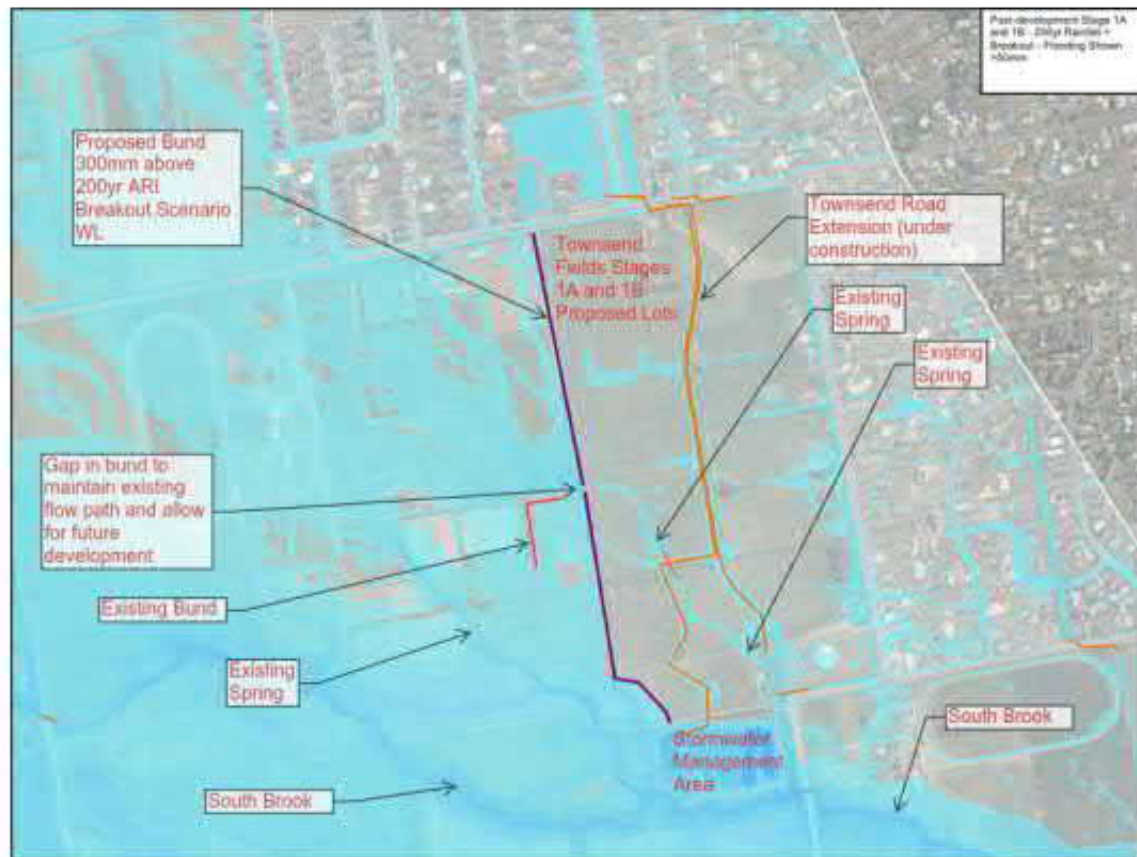
7 GNS Near Faults Database



Retrieved from GNS Science on 23 May 2019

8 Fluent Flood Modelling

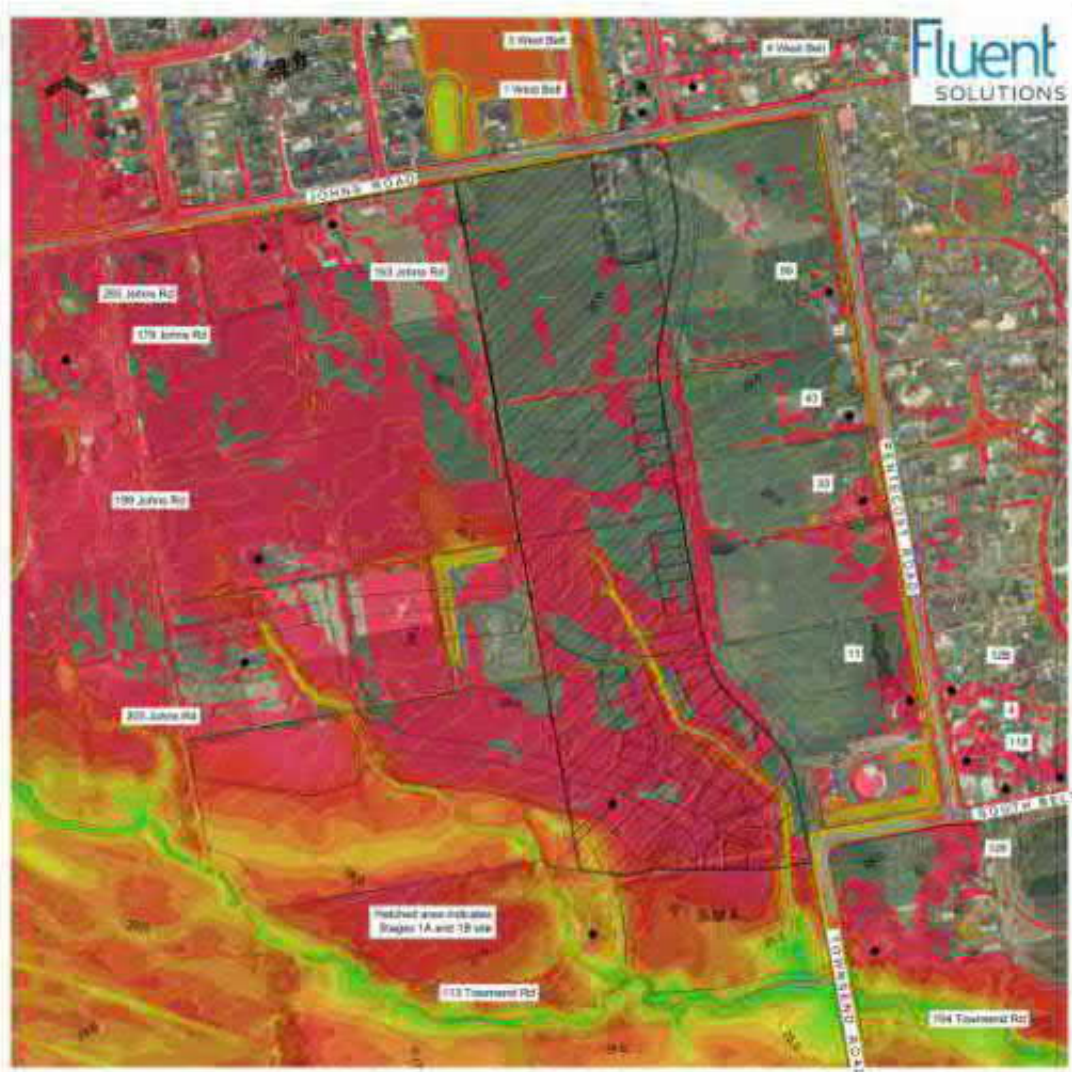
Flood modelling performed by Fluent for Eliot Sinclair & Partners



Original bund location flood modelling

Table 1: Effects Assessment Results – Neighbouring Properties 200yr ARI Rainfall + Breakout Flood Level Estimations

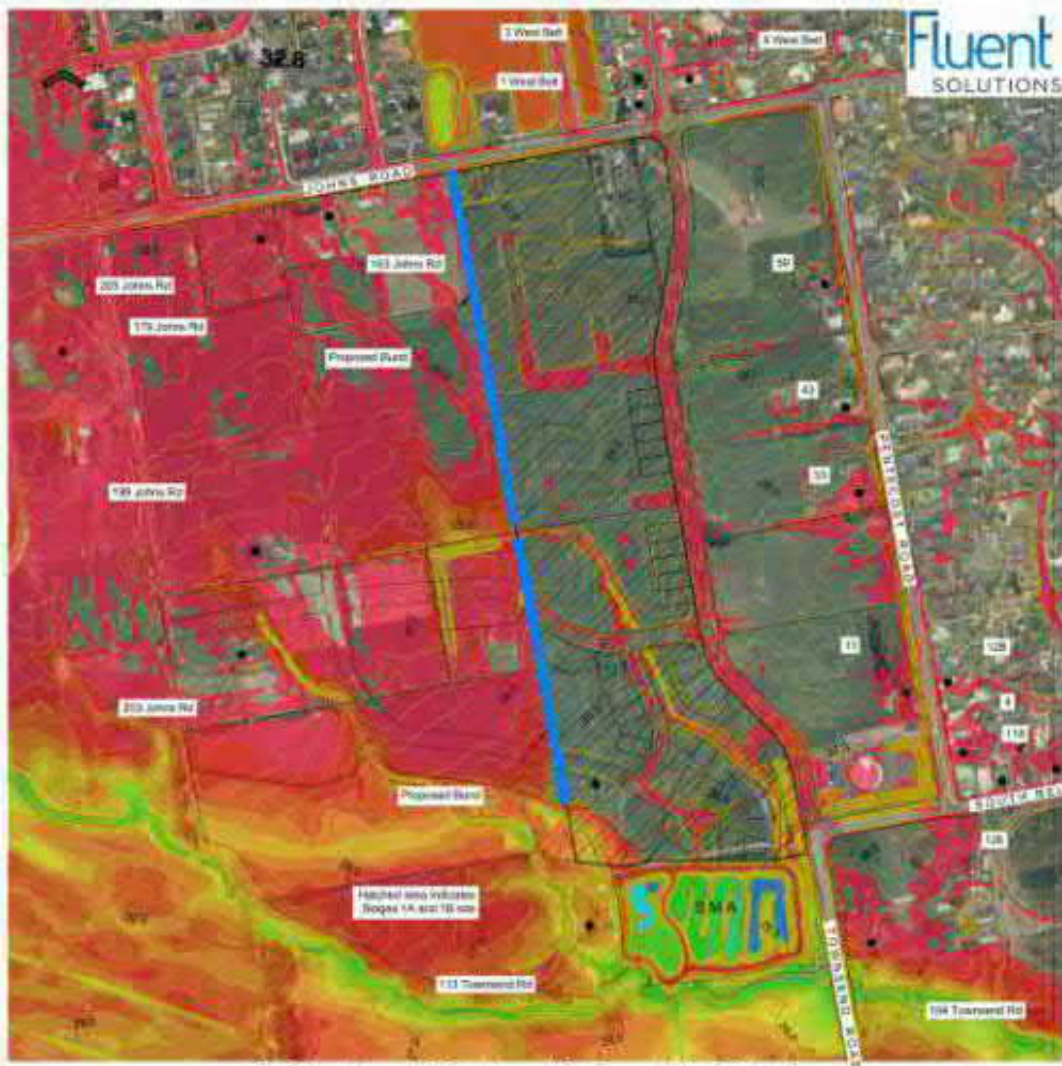
Location	Pre-Development 200yr ARI Rainfall + Breakout Flood Level (m)	Post-Development 200yr ARI Rainfall + Breakout Flood Level (m)	Flood Level Difference (Pre- minus Post-) (m)
205 Johns Road	32.31	32.30	+0.01
179 Johns Road	31.61	31.62	-0.01
163 Johns Road	31.41	31.41	0
199 Johns Road	30.24	30.24	0
203 Johns Road	29.52	29.52	0
1 West Belt	31.25	31.25	0
3 West Belt	31.31	31.30	+0.01
4 West Belt	31.09	31.09	0
59 Pentecost Road	29.04	29.01	+0.03
43 Pentecost Road	27.97	27.92	+0.05
33 Pentecost Road	27.57	27.56	+0.01
126 Pentecost Road	26.69	26.65	+0.04
11 Pentecost Road	26.97	26.96	+0.01
WDC Land – Water Reservoir	26.73	26.73	0
4 Pentecost Road	26.49	26.47	+0.02
Flow Over South Belt	26.48	26.48	0
126 South Belt	26.10	26.09	+0.01
118 South Belt	25.69	25.69	0
104 Townsend Road	26.61	25.56	+0.05
113 Townsend Road	27.02	27.04	-0.02



Pre Development Surface and Flood Depth Plan
50mm Flood Depth Contour Interval

Scale: 1:5000 N to S
Base Surface: - Pre Development Ground Surface
Comparison Surface: - Pre Development Flood Depth

Flood Depth		Flood Depth		Flood Depth		Flood Depth		Flood Depth	
Color	Depth Range (ft)	Color	Depth Range (ft)	Color	Depth Range (ft)	Color	Depth Range (ft)	Color	Depth Range (ft)
Red	0.05 to 0.10	Orange	0.55 to 0.60	Yellow	1.05 to 1.10	Green	1.55 to 1.60	Cyan	2.05 to 2.10
Red	0.10 to 0.15	Orange	0.60 to 0.65	Yellow	1.10 to 1.15	Green	1.60 to 1.65	Cyan	2.10 to 2.15
Red	0.15 to 0.20	Orange	0.65 to 0.70	Yellow	1.15 to 1.20	Green	1.65 to 1.70	Cyan	2.15 to 2.20
Red	0.20 to 0.25	Orange	0.70 to 0.75	Yellow	1.20 to 1.25	Green	1.70 to 1.75	Cyan	2.20 to 2.25
Red	0.25 to 0.30	Orange	0.75 to 0.80	Yellow	1.25 to 1.30	Green	1.75 to 1.80	Cyan	2.25 to 2.30
Red	0.30 to 0.35	Orange	0.80 to 0.85	Yellow	1.30 to 1.35	Green	1.80 to 1.85	Cyan	2.30 to 2.35
Red	0.35 to 0.40	Orange	0.85 to 0.90	Yellow	1.35 to 1.40	Green	1.85 to 1.90	Cyan	2.35 to 2.40
Red	0.40 to 0.45	Orange	0.90 to 0.95	Yellow	1.40 to 1.45	Green	1.90 to 1.95	Cyan	2.40 to 2.45
Red	0.45 to 0.50	Orange	0.95 to 1.00	Yellow	1.45 to 1.50	Green	1.95 to 2.00	Cyan	2.45 to 2.50
Red	0.50 to 0.55	Orange	1.00 to 1.05	Yellow	1.50 to 1.55	Green	2.00 to 2.05	Cyan	2.50 to 2.55



Post Stage 1A and 1B Development Surface and Flood Depth Plan
50 mm Flood Depth Contour Interval

Scale: 1:6000 H/L A4
Base Surface: Post Development Ground Surface
Contour Surface: Post Development Flood Depth

Flood Depth		Flood Depth		Flood Depth		Flood Depth		Flood Depth	
Color	Depth Range (m)	Color	Depth Range (m)	Color	Depth Range (m)	Color	Depth Range (m)	Color	Depth Range (m)
Red	0.05 to 0.10	Orange	0.55 to 0.60	Yellow	1.05 to 1.10	Green	1.55 to 1.60	Cyan	2.05 to 2.10
Red	0.10 to 0.15	Orange	0.60 to 0.65	Yellow	1.10 to 1.15	Green	1.60 to 1.65	Cyan	2.10 to 2.15
Red	0.15 to 0.20	Orange	0.65 to 0.70	Yellow	1.15 to 1.20	Green	1.65 to 1.70	Cyan	2.15 to 2.20
Red	0.20 to 0.25	Orange	0.70 to 0.75	Yellow	1.20 to 1.25	Green	1.70 to 1.75	Cyan	2.20 to 2.25
Red	0.25 to 0.30	Orange	0.75 to 0.80	Yellow	1.25 to 1.30	Green	1.75 to 1.80	Cyan	2.25 to 2.30
Red	0.30 to 0.35	Orange	0.80 to 0.85	Yellow	1.30 to 1.35	Green	1.80 to 1.85	Cyan	2.30 to 2.35
Red	0.35 to 0.40	Orange	0.85 to 0.90	Yellow	1.35 to 1.40	Green	1.85 to 1.90	Cyan	2.35 to 2.40
Red	0.40 to 0.45	Orange	0.90 to 0.95	Yellow	1.40 to 1.45	Green	1.90 to 1.95	Cyan	2.40 to 2.45
Red	0.45 to 0.50	Orange	0.95 to 1.00	Yellow	1.45 to 1.50	Green	1.95 to 2.00	Cyan	2.45 to 2.50
Red	0.50 to 0.55	Orange	1.00 to 1.05	Yellow	1.50 to 1.55	Green	2.00 to 2.05	Cyan	2.50 to 2.55

7 June 2019

Our Ref: 500204

Carolina Homes Ltd
c/ 5 Skara Brae
Christchurch, 7604

Attention: Justin Busbridge

Dear Justin

Pre-Purchase Contamination Assessment: Preliminary Site Investigation (PSI) for 199 Johns Road, Fernside, Rangiora

1 Introduction

Eliot Sinclair & Partners Ltd were engaged by Carolina Homes Ltd to undertake a pre-purchase preliminary site investigation of 199 Johns Road, Rangiora (the 'site') in relation to the risk of soil contamination.

2 Scope of Work

The scope of this report is to prepare a Preliminary Site Investigation (PSI) report in accordance with MfE's *Contaminated Land Management Guidelines* (CLMG) No. 1 and 5¹, and included;

- Reviewing Environment Canterbury's Listed Land Use Register (LLUR) and resource consent database.
- Reviewing historical and recent aerial images of the area taken between 1940 and 2018.
- Reviewing information from the Waimakariri District Council property file.
- Conducting a site inspection/walkover.
- Compilation of the findings in accordance with the NESCS² and MfE's Contaminated Land Management Guidelines 1 and 5.

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

² Ministry for the Environment (MfE) 2011. Resource Management (National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

3 Site Description

Access to the site is via a right of way from Johns Road to the northwest corner of the property. The site is generally flat with very minor natural undulations. At the time of the investigation in May 2019, there was one existing dwelling and associated outbuildings located near the mid-south parts of the site. Refer to Figure 1. The legal description and environmental setting are summarised in Table 1.



Figure 1: Layout of 199 Johns Road, Rangiora at the time of the investigation. Base aerial sourced from www.canterburymaps.govt.nz.

Table 1: Site identification, legal description and environmental setting

Street address	199 Johns Road, Fernside, Rangiora
Legal description	Lot 2 DP 333694, 4.5320 ha
Owner/occupiers	Jennifer Ann Todd
Local authority	Waimakariri District Council
District Plan Zoning	Rural Zone (Waimakariri District Plan)
Current land-use/adopted NESCS land-use scenario	Rural residential 'lifestyle block', 25% produce consumption
Neighbouring land-use	N: rural E: rural S: rural W: rural
Topsoil	GLEY Regional (Source ECan GIS)
Geology	The site is underlain by river deposits. Refer to ESP Geotechnical Report for 199 Johns Road. Ref. 500204.
Surface water	There is no natural surface water on the site. Two unnamed surface drains are on neighbouring land to the south and east.
Groundwater	The bore log of Well M36/9869 (on site, used for domestic supply) states an initial water level of 1.74 m below MP. The aquifer is unconfined or semi-confined. The general flow direction is towards the southeast. Source: ECan GIS.

4 Site History (Council Records)

4.1 Waimakariri District Property File

Information from the property file was reviewed on 4 June 2019. The records include a LIM report, subdivision and building consent matters. The computer freehold register indicates that the current lot was formed in 2004, the building compliance approval of the residential dwelling is dated 2006.

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

4.2 Environment Canterbury Listed Land Use Register (LLUR)

A search of Environment Canterbury's Listed Land Use Register (LLUR) was undertaken on 4 June 2019. The LLUR is a database containing records of contaminated, potentially contaminated and remediated (previously contaminated) sites in Canterbury. It is not an exhaustive database, i.e. an unregistered site does not confirm that there have been no HAIL activities undertaken on the site in the past.

The site is not recorded on Environment Canterbury's LLUR. Refer to Appendix A.

4.3 Environment Canterbury Resource Consent Database

Environment Canterbury's Resource Consent Database was reviewed on 4 June 2019. A land-use consent (CRC040906) and discharge permit (CRC061070) have been issued to establish the residential dwelling and to discharge domestic wastewater from an Oasis system, respectively.

Residential land-use and the discharge of treated domestic wastewater are not considered a HAIL activity. Consents on neighbouring land (e.g. for water abstraction or discharge of residential stormwater) are unlikely to have caused ground contamination on the site.

4.4 Aerial Images

Historical and recent aerial images from Environment Canterbury's GIS and Google Earth Pro were reviewed to assess previous land-uses and to identify any obvious HAIL activities. The reviewed images are attached in Appendix B. The findings are summarised in Table 2 (below).

Table 2: General land-use and identified potential HAIL activities on aerial images.

Aerial Image ³	Comments	HAIL activities
Refer to the enclosed aerial images. Note that the images were reviewed at a higher resolution than reproduced in this report.		
1940-1944	The land is cleared; the land-use is cropping/grazing. No structures.	None
1960-1964	No significant change in land-use identified. No structures.	None
1965-1969	No significant change in land-use identified. No structures.	None
1970-1974	No significant change in land-use identified. No structures.	None
1980-1984	No significant change in land-use identified. No structures.	None
1985-1989	No significant change in land-use identified. No structures. Poor image quality.	None
1990-1994	No significant change in land-use identified. No structures.	None

³ Source: Environment Canterbury GIS, unless specified otherwise.

Aerial Image ³	Comments	HAIL activities
2000-2004	The land-use is cropping. No structures.	None
2004-2010	The site appears unused or is being grazed. No structures.	None
2006	An area near the central southern boundary is cleared for the house and shed foundations. Possible construction of the cattle yard. Earthworks are visible on the neighbouring land to the southeast. Image source: Google Earth Pro.	None
2008	A shed and the foundations for the residential dwelling are constructed; an ornamental pond is excavated. Image source: Google Earth Pro.	None
2010-2015	The residential dwelling and associated structures are established. The land-use is similar to the current layout at the time of the investigation.	None

In summary, no HAIL activities have been identified on the reviewed aerial images. Earthworks on the neighbouring land to the south east are unlikely to affect the site.

4.5 Site Walkover

A site walkover by an Eliot Sinclair environmental scientist was undertaken on 21 May 2019. Field notes with observations are summarised in Figure 2. Two residential-size glasshouses were established post year 2000 and are not considered a HAIL activity. The organic stockpile to the north of the chicken coop did not show signs of burning activities. No further HAIL activities have been identified during the walkover. Photographs from the site inspection are attached in Appendix C.



Figure 2: Land-uses identified during the site inspection.

5 Risk Assessment/Site Characterisation

This PSI report is based on a review of Council records including historical aerial images and Eliot Sinclair's site inspection on 21 May 2019.

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 being undertaken is low. As such, it is highly unlikely that contaminant concentrations on the site pose a risk to human health.

6 Conclusion

Soil disturbance and subdivision are assessed to be a permitted activity with regards to contamination in accordance with Regulation 8(4) of the NESCS. No further investigation or assessment under the NESCS is required for the site at this point in time.

7 Recommendation

In case soil is removed from the site, it shall be disposed at a facility authorised to accept the material. This is likely to require soil tests to inform disposal options.

8 Accidental Discovery Protocol

This ground contamination assessment is based on a review of Council records, comments by the current owner Mr Sixtus, and Eliot Sinclair's site inspection on 21 May 2019. It is possible that unidentified contamination may be present on the site that is not currently known, or was not encountered by the investigations outlined in this report. Therefore, if any of the following materials are encountered during future earthworks the actions provided below must be followed.

Potential contamination:

- Stained or odorous soil
- Slag, ash, charcoal
- Refuse comprising putrescible waste, metal or plastics
- Obvious fill material or buried topsoil that is not natural
- Asbestos (bonded) in asbestos cement material (ACM) or friable (e.g. in insulation material).

Actions:

- Works must stop immediately in the area of the discovery, and the site must be secured to stop people entering the area where potential contamination was encountered.
- Contact a contaminated land specialist. **Eliot Sinclair (03 379 4014)** can assist, assess the risk, and can determine a practicable course of action.

9 Limitations

The comments made in this report are based on Council records and Eliot Sinclair's site inspection on 21 May 2019. 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, the activities described on the HAIL may change in the future as knowledge about potentially hazardous activities develops over time.

It is possible there may be unidentified subsoil conditions that are not obvious from the information obtained by our site inspection, and that differ from the conclusions of this report. Should unusual geotechnical conditions be encountered during future earthworks such as historical uncontrolled fill materials, 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 Carolina Homes 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 does not 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.

Yours sincerely
ELIOT SINCLAIR & PARTNERS LTD

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Geotechnical Engineer
Principal

Appendix A: LLUR Register (accessed on 4 June 2019)

Listed Land Use Register (LLUR)


Search

199 Johns Road, Rangiora, Waimakariri District

(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.

Property Search Results

	Legal Description	Titles	Valuation No	
199 Johns Road				
1	Lot 2 DP 333694	138041	2159133900	

Appendix B: Aerial Images (1940 – 2018)



Eliot Sinclair
surveyors | engineers | planners

1940-1944 Aerial Image

Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source:
Environment Canterbury GIS

ESP reference:
500204



Eliot Sinclair
surveyors | engineers | planners

1965-1969 Aerial Image

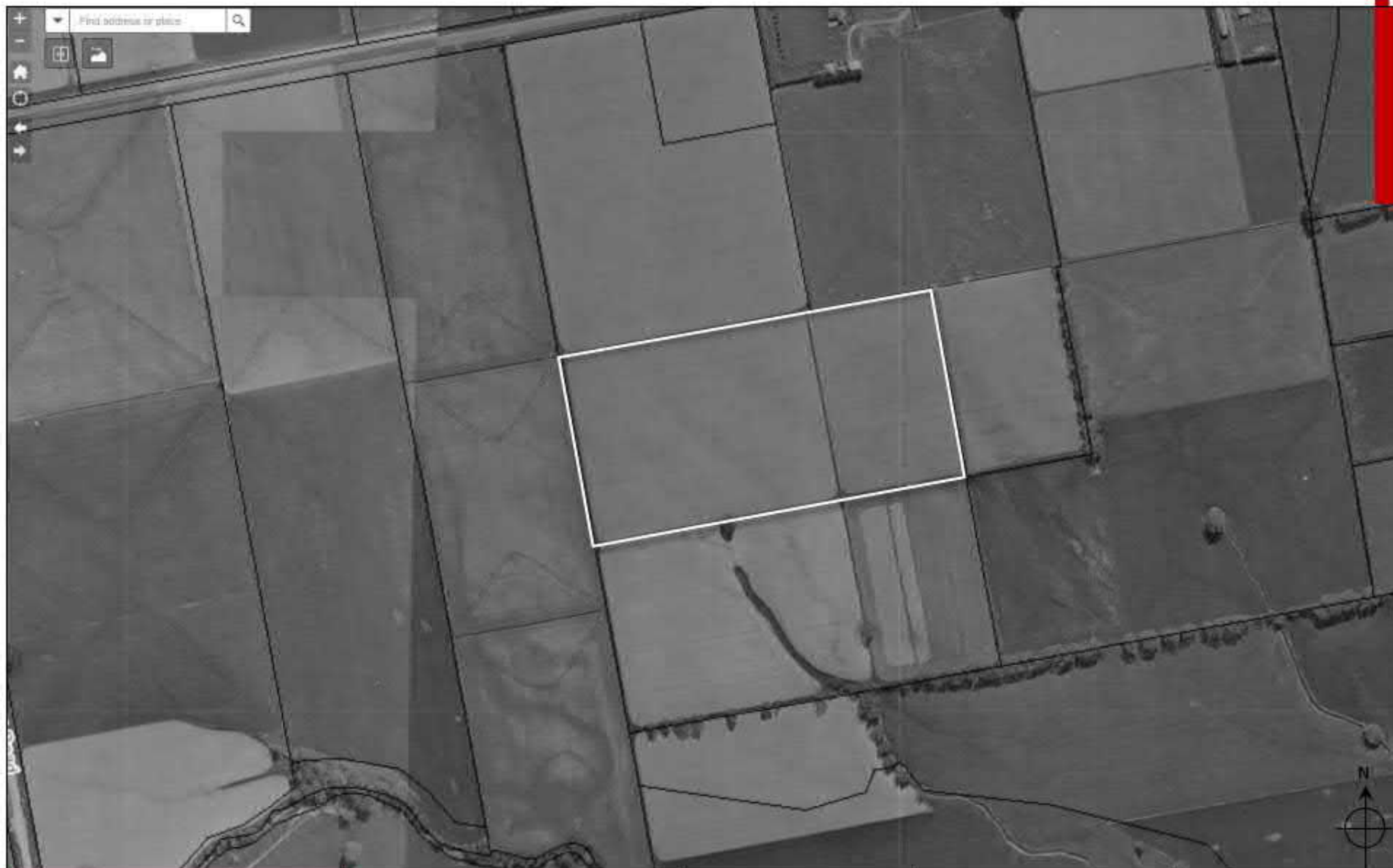
Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source:
Environment Canterbury GIS

ESP reference:
500204



Eliot Sinclair
surveyors | engineers | planners

1970-1974 Aerial Image

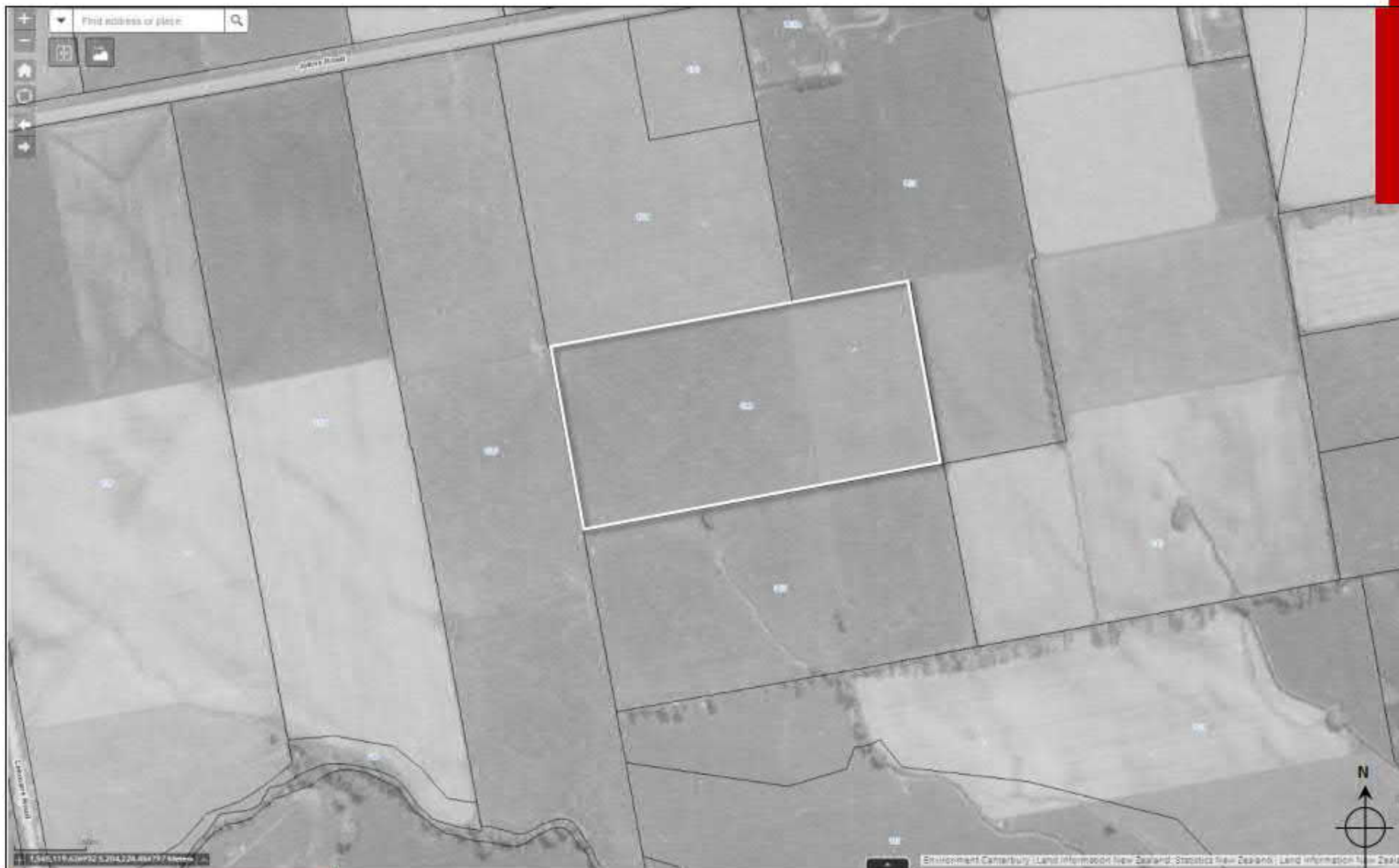
Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source:
Environment Canterbury GIS

ESP reference:
500204



Eliot Sinclair
surveyors | engineers | planners

1975-1979 Aerial Image

Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source:
Environment Canterbury GIS

ESP reference:
500204



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surveyors | engineers | planners

1980-1984 Aerial Image

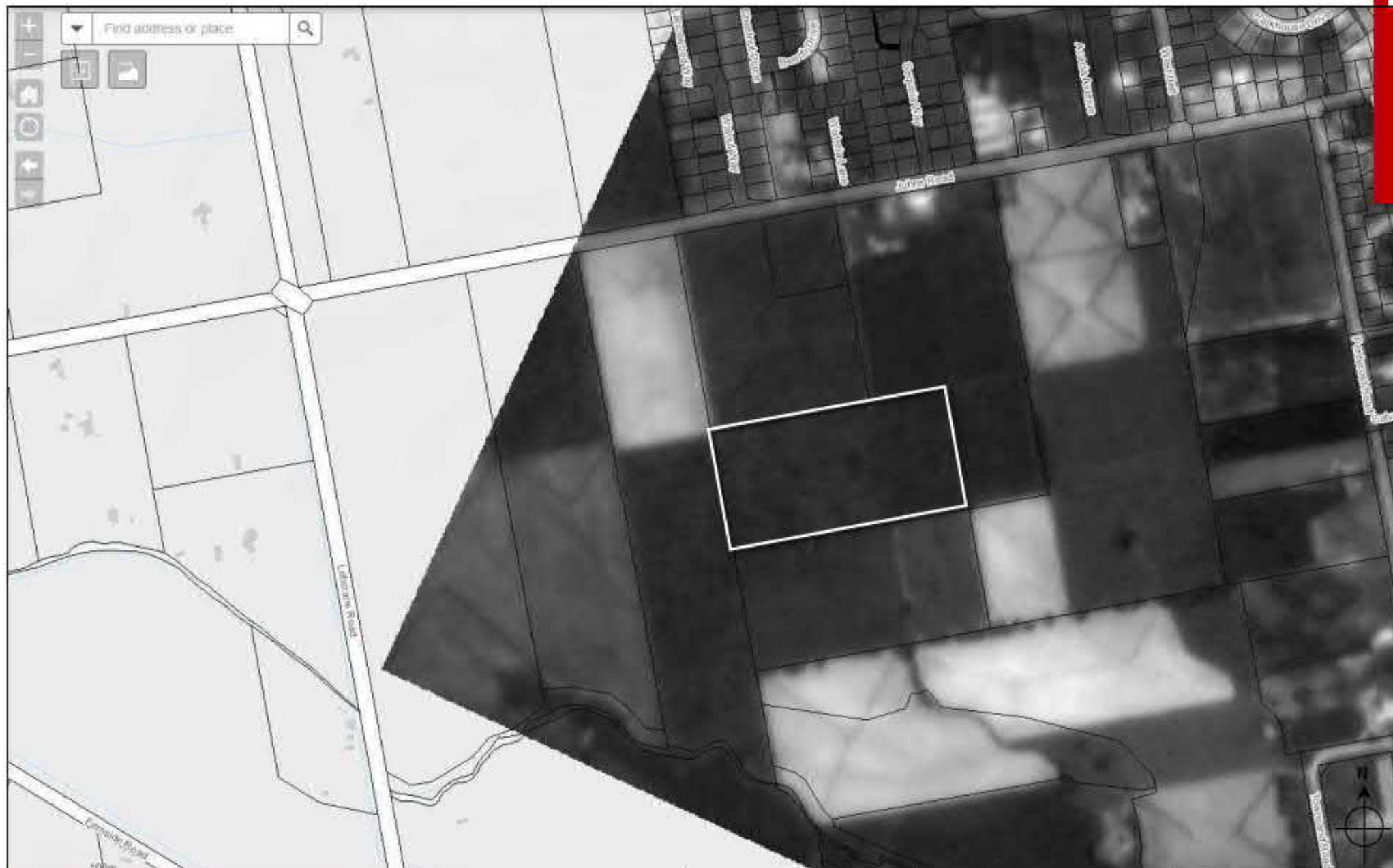
Carolina Homes Ltd

Scale:
NTS

Source:
Environment Canterbury GIS

Date: 7 June 2019
Author: JMZ

ESP reference:
500204



Eliot Sinclair
surveyors | engineers | planners

1985-1989 Aerial Image

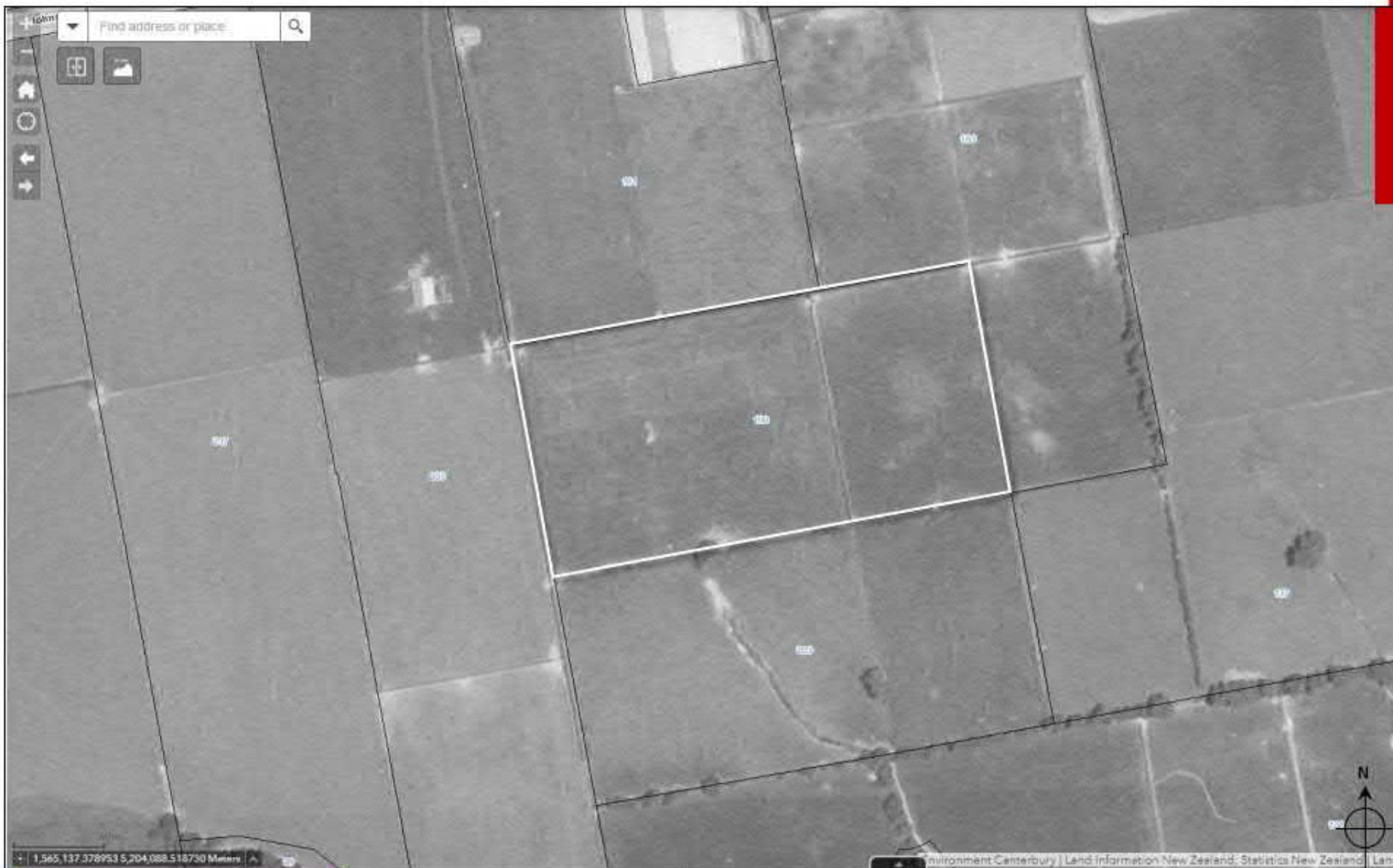
Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source:
Environment Canterbury GIS

ESP reference:
500204



Eliot Sinclair
surveyors | engineers | planners

1990-1994 Aerial Image

Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source:
Environment Canterbury GIS

ESP reference:
500204



Eliot Sinclair
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1995-1999 Aerial Image

Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source:
Environment Canterbury GIS

ESP reference:
500204



Eliot Sinclair
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2000-2004 Aerial Image

Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source:
Environment Canterbury GIS

ESP reference:
500204



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2004-2010 Aerial Image

Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source:
Environment Canterbury GIS

ESP reference:
500204



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16/01/2006 Aerial Image

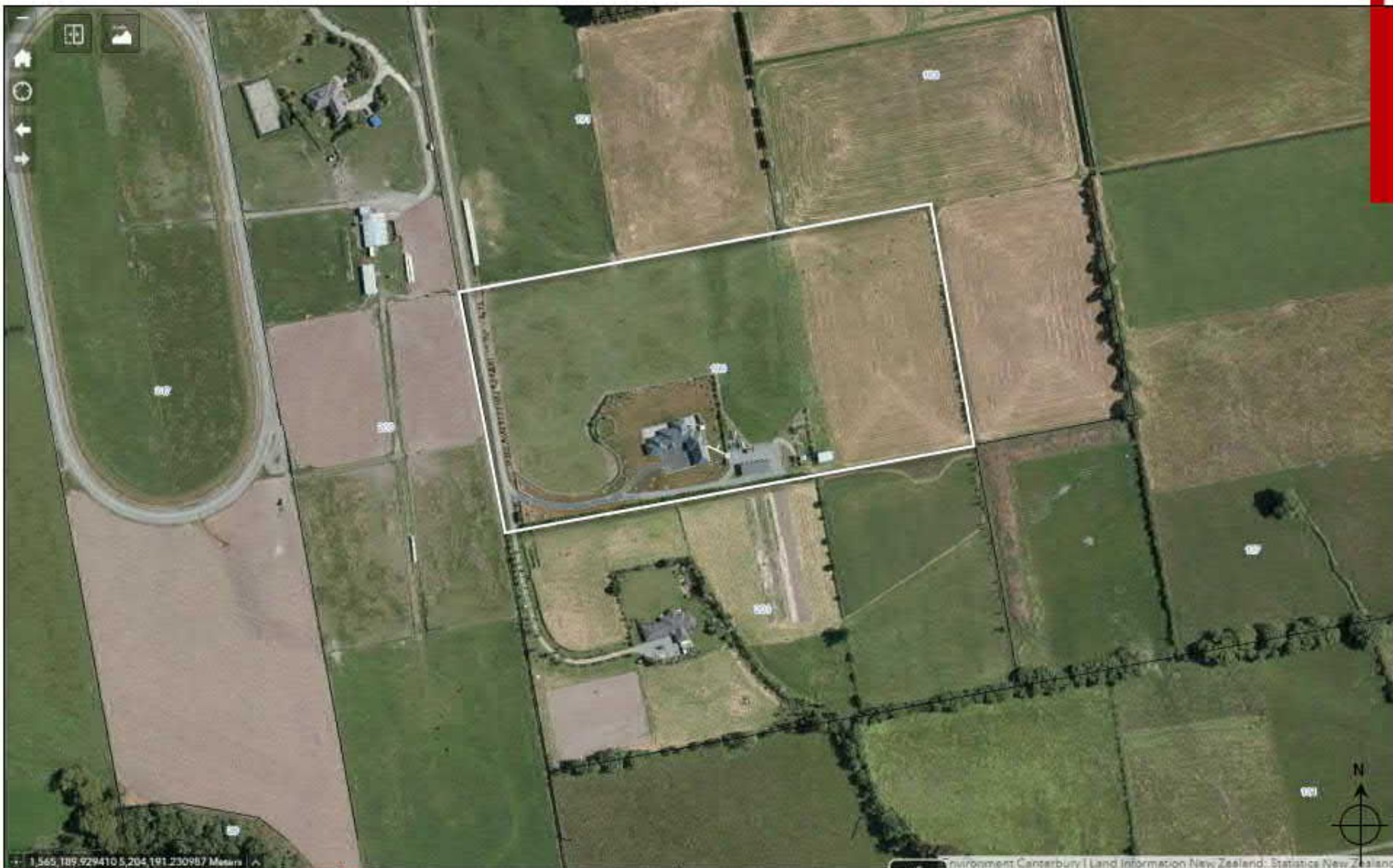
Carolina Homes Ltd

Scale:
NTS

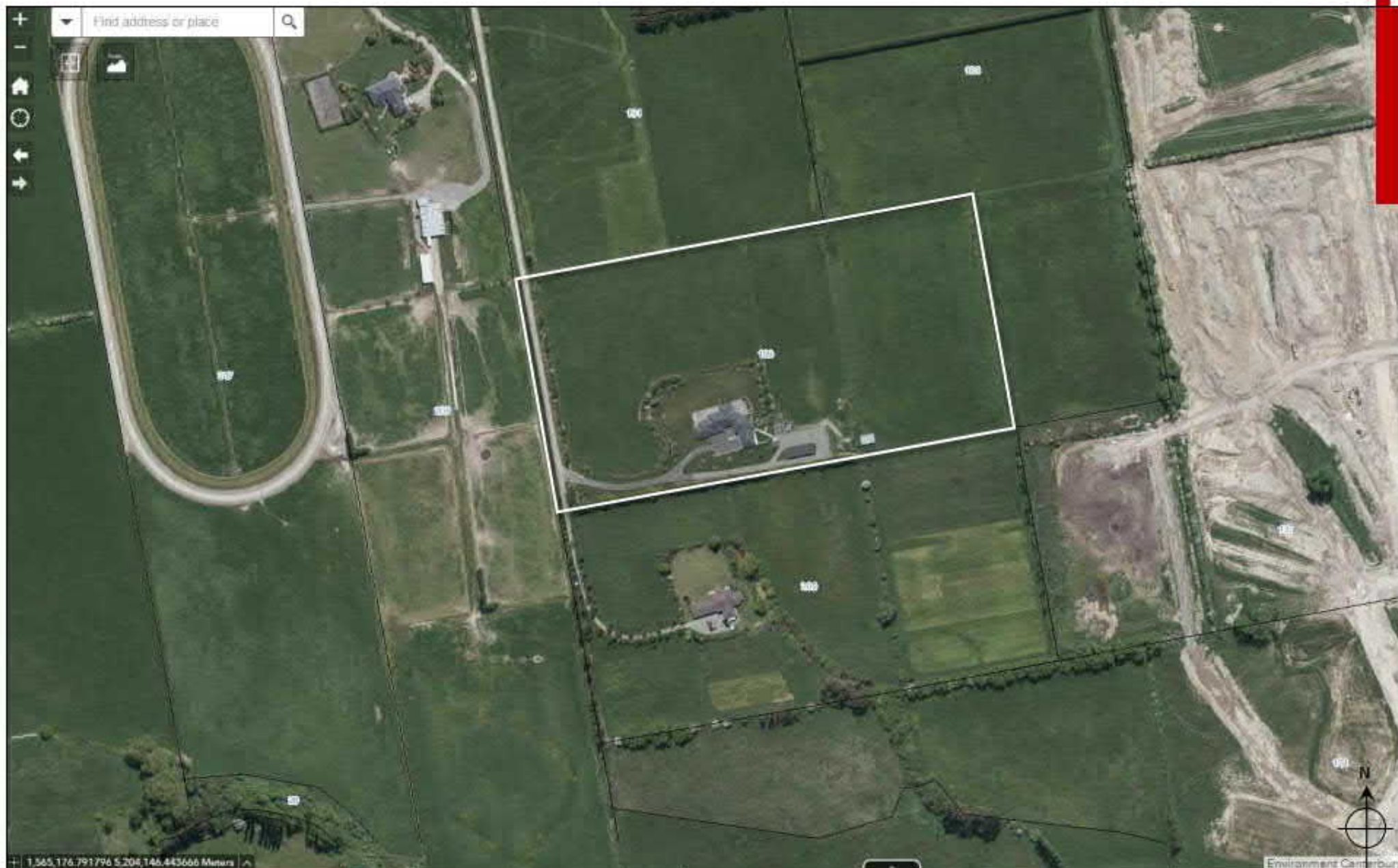
Date: 7 June 2019
Author: JMZ

Source:
Google Earth Pro

ESP reference:
500204



Eliot Sinclair surveyors engineers planners	2010-2015 Aerial Image	Carolina Homes Ltd	Scale: NTS	Date: 7 June 2019 Author: JMZ
			Source: Google Earth Pro	ESP reference: 500204



Eliot Sinclair
surveyors | engineers | planners

2/11/2018 Aerial Image

Carolina Homes Ltd

Scale:
NTS

Date: 7 June 2019
Author: JMZ

Source: Google Earth Pro,
Environment Canterbury GIS

ESP reference:
500204

Appendix C: Site Photographs (taken on 21/5/2019)



Photo 1. View of the residential dwelling at 199 Johns Road



Photo 2. View of the garage and shed located to the southeast of the residential dwelling



Photo 3. Raised gardens and disused domestic glasshouse



Photo 4. Cattle yards and garden shed



Photo 5. Compost (no signs of burning activities)



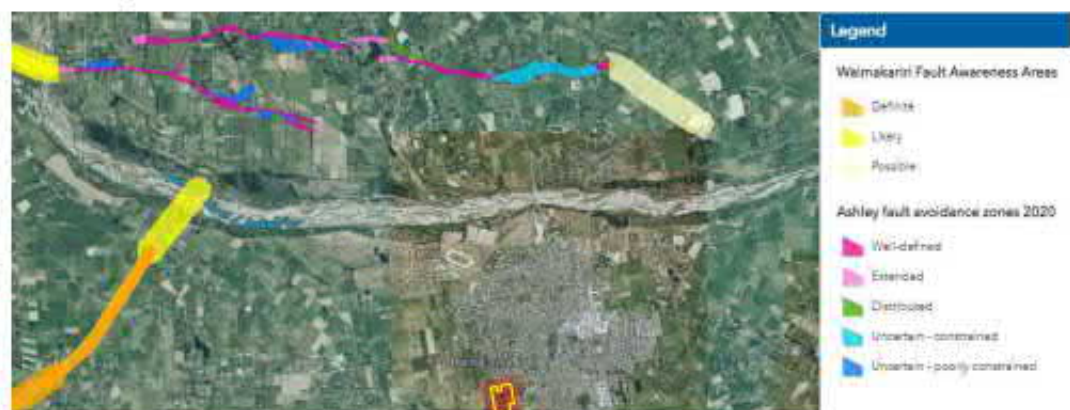
Photo 6. Disused domestic glasshouse

Appendix C. Waimakariri District Natural Hazards Mapping (Nov 2021)

Liquefaction hazard



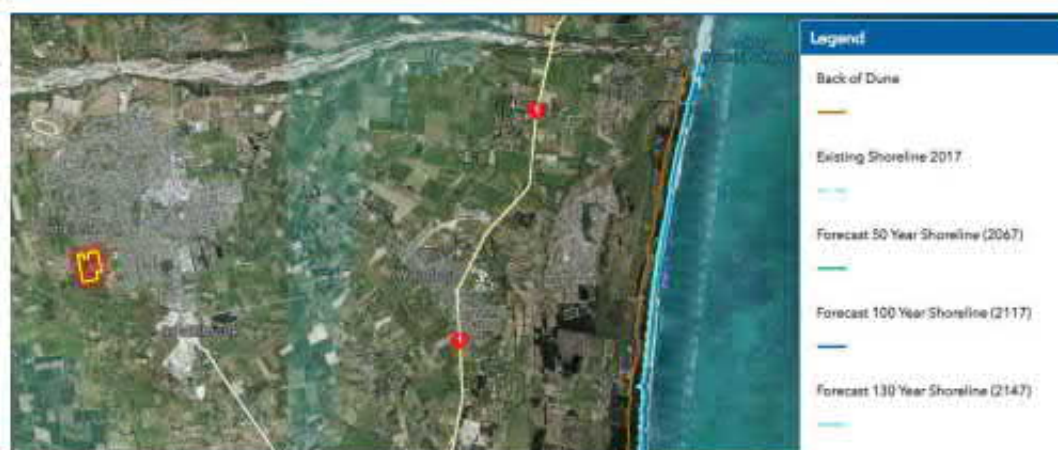
Fault Rupture



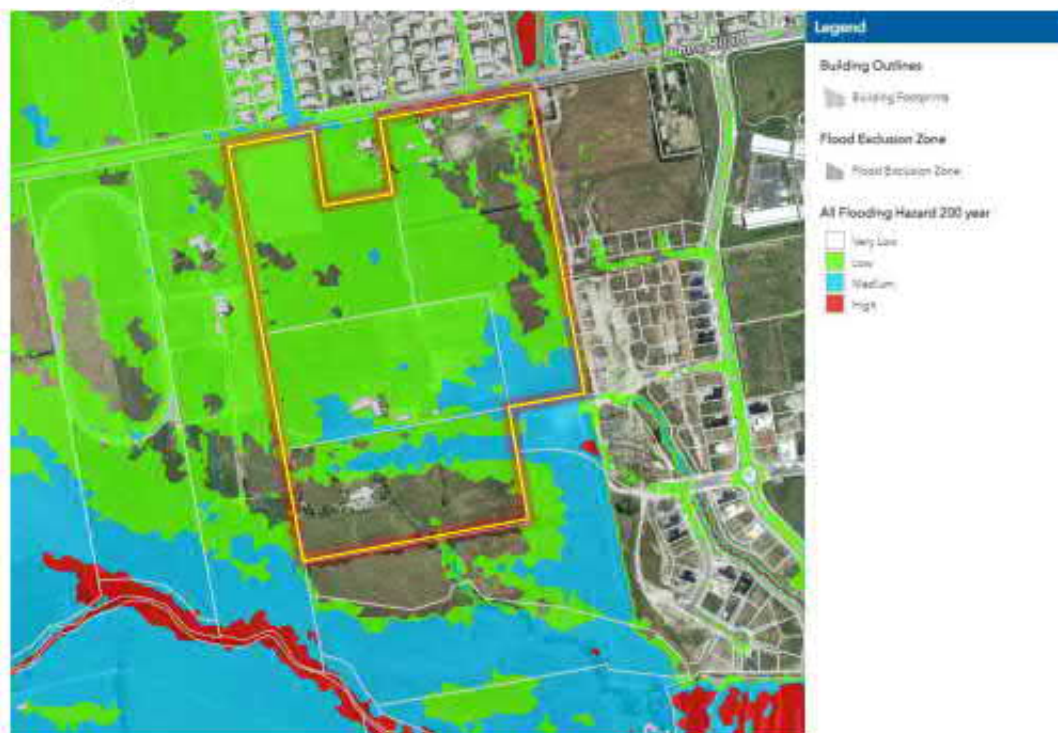
Tsunami



Coastal Erosion



Flooding



Appendix E. Assessment of Canterbury Regional Policy Statement

Canterbury Regional Policy Statement 2013

The Canterbury Regional Policy Statement sets out objectives, policies and methods to resolve resource management issues in Canterbury. Chapter 5 (Land Use and Infrastructure) and Chapter 6 (Recovery and Rebuilding of Greater Christchurch) are most relevant to this Submission.

Chapter 5 – Land Use and Infrastructure, address resource management issues associated with urban and rural-residential development across the entire Canterbury region. Within Chapter 5, the objectives and policies that include Greater Christchurch are noted as 'Entire Region' and those which are not relevant to Greater Christchurch are noted as 'Wider Region'. Chapter 6 – Recovery and Rebuilding of Greater Christchurch focuses on metropolitan areas of Greater Christchurch including Lincoln, Prebbleton, Rolleston, Kaiapoi, Rangiora and Woodend. The objectives, policies and methods in Chapter 6 take precedence within the Greater Christchurch area.

Chapter Summary

CRPS 2013 Chapters

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

Chapter 1 – Introduction	Chapter 1 does not contain any objectives or policies
Chapter 2 – Issues of Resource Management Significant to Ngāi Tahu	The proposal recognises that Te Rūnanga o Ngāi Tahu is the iwi authority and Ngāi Tūāhuriri are recognised mana whenua of Waimakariri District. Assessments of relevant documents have not identified that the submission site contains wahi tapu and other taonga.
Chapter 3 – Resource Management Processes for Local Authorities	This chapter discusses the working relationship of the Regional Council and the District Council. The proposal does not undermine the ability for these matters to be achieved.
Chapter 4 – Provision for Ngāi Tahu and their relationship with resources	This chapter sets out the tools and processes that the Canterbury Regional Council will use to engage with Ngāi Tahu as tangata whenua in the management of natural and physical resources. The proposal does not undermine the ability for these matters to be achieved.
Chapter 5 – Land use and infrastructure	The proposed GRZ and MRZ zoning and proposed ODP provides for a high level of certainty and integrated development of the site that will enable the

	<p>residential needs of the future residents. The site is ideally located with surrounding roads and reticulated services and will not have adverse effects on the physical resources.</p> <p>A more detailed assessment of Chapter 5 is provided in the separate table below.</p> <p>The submission is consistent with this chapter.</p>
Chapter 6 – Recovery and Rebuilding of Greater Christchurch	<p>The proposed rezoning will provide for development within the Rangiora urban area to provide for the residential growth of the area. The ODP provides for a high level of certainty and integrated development of the site that will enable the residential needs of the future residents. The site is ideally located with surrounding roads and reticulated services and will not have adverse effects on the physical resources.</p> <p>The proposed rezoning is considered consistent with this Chapter. The objectives and policies of Section 6 are assessed below.</p>
Chapter 7 – Fresh Water	<p>The proposed rezoning will not impact upon water flow, groundwater levels, or allocation regimes and does not impact on providing sufficient quantities of water in waterbodies.</p> <p>The submission is consistent with this Chapter.</p>
Chapter 8 – The Coastal Environment	<p>The submission site is not located in a coastal environment.</p>
Chapter 9 – Ecosystems and Indigenous Biodiversity	<p>The site is located in the Ecological District High Plains as shown on the proposed Waimakariri District Plan. The site is predominantly grassed and has no ecosystems or indigenous biodiversity. Chapter 9 is not considered relevant.</p>
Chapter 10 – Beds of rivers, lakes, and their riparian zones	<p>The proposed ODP and proposed District Plan provisions will provide setbacks from the natural spring and stream identified at the southern end of the site. The provisions will protect and enhance the stream and riparian zones.</p>

	<p>Stormwater runoff will be directed away the stream through Council's reticulated network to the existing Stormwater Management Area</p> <p>The proposed rezoning of the site is not considered to affect the bed of the stream.</p> <p>The proposed rezoning is consistent with this Chapter.</p>
Chapter 11 – Natural Hazards	<p>Natural hazards associated with the application site have been assessed as part of the Pre-Purchase Reports for 163 and 199 Johns Road and attached letter. The site is identified as at low risk from natural hazards, including earthquakes (and the associated effects) and flooding. The proposed provisions for the site will require the residential sections to be filled to a level that will avoid inundation in a 200-year flood event, therefore mitigating the flooding effect.</p> <p>Flood modelling has been undertaken (as part of Townsend Fields Development) that has included the proposed filling of this site. The modelling shows the adverse effects on people, property, infrastructure and the environment from managing the flood risk are negligible.</p> <p>The proposed rezoning is consistent with this Chapter.</p>
Chapter 12 – Landscape	<p>The site is not located within or identified as an outstanding natural feature or landscape.</p> <p>The submission is consistent with this Chapter.</p>
Chapter 13 – Historic Heritage	<p>The proposed rezoning will not cause the loss of any historical or heritage sites, buildings, places, and areas.</p>
Chapter 14 – Air Quality	<p>The proposal will not cause a deterioration of ambient air quality.</p>
Chapter 15 – Soils	<p>The proposal will not result in soil erosion, sedimentation of water bodies, or the loss of significant vegetation cover.</p>

CRPS 2013 Chapters

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

Chapter 16 – Energy

The rezoning site is located within the Rangiora urban area with links to public transport and good urban design providing an efficient use of the site.

The proposal is consistent with this Chapter.

Chapter 17 – Contaminated Land

The preliminary site investigation for 163 Johns Road identified that some HAIL activities may have been undertaken on the site through analysing historical aerial images. Old stockyards (potentially with a livestock dip or spray race operations) were identified between 1960-1984 and an old dwelling pre-dating 1940 was present, where lead paints and asbestos may be present.

Any potentially contaminated areas identified on the site can be investigated with a Detailed Site investigation prior to obtaining subdivision consent. There has been no contaminants or landfills identified in these reports that would prevent the site being developed for residential activities. If contaminants are discovered to be above residential guidelines, a Remedial Action Plan can be implemented to completely remove the risk posed by the contaminant to the environment. Therefore, it is considered, any potential contamination effects can be successfully remediated and mitigated.

The proposed rezoning is consistent with this Chapter.

Chapter 18 – Hazardous Substances

The Hazardous Substances chapter is not considered relevant.

Chapter 19 – Waste Minimisation and Management

The Waste Minimisation and Management chapter is not considered relevant.

Chapter 5 – Land Use and Infrastructure

CRPS 2013 Chapter 5 Relevant Objectives and Policies

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

Objective 5.2.1 Location, Design and Function of Development (Entire Region)

Development is located and designed so that it functions in a way that:

1. Achieves consolidated, well designed, and sustainable growth in and around existing urban areas as the primary focus for accommodating the region's growth; and
2. Enables people and communities, including future generations, to provide for their social, economic, and cultural well-being and health and safety; and which:
 - a. Maintains, and where appropriate, enhances the overall quality of the natural environment of the Canterbury region, including its coastal environment, outstanding natural features and landscapes, and natural values;
 - b. Provides sufficient housing choice to meet the region's housing needs;
 - c. Encourages sustainable economic development by enabling business activities in appropriate locations;
 - d. Minimises energy use and/or improves energy efficiency;
 - e. Enables rural activities that support the rural environment including primary production;
 - f. Is compatible with, and will result in continued safe, efficient and effective use of regionally significant infrastructure;
 - g. Avoids adverse effects on significant natural and physical resources including regionally significant infrastructure, and where avoidance is impracticable, remedies or mitigates those effects on those resources and infrastructure;
 - h. Facilitates the establishment of papakāinga and marae; and
 - i. Avoids conflicts between incompatible activities.

The proposed rezoning will enable the GRZ and MRZ within the Rangiora urban area to provide for the residential growth of the area. The ODP provides for a high level of certainty and integrated development of the site that will enable the residential needs of the future residents. The site is ideally located with surrounding roads and reticulated services and will not have adverse effects on the physical resources. The site is close to public transport networks and is within the Rangiora Township area.

The proposed rezoning is consistent with this Objective.

Policy 5.3.7 Strategic land transport network and arterial roads (Entire Region)

In relation to strategic land transport network and arterial roads, the avoidance of development which:

1. adversely affects the safe efficient and effective functioning of this network and these roads, including the ability of this infrastructure to support freight and passenger transport services; and
2. in relation to the strategic land transport network and arterial roads, to avoid development which forecloses the opportunity for the development of this network and these roads to meet future strategic transport requirements.

The rezoning site has connection to three local roads, Lusk Place, McCahon Drive and Angus Place, and connections to two collector Roads Johns Road and Goldie Drive.

The extension of Goldie Drive will provide for future expansion to west Rangiora. The proposed ODP has been designed and located to avoid adversely affecting the safe and effective function of the surrounding road network.

The proposed rezoning is consistent with this Objective.

Chapter 6 – Recovery and Rebuild of Greater Christchurch

CRPS 2013 Chapter 6 Relevant Objectives and Policies

Objective 6.2.1 - Recovery Framework

Recovery, rebuilding and development are enabled within Greater Christchurch through a land use and infrastructure framework that:

- (1) identifies priority areas for urban development within Greater Christchurch;
- (2) identifies Key Activity Centres which provide a focus for high quality, and, where appropriate, mixed-use development that incorporates the principles of good urban design;
- (3) avoids urban development outside of existing urban areas or greenfield priority areas for development, unless expressly provided for in the CRPS;
- (4) protects outstanding natural features and landscapes including those within the Port Hills from inappropriate subdivision, use and development;
- (5) protects and enhances indigenous biodiversity and public space;

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

The site is located within the existing urban area and identified as Greenfield Priority Area, so it is considered that the proposed General Residential Zone and Medium Density Residential Zone is appropriate for site. There are no known constraints with regards to natural and physical resources and site is low risk from natural hazards (flooding). The proposed ODP will provide integrated infrastructure with the surrounding urban area and there will be no adverse effects on strategic infrastructure.

The proposed rezoning is consistent with this Objective.

(6) maintains or improves the quantity and quality of water in groundwater aquifers and surface water bodies, and quality of ambient air;

(7) maintains the character and amenity of rural areas and settlements;

(8) protects people from unacceptable risk from natural hazards and the effects of sea level rise;

(9) integrates strategic and other infrastructure and services with land use development;

(10) achieves development that does not adversely affect the efficient operation, use, development, appropriate upgrade, and future planning of strategic infrastructure and freight hubs;

(11) optimises use of existing infrastructure; and

(12) provides for development opportunities on Māori Reserves in Greater Christchurch.

Objective 6.2.2 – Urban Form and Settlement Pattern

The urban form and settlement pattern in Greater Christchurch is managed to provide sufficient land for rebuilding and recovery needs and set a foundation for future growth, with an urban form that achieves consolidation and intensification of urban areas, and avoids unplanned expansion of urban areas, by:

(1) aiming to achieve the following targets for intensification as a proportion of overall growth through the period of recovery:

(a) 35% averaged over the period between 2013 and 2016

(b) 45% averaged over the period between 2016 to 2021

(c) 55% averaged over the period between 2022 and 2028;

(2) providing higher density living environments including mixed use developments and a greater range of housing types, particularly in and

The rezoning submission relates to development of a site within the existing Rangiora urban area. This supports the creation of an urban form that achieves consolidation of urban areas. The proposed site also has been identified as a greenfield priority area, which in developing this area will enable the efficient provision and use of network infrastructure.

The proposed rezoning to General Residential Zone and Medium Density Residential Zone will be consistent with the character and amenity of these proposed zones.

The rezoning submission is consistent with this Objective.

around the Central City, in and around Key Activity Centres, and larger neighbourhood centres, and in greenfield priority areas and brownfield sites;

(3) reinforcing the role of the Christchurch central business district within the Greater Christchurch area as identified in the Christchurch Central Recovery Plan;

(4) providing for the development of greenfield priority areas on the periphery of Christchurch's urban area, and surrounding towns at a rate and in locations that meet anticipated demand and enables the efficient provision and use of network infrastructure;

(5) encouraging sustainable and self-sufficient growth of the towns of Rangiora, Kaiapoi, Woodend, Lincoln, Rolleston and Prebbleton and consolidation of the existing settlement of West Melton;

(6) Managing rural residential development outside of existing urban and priority areas; and

(7) Providing for development opportunities on Māori Reserves.

Objective 6.2.3 – Sustainability

Recovery and rebuilding is undertaken in Greater Christchurch that:

(1) provides for quality living environments incorporating good urban design;

(2) retains identified areas of special amenity and historic heritage value;

(3) retains values of importance to Tāngata Whenua;

(4) provides a range of densities and uses; and

(5) is healthy, environmentally sustainable, functionally efficient, and prosperous.

The proposed rezoning provides for a range of allotment densities and housing choice. The zone provisions supported by the proposed ODP will provide good urban design, protection of the waterway and will provide a high-quality future living environment.

The rezoning submission is consistent with this Objective.

Objective 6.2.4 – Integration of Transport Infrastructure and Land Use

Prioritise the planning of transport infrastructure so that it maximises integration with the priority areas and new settlement patterns and facilitates the

The proposal optimises the use of existing capacity within the road network. The rezoning site is within easy walking distance to the existing public transport network, with bus stops on Johns Road. This rezoning submission and proposed

movement of people and goods and provision of services in Greater Christchurch, while:

- (1) managing network congestion;
- (2) reducing dependency on private motor vehicles;
- (3) reducing emission of contaminants to air and energy use;
- (4) promoting the use of active and public transport modes;
- (5) optimising use of existing capacity within the network; and
- (6) enhancing transport safety

Objective 6.2.5 Key activity and other centres

ODP would complement the roading network and any future public transport on Goldie Drive.

The rezoning submission is consistent with this Objective.

Objective 6.2.6 Business land development

Objective 6.2.5 is not relevant to this submission.

Objective 6.2.5 is not relevant to this submission.

Policy 6.3.1 – Development within the Greater Christchurch Area

In relation to recovery and rebuilding for Greater Christchurch:

- (1) give effect to the urban form identified in Map A, which identifies the location and extent of urban development that will support recovery, rebuilding and planning for future growth and infrastructure delivery;
- (2) give effect to the urban form identified in Map A by identifying the location and extent of the indicated Key Activity Centres;
- (3) enable development of existing urban areas and greenfield priority areas, including intensification in appropriate locations, where it supports the recovery of Greater Christchurch;
- (4) ensure new urban activities only occur within existing urban areas or identified greenfield priority areas as shown on Map A, unless they are otherwise expressly provided for in the CRPS;
- (5) provide for educational facilities in rural areas in limited circumstances where no other practicable options exist within an urban area; and

The site is located within the existing urban area of Rangiora and is shown on Map A. This rezoning submission gives effect to the urban form identified in Map A and enable residential development in an identified Greenfield Priority Area.

The rezoning submission is consistent with this Policy.

(6) avoid development that adversely affects the function and viability of, or public investment in, the Central City and Key Activity Centres.

Policy 6.3.2 – Development Form and Urban Design

Business development, residential development (including rural residential development) and the establishment of public space is to give effect to the principles of good urban design below, and those of the NZ Urban Design Protocol 2005, to the extent appropriate to the context:

(1) Tūrangawaewae – the sense of place and belonging – recognition and incorporation of the identity of the place, the context and the core elements that comprise the place. Through context and site analysis, the following elements should be used to reflect the appropriateness of the development to its location: landmarks and features, historic heritage, the character and quality of the existing built and natural environment, historic and cultural markers and local stories.

(2) Integration – recognition of the need for well-integrated places, infrastructure, movement routes and networks, spaces, land uses and the natural and built environment. These elements should be overlaid to provide an appropriate form and pattern of use and development.

(3) Connectivity – the provision of efficient and safe high quality, barrier free, multimodal connections within a development, to surrounding areas, and to local facilities and services, with emphasis at a local level placed on walking, cycling and public transport as more sustainable forms of transport.

(4) Safety – recognition and incorporation of Crime Prevention Through Urban Design (CPTED) principles in the layout and design of developments, networks and spaces to ensure safe, comfortable and attractive places.

(5) Choice and diversity – ensuring developments provide choice and diversity in their layout, built form, land use housing type and density, to adapt to the changing needs and circumstances of the population.

The proposed residential zoning will achieve the built form and residential density standards of the General Residential Zone and Medium Density Zone.

The ODP will provide good connectivity between existing residential developments.

The rezoning submission is consistent with this Policy.

(6) Environmentally sustainable design – ensuring that the process of design and development minimises water and resource use, restores ecosystems, safeguards mauri and maximises passive solar gain.

(7) Creativity and innovation – supporting opportunities for exemplar approaches to infrastructure and urban form to lift the benchmark in the development of new urban areas in the Christchurch region.

Policy 6.3.3 – Development in Accordance with Outline Development Plans
Development in greenfield priority areas and rural residential development is to occur in accordance with the provisions set out in an outline development plan or other rules for the area. Subdivision must not proceed ahead of the incorporation of an outline development plan in a district plan. Outline development plans and associated rules will:

(1) Be prepared as:

- (a) a single plan for the whole of the priority area; or
- (b) where an integrated plan adopted by the territorial authority exists for the whole of the priority area and the outline development plan is consistent with the integrated plan, part of that integrated plan; or
- (c) a single plan for the whole of a rural residential area; and

(2) Be prepared in accordance with the matters set out in Policy 6.3.2;

(3) To the extent relevant show proposed land uses including:

- (a) Principal through roads, connections with surrounding road networks, relevant infrastructure services and areas for possible future development;
 - (b) Land required for community facilities or schools;
 - (c) Parks and other land for recreation;
 - (d) Land to be used for business activities;
-

The site is located within a Greenfield Priority Area and the proposed residential development is supported by an Outline Development Plan (ODP).

The ODP details all key elements necessary to ensure future development takes place in an integrated manner to support infrastructure, transport and existing natural features.

The rezoning submission is consistent with this Policy.

- (e) The distribution of different residential densities, in accordance with Policy 6.3.7;
 - (f) Land required for stormwater treatment, retention and drainage paths;
 - (g) Land reserved or otherwise set aside from development for environmental, historic heritage, or landscape protection or enhancement;
 - (h) Land reserved or otherwise set aside from development for any other reason, and the reasons for its protection from development;
 - (i) Pedestrian walkways, cycleways and public transport routes both within and adjoining the area to be developed;
- (4) Demonstrate how Policy 6.3.7 will be achieved for residential areas within the area that is the subject of the outline development plan, including any staging;
- (5) Identify significant cultural, natural or historic heritage features and values, and show how they are to be protected and/or enhanced;
- (6) Document the infrastructure required, when it will be required and how it will be funded;
- (7) Set out the staging and co-ordination of subdivision and development between landowners;
- (8) Demonstrate how effective provision is made for a range of transport options including public transport options and integration between transport modes, including pedestrian, cycling, public transport, freight, and private motor vehicles;
- (9) Show how other potential adverse effects on and/or from nearby existing or designated strategic infrastructure (including requirements for designations, or planned infrastructure) will be avoided, remedied or appropriately mitigated;
-

(10) Show how other potential adverse effects on the environment, including the protection and enhancement of surface and groundwater quality, are to be avoided, remedied or mitigated;

(11) Show how the adverse effects associated with natural hazards are to be avoided, remedied or mitigated as appropriate and in accordance with Chapter 11 and any relevant guidelines; and

(12) Include any other information that is relevant to an understanding of the development and its proposed zoning.

Policy 6.3.4 – Transport Effectiveness

Ensure that an efficient and effective transport network that supports business and residential recovery is restored, protected and enhanced so that it maintains and improves movement of people and goods around Greater Christchurch by:

- (1) avoiding development that will overload strategic freight routes;
- (2) providing patterns of development that optimise use of existing network capacity and ensuring that, where possible, new building projects support increased uptake of active and public transport, and provide opportunities for modal choice;
- (3) providing opportunities for travel demand management;
- (4) requiring integrated transport assessment for substantial developments; and
- (5) improving road user safety.

The proposal optimises the use of existing capacity within the road network and promotes the use of active transport within Rangiora. The application site is within easy walking distance to the existing public transport network, with bus stops on Johns Road. The proposal would not detrimentally impact on any future decision to provide public transport. Road user safety is provided by enabling future access onto adjoining roads which will minimise the potential for vehicle conflicts and the proposed roading network is supported by the proposed District Plans ODP for West Rangiora.

The rezoning submission is consistent with this Policy.

Policy 6.3.5 – Integration of Land Use and Infrastructure

Recovery of Greater Christchurch is to be assisted by the integration of land use development with infrastructure by:

- (1) Identifying priority areas for development to enable reliable forward planning for infrastructure development and delivery;

The site is located within the Rangiora urban area and the future development of the site will integrate and connect to existing infrastructure networks. The site is not isolated from the necessary infrastructure links or connections. The proposal will therefore optimise the efficient and effective

(2) Ensuring that the nature, timing and sequencing of new development are co-ordinated with the development, funding, implementation and operation of transport and other infrastructure in order to;

- (a) optimise the efficient and affordable provision of both the development and the infrastructure;
- (b) maintain or enhance the operational effectiveness, viability and safety of existing and planned infrastructure;
- (c) protect investment in existing and planned infrastructure; and
- (d) ensure new development does not occur until provision for appropriate infrastructure is in place;

(3) Providing that the efficient and effective functioning of infrastructure, including transport corridors, is maintained, and the ability to maintain and upgrade that infrastructure is retained;

(4) Only providing for new development that does not affect the efficient operation, use, development, appropriate upgrading and safety of existing strategic infrastructure, including by avoiding noise sensitive activities within the 50dBA Ldn airport noise contour for Christchurch International Airport, unless the activity is within an existing residentially zoned urban area, residential greenfield area identified for Kaiapoi, or residential greenfield priority area identified in Map A; and

(5) Managing the effects of land use activities on infrastructure, including avoiding activities that have the potential to limit the efficient and effective, provision, operation, maintenance or upgrade of strategic infrastructure and freight hubs.

provision of both the development and infrastructure, including the road network.

The rezoning submission is consistent with this Policy.

6.3.6 Business land

To ensure that provision, recovery and rebuilding of business land in Greater Christchurch maximises business retention, attracts investment, and provides

The proposed rezoning to General Residential and Medium Density Zones is not proposing any business zoned land or business activities.

Policy 6.3.6 is not considered relevant.

for healthy working environments, business activities are to be provided for in a manner which:

Policy 6.3.7 – Residential Location, Yield and Intensification

In relation to residential development opportunities in Greater Christchurch:

- (1) Subject to Policy 5.3.4, residential greenfield priority area development shall occur in accordance with Map A. These areas are sufficient for both growth and residential relocation through to 2028.
- (2) Intensification in urban areas of Greater Christchurch is to be focused around the Central City, Key Activity Centres and neighbourhood centres commensurate with their scale and function, core public transport routes, mixed-use areas, and on suitable brownfield land.
- (3) Intensification developments and development in greenfield priority areas shall achieve at least the following residential net densities averaged over the whole of an ODP area (except where subject to an existing operative ODP with specific density provisions):
 - (a) 10 household units per hectare in greenfield areas in Selwyn and Waimakariri District;
 - (b) 15 household units per hectare in greenfield areas in Christchurch City;
- (4) Intensification development within Christchurch City to achieve an average of:
 - (a) 50 household units per hectare for intensification development within the Central City;
 - (b) 30 household units per hectare for intensification development elsewhere.
- (5) Provision will be made in district plans for comprehensive development across multiple or amalgamated sites.

The site is located is identified as a residential Greenfield Priority Area and within the urban infrastructure limits of Rangiora on Map A.

This rezoning submission will increase the density of residential development to 500m² in the General Residential Zone and 200m² in the Medium Density Residential Zone.

With the addition of the Medium Density Residential area the development will achieve 15 households per hectare. Preliminary layout plans show that only 12 households per hectare can be achieved if the entire site was to be General Residential Zone.

The proposed rezoning is consistent with this policy as it provides more than 10 households per hectare in the Waimakariri District.

(6) Housing affordability is to be addressed by providing sufficient intensification and greenfield priority area land to meet housing demand during the recovery period, enabling brownfield development and providing for a range of lot sizes, densities and appropriate development controls that support more intensive developments such as mixed use developments, apartments, townhouses and terraced housing.

Policy 6.3.8 Regeneration of brownfield land

Policy 6.3.8 is not relevant to this submission.

Policy 6.3.9 Rural residential development

Policy 6.3.9 is not relevant to this submission.

Policy 6.3.10 Maori Reserves

Policy 6.3.10 is not relevant to this submission.

Policy 6.3.11 Monitoring and Review

Policy 6.3.11 is not relevant to this submission.

Appendix F. Assessment of Proposed Waimakariri District Plan

Proposed Waimakariri District Plan

The Proposed Waimakariri District Plan was publicly notified for consultation on 18 September 2021. The objectives and policies in the proposed District Plan have been considered for the assessment of this rezoning submission.

Relevant Objectives and Policies

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

SD-O1 Natural Environment

Across the District:

1. there is an overall net gain in the quality and quantity of indigenous ecosystems and habitat, and indigenous biodiversity;
2. the natural character of the coastal environment, freshwater bodies and wetlands is preserved or enhanced, or restored where degradation has occurred;
3. outstanding natural features and outstanding natural landscapes are identified and their values recognised and protected;
4. people have access to a network of natural areas for open space and recreation, conservation and education, including within riparian areas, the coastal environment, the western ranges, and within urban environments; and
5. land and water resources are managed through an integrated approach which recognises the importance of ki uta ki tai to Ngāi Tahu and the wider community, and the inter-relationships between ecosystems, natural processes and with freshwater.

The site is not in an area of natural character or has indigenous ecosystems or indigenous biodiversity. The proposed rezoning is unlikely to have an adverse effect on indigenous ecosystems and habitat, indigenous biodiversity, or the coastal environment or freshwater bodies.

The stormwater reserve and open space reserve will provide people with access to open space and recreation within the proposed ODP area.

The proposal will be consistent with the relevant aspects of SD-O1.

SD-O2 Urban Development

Urban development and infrastructure that:

1. is consolidated and integrated with the urban environment;
2. that recognises existing character, amenity values, and is attractive and functional to residents, businesses and visitors;

The proposed rezoning and ODP is consistent with Strategic Direction Objective 2.

The proposed rezoning will provide a well-designed development that is consolidated and integrated with the existing urban environment of Rangiora.

Relevant Objectives and Policies

3. utilises the District Council's reticulated wastewater system, and potable water supply and stormwater infrastructure where available;
4. provides a range of housing opportunities, focusing new residential activity within existing towns, and identified development areas in Rangiora and Kaiapoi, in order to achieve the housing bottom lines in UFD-O1;
5. supports a hierarchy of urban centres, with the District's main centres in Rangiora, Kaiapoi, Oxford and Woodend being:
 - a. the primary centres for community facilities;
 - b. the primary focus for retail, office and other commercial activity; and
 - c. the focus around which residential development and intensification can occur.
6. provides opportunities for business activities to establish and prosper within a network of business and industrial areas zoned appropriate to their type and scale of activity and which support district self-sufficiency;
7. provides people with access to a network of spaces within urban environments for open space and recreation;
8. supports the transition of the Special Purpose Zone (Kāinga Nohoanga) to a unique mixture of urban and rural activities reflecting the aspirations of Te Ngāi Tūāhuriri Rūnanga;
9. provides limited opportunities for Large Lot Residential development in identified areas, subject to adequate infrastructure; and
10. recognise and support Ngāi Tūāhuriri cultural values through the protection of sites and areas of significance to Māori identified in SASM-SCHED1.

SD-O3 Energy and infrastructure

Across the District:

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

The proposed future development will utilise the Council's wastewater and water supply infrastructure, with stormwater discharge to the stormwater management area.

The proposed rezoning will provide a range of housing opportunities with General Residential and Medium Density Residential proposed within Rangiora which will contribute to achieving the housing bottom lines in UFD-O1.

The proposed rezoning will support the urban centres hierarchy by focusing the residential development within the main centre of Rangiora.

The proposed ODP will provide people access areas of open space reserve and opportunities for recreation.

This submission is not proposing business or industrial zoned areas, nor is it the transition of the Kāinga Nohoanga zone.

The proposed ODP shows a primary road with a shared pathway and secondary roads through the site which provides safe and efficient access throughout the site.

Relevant Objectives and Policies

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

1. improved accessibility and multi-modal connectivity is provided through a safe and efficient transport network that is able to respond to technology changes and contributes to the well-being and liveability of people and communities;
2. infrastructure, including strategic infrastructure, critical infrastructure and regionally significant infrastructure:
 - a. is able to operate efficiently and effectively; and
 - b. is enabled, while:
 - i. managing adverse effects on the surrounding environment, having regard to the social, cultural and economic benefit, functional need and operational need of the infrastructure; and
 - ii. managing the adverse effects of other activities on infrastructure, including managing reverse sensitivity;
3. the nature, timing and sequencing of new development and new infrastructure is integrated and coordinated; and
4. encourage more environmentally sustainable outcomes as part of subdivision and development, including though the use of energy efficient buildings, green infrastructure and renewable electricity generation.

The site is able to be adequately serviced with connections to Councils reticulated water supply and wastewater disposal. Stormwater will be discharged to the stormwater management area in the adjoining existing development.

The proposed rezoning is consistent with SD-O3.

SD-O4 Rural land

Outside of identified residential development areas and the Special Purpose Zone (Kāinga Nohoanga), rural land is managed to ensure that it remains available for productive rural activities by:

The site is currently proposed to be rezoned Rural Lifestyle Zone, with a Development Area Overlay. Therefore, it is considered that this site is not intended to be used for rural use.

SD-O4 is not considered relevant for this rezoning submission.

Relevant Objectives and Policies

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

1. providing for rural production activities, activities that directly support rural production activities and activities reliant on the natural resources of Rural Zones and limit other activities; and
2. ensuring that within rural areas the establishment and operation of rural production activities are not limited by new incompatible sensitive activities.

SD-05 Ngāi Tahu mana whenua/Te Ngāi Tūāhuriri Rūnanga

Te Ngāi Tūāhuriri Rūnanga's role in the management of natural and physical resources is recognised, so that:

1. Ngāi Tūāhuriri's historic and contemporary connections, and cultural and spiritual values, associated with the land, water and other taonga are recognised and provided for;
2. the values of identified sites and areas of significance to Ngāi Tūāhuriri are protected;
3. Ngāi Tūāhuriri can retain, and enhance access to sites of cultural significance;
4. Māori land is able to be occupied and used by Ngāi Tūāhuriri for its intended purposes and to maintain their relationship with their ancestral land;
5. recognised customary rights are protected;
6. Ngāi Tūāhuriri are able to carry out customary activities in accordance with tikanga; and

Te Ngāi Tūāhuriri Rūnanga are able to actively participate in decision-making and exercise kaitiakitanga.

The site is not located in an identified area of significance to Ngāi Tūāhuriri. However, this rezoning submission and any future subdivision and development that this may enable is unlikely to have an adverse effect on Ngāi Tūāhuriri cultural values.

Relevant Objectives and Policies

SD-O6 Natural hazards and resilience

The District responds to natural hazard risk, including increased risk as a result of climate change, through:

1. avoiding subdivision, use and development where the risk is unacceptable; and
2. mitigating other natural hazard risks.

UFD-O1

Feasible development capacity for residential activities.

Sufficient feasible development capacity for residential activity to meet specified housing bottom lines and a changing demographic profile of the District as follows:

Term	2018-2028	2028-2048	2018-2048
Housing bottom lines (development capacity)	6,300 residential units	7,100 residential units	13,400 residential units

UFD-O2 Feasible development capacity for commercial activities and industrial activities

Sufficient feasible development capacity to meet commercial and industrial development demand.

UFD-P1 Density of residential development

In relation to the density of residential development:

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

The site is not in an area with unacceptable risk from natural hazard or other hazards. The only natural hazard risk identified for the site is flooding from the 200-year Ashley River breakout scenario which has been addressed within the Infrastructure Servicing Report. It is proposed that the existing Townsend Fields bund be decommissioned and moved to the western boundary of 163, 191, 199 & 203 Johns Road land areas, to reduce the flood impacts in the same manner as was achieved for the Townsend Fields subdivision. In addition to the bund, a channel will be formed to convey flood waters to the south.

Therefore, the proposed rezoning is consistent with SD-O6.

The proposed rezoning would enable approximately 200+ residential allotments, which would contribute to the housing capacity in Waimakariri to achieve the housing bottom lines in UFD-O1.

The proposed rezoning and ODP are not proposing any commercial or industrial activities.

The proposed rezoning is providing additional greenfield residential development.

Relevant Objectives and Policies

1. provide for intensification in urban environments through provision for minor residential units, retirement villages, papakāinga or suitable up-zoning of residential zones where it is consistent with the anticipated built form and purpose of the zone;
2. locate any Medium Density Residential Zone so it:
 - a. supports, and has ready access to, existing Commercial and Mixed Use Zones, schools, public transport and open space;
 - b. supports well connected walkable communities;
 - c. avoids or mitigates natural hazard risk in any high hazard area within existing urban areas; and
 - d. located away from any Heavy Industrial Zone.

UFD-P2 Identification/location of new Residential Development Areas

In relation to the identification/location of residential development areas:

1. residential development in new Residential Development Areas at Kaiapoi, North East Rangiora, South East Rangiora and West Rangiora is located to implement the urban form identified in the Future Development Strategy;
2. for new Residential Development Areas, other than those identified by (1) above, avoid residential development unless located so that they;
 - a. occur in a form that concentrates, or are attached to, an existing urban environment and promotes a coordinated pattern of development;
 - b. occur in a manner that makes use of existing and planned transport and three waters infrastructure, or where such infrastructure is not available, upgrades, funds and builds infrastructure as required;
 - c. have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport;

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

An area of proposed Medium Density Residential Zone is proposed in the ODP. The Medium Density Residential Zone is proposed in this area as it is well-connected and has access to open space, public transport, and the amenities of Rangiora.

The site is also not located near any Heavy Industrial Zone.

The proposed rezoning is consistent with UFD-P1.

The submission site and proposed rezoning is identified in the West Rangiora Residential Development Area.

The proposed rezoning is consistent with UFD-P2.

-
- d. concentrate higher density residential housing in locations focusing on activity nodes such as key activity centres, schools, public transport routes and open space;
 - e. take into account the need to provide for intensification of residential development while maintaining appropriate levels of amenity values on surrounding sites and streetscapes;
 - f. are informed through the development of an ODP;
 - g. supports reductions in greenhouse gas emissions; and
 - h. are resilient to natural hazards and the likely current and future effects of climate change as identified in SD-O6.
-

UFD-P3 Identification/Location and extension of Large Lot Residential Zone areas

The site is not in the Large Lot Residential overlay, so UFD-P3 does not apply.

In relation to the identification/location of Large Lot Residential Zone areas:

1. new Large Lot Residential development is located in the Future Large Lot Residential Zone Overlay which adjoins an existing Large Lot Residential Zone as identified in the RRDS and is informed through the development of an ODP;
 2. new Large Lot Residential development, other than addressed by (1) above, is located so that it:
 - a. occurs in a form that is attached to an existing Large Lot Residential Zone or Small Settlement Zone and promotes a coordinated pattern of development;
 - b. is not located within an identified Development Area of the District's main towns of Rangiora, Kaiapoi and Woodend identified in the Future Development Strategy;
 - c. is not on the direct edges of the District's main towns of Rangiora, Kaiapoi, and Woodend, nor on the direct edges of these towns'
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Relevant Objectives and Policies

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

- identified new development areas as identified in the Future Development Strategy;
- d. occurs in a manner that makes use of existing and planned transport infrastructure and the wastewater system, or where such infrastructure is not available, upgrades, funds and builds infrastructure as required, to an acceptable standard; and
 - e. is informed through the development of an ODP

UFD-P4 Identification/location and extension of Town Centre Zones

Provide for the extension of existing Town Centres and locate and develop new commercial activities to implement the urban form identified in the Future Development Strategy, WDDS or Town Centre Plans.

The site is not located in the Rangiora Town Centre Zone and the rezoning is not proposing new commercial activities, so UFD-P4 does not apply.

UFD-P5 Identification/location and extension of Industrial Zones

Provide for the extension of existing Industrial Zones and locate and develop new industrial activities to implement the urban form identified in the Future Development Strategy or WDDS.

The site is not located in an Industrial Zone, so UFD-P5 does not apply.

UFD-P6 Mechanism to release Residential Development Areas

The release of land within the identified new development areas of Kaiapoi, North East Rangiora and South East Rangiora occurs in an efficient and timely manner via a certification process to enable residential activity to meet short to medium-term feasible development capacity and achievement of housing bottom lines.

The site is located in the West Rangiora Development Area, which is not included in UFD-P6 as it is currently proposed.

Our submission is seeking the inclusion of West Rangiora in this policy as proposed:

*The release of land within the identified new development areas of Kaiapoi, North East Rangiora ~~and~~ South East Rangiora **and West Rangiora** occurs in an efficient and timely manner via a certification process to enable residential activity to meet short to medium-term feasible development capacity and achievement of housing bottom lines.*

The proposed rezoning to General Residential Zone and Medium Density Residential Zone will mean that the site will be rezoned through the District

Relevant Objectives and Policies

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

Plan process and therefore will not require the certification process to enable the residential development activity.

The successful rezoning of the site will mean that UFD-P6 will not be relevant.

UFD-P7 Mechanism to provide additional Commercial and Mixed Use Zones

If proposed, ensure any plan change to create new, or expanded existing Commercial and Mixed Use Zones:

1. improve commercial self-sufficiency within the town and the Waimakariri District;
2. are commensurate to the population growth forecast for the town subject to the plan change;
3. consider and address any adverse effects that might undermine other town centres and local centres in the District; and
4. address any development capacity shortfall as identified in the Future Development Strategy or WDDS.
5. is informed through the development of an ODP.

The proposal is not for commercial or mixed use, so UFD-P7 does not apply.

UFD-P8 Mechanism to provide additional Industrial Zones

If proposed, ensure any plan change to create new, or expanded existing Industrial Zones:

1. manages adverse effects at the interface between Industrial Zones and arterial roads, Rural Zones, Residential Zones and Open Space and Recreation Zones, through methods such as building setbacks and landscaping;
2. provides for development of greenfield areas in a manner aligned with the delivery of infrastructure, including upgrades to infrastructure,

The site is not located in an Industrial Zone and is not proposed for an Industrial use, so UFD-P8 does not apply.

Relevant Objectives and Policies

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

to avoid adverse effects on the capacity and efficiency of infrastructure serving these areas; and

3. locates new Industrial Zones in locations adjacent to existing urban environments where it can be efficiently serviced by infrastructure.
4. is informed through the development of an ODP.

UFD-P9 Unique purpose and character of the Special Purpose Zone (Kāinga Nohoanga)

Support a mix of development on Māori Land within the Special Purpose Zone (Kāinga Nohoanga) that:

1. enables Te Ngāi Tūāhuriri Rūnanga to fully occupy and use land in accordance with the principles and purposes for which the land was originally set aside;
2. will occur over generations and take place in different parts of the zone, and occur at different times; and
3. connects to reticulated infrastructure where available but recognises that as public reticulated infrastructure is not available to all parts of the zone, alternative forms of onsite independent individual and communal infrastructure will be required.

The site is not located within the Special Purpose Zone (Kāinga Nohanga); however, this rezoning submission and any future subdivision that this may enable is unlikely to have an adverse effect on Ngāi Tūāhuriri cultural values.

UFD-P10 Managing reverse sensitivity effects from new development

Within Residential Zones and new development areas in Rangiora and Kaiapoi:

1. avoid residential activity that has the potential to limit the efficient and effective operation and upgrade of critical infrastructure, strategic infrastructure, and regionally significant infrastructure, including avoiding noise sensitive activities within the Christchurch Airport Noise Contour, unless within an existing Residential Zone;

The proposed rezoning will rezone the site to General Residential and Medium Density Residential Zone in Rangiora.

The proposed rezoning and future development it would enable would not limit the efficient and effective operation and upgrade of critical, strategic and significant infrastructure and is not within the Christchurch Airport Noise Contour.

Relevant Objectives and Policies

2. minimise reverse sensitivity effects on primary production from activities within new development areas through setbacks and screening, without compromising the efficient delivery of new development areas.

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

The proposed rezoning will minimise effects of reverse sensitivity from primary production activities and will not compromise the efficient delivery of new development areas.

The submission is consistent with UFD-P10.

SUB-O1 Subdivision design

Subdivision design achieves an integrated pattern of land use, development, and urban form, that:

1. provides for anticipated land use and density that achieve the identified future character, form or function of zones;
2. consolidates urban development and maintains rural character except where required for, and identified by, the District Council for urban development;
3. supports protection of cultural and heritage values, conservation values; and
4. supports community resilience to climate change and risk from natural hazards.

The proposed ODP demonstrates a future subdivision design that will integrate land use, development, and urban form that will achieve the density of the GRZ and MRZ, maintain residential character, support the protection of cultural, heritage and conservation values, and support community resiliency to climate change and natural hazard risk. The proposal is consistent with SUB-O1.

SUB-O2 Infrastructure and transport

Efficient and sustainable provision, use and maintenance of infrastructure; and a legible, accessible, well connected transport system for all transport modes.

The proposed ODP demonstrates an efficient, sustainable, and well-connected transport system for vehicular and active transport modes. The proposal is consistent with SUB-O2.

SUB-O3 Esplanade reserves and esplanade strips.

There will be no esplanade reserve or strip required. SUB-O3 is not considered relevant.

Relevant Objectives and Policies

SUB-P1 Design and amenity

Enable subdivision that:

1. within Residential Zones, incorporates best practice urban design, access to open space, and CPTED principles;
2. minimises reverse sensitivity effects on infrastructure including through the use of setbacks;
3. avoids subdivision that restricts the operation, maintenance, upgrading and development of the National Grid;
4. recognises and provides for the expression of cultural values of mana whenua and their connections in subdivision design; and
5. supports the character, amenity values, form and function for the relevant zone.

SUB-P2 Allotment layout, size, and dimension

Ensure that allotment layout, size, and dimensions:

1. in Residential Zones:
 - a. enables a variety of allotment sizes to cater for different housing types and densities to meet housing needs;
 - b. supports the achievement of high quality urban design principles for multi-unit residential development;
2. in Rural Zones:
 - a. retains the ability for rural land to be used for primary production activities; and
3. in Open Space and Recreation Zones:

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

The proposed ODP has been designed in accordance with best practice urban design principles, minimises reverse sensitivity, recognises the cultural values of mana whenua, and supports the character and density of the General Residential Zone. The proposal is consistent with SUB-P1.

The proposed rezoning to General Residential Zone and Medium Density Residential Zone will enable residential allotments and the proposed ODP has been designed with best practice urban design principles. The proposal is consistent with SUB-P2.

- a. provides a variety of types and sizes of open space and recreation areas to meet current and future recreation needs.

SUB-P3 Sustainable design

Ensure that subdivision design:

1. maximises solar gain, including through:
 - a. road and block layout; and
 - b. allotment size, dimension, layout, and orientation;
2. in Residential Zones, Commercial and Mixed Use Zones, and Open Space and Recreation Zones, supports walking, cycling and public transport; and
3. promotes:
 - a. water conservation,
 - b. on-site collection of rainwater for non-potable use,
 - c. water sensitive design, and
 - d. the treatment and/or attenuation of stormwater prior to discharge, and
4. recognises the need to maintain the design capacity of infrastructure within the public network and avoid causing flooding of downstream properties.

The proposed ODP is designed to ensure that the future subdivision will enable allotments to maximise solar gain, support walking and cycling, and support sustainable design.

The proposed ODP and future subdivision can be consistent with SUB-P3, and the subdivision design will be determined at subdivision consent stage.

SUB-P4 Integration and connectivity

Achieve integration and connectivity by ensuring:

1. in urban environments that there is effective integration of subdivision patterns and multi-modal transport connections within new development and to existing development;

The proposed ODP has been designed to ensure integration and connectivity throughout the future subdivision and to Rangiora. The ODP also shows future connections to the adjoining land within the West Rangiora Development Area to ensure connectivity with potential future residential developments.

Relevant Objectives and Policies

2. subdivision on the boundaries between new and existing development is managed to:
 - a. avoid or mitigate significant adverse effects, including reverse sensitivity effects, through the use of setbacks, landscaping to achieve screening, and other methods; and
 - b. continuation of transport and pedestrian or cycle linkages.

SUB-P5 Density in Residential Zones

Provide for a variety of site sizes within Residential Zones, while achieving minimum residential site sizes that are no smaller than specified for the zone.

Assessment of re-zoning 163, 191, 199 & 203 Johns Road

Further detail on the subdivision layout will be confirmed at subdivision consent stage.

SUB-P6 Criteria for Outline Development Plans

Ensure that new Residential Development Areas, new Large Lot Residential Zones, new Commercial and Mixed Use Zones and new Industrial Zones shall not be subdivided until an ODP for that area has been included in the District Plan and each ODP shall:

1. be prepared as a single plan; and
2. be prepared in accordance with the following:
 - a. identify principal roads, connections and integration with the surrounding road networks, relevant infrastructure and areas for possible future development;
 - b. any land to be set aside:
 - i. for community facilities or schools;
 - ii. parks and land required for recreation or reserves;
 - iii. for business activities;
 - iv. the distribution of different residential densities;

The proposed ODP and rezoning to General Residential Zone and Medium Density Residential Zone will provide for housing choice in the District whilst achieving the minimum site size for the zone. The proposal is consistent with SUB-P5.

The submission to rezone the site to proposed General Residential Zone and Medium Density Residential Zone is accompanied by a proposed ODP.

The proposed ODP has been prepared as a single plan, and has identified primary and secondary roads and connections, and connections to relevant infrastructure and servicing.

The proposed ODP shows land to be set aside for Open Space Reserve.

The proposed ODP achieves the minimum net density of 15 allotments per hectare.

No cultural, natural, or historic features have been identified.

The infrastructure servicing report attached with this submission details the infrastructure and servicing required for future subdivision and development of the site.

The proposed ODP has been designed to enable the future subdivision to be undertaken at once or staged. This will be determined at subdivision consent stage.

Relevant Objectives and Policies

- v. for the integrated management of water systems, including stormwater treatment, secondary flow paths, retention and drainage paths;
 - vi. from development for environmental or landscape protection or enhancement; and
 - vii. from development for any other reason, and the reasons for its protection.
- c. for new Residential Development Areas demonstrate how each ODP area will achieve a minimum net density of at least 15 lots or households per ha, unless there are demonstrated constraints then no less than 12 households per ha;
- d. identify any cultural, natural, and historic heritage features and values and show how they are to be enhanced or maintained;
- e. indicate how required infrastructure will be provided and how it will be funded;
- f. set out the phasing and co-ordination of subdivision and development;
- g. demonstrate how effective provision is made for a range of transport options, including public transport systems, pedestrian walkways and cycleways, both within and adjoining the ODP area;
- h. for new Residential Development Areas, demonstrate how open space, playgrounds or parks for recreation will be provided within a 500m radius of new residential allotments including:
 - i. transport connectivity for active, public and other transport modes;

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The proposed ODP has primary and secondary road connections which provides connectivity through to Rangiora and the wider Waimakariri District.

There is not anticipated to be any adverse effects from the proposed rezoning on strategic infrastructure or on the natural environment. The potential effects on reverse sensitivity with the boundary of the adjoining rural land have been considered and can be mitigated at subdivision stage with appropriate setbacks and fencing typologies.

The proposed rezoning and proposed ODP is consistent with SUB-P6.

Relevant Objectives and Policies

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- ii. connection to any other open space or community facility and other zones; and
- iii. potential use of open space for stormwater management;
- i. show how other potential adverse effects on and/or from nearby existing or designated strategic infrastructure (including requirements for designations, or planned infrastructure) will be avoided, remedied or appropriately mitigated;
- j. show how other potential adverse effects on the environment, the protection and enhancement of surface and groundwater quality, are to be avoided, remedied or mitigated;
- k. include any other information which is relevant to an understanding of the development and its proposed zoning; and
- l. demonstrate that the design will minimise any reverse sensitivity effects.

SUB-P7 Requirement of Outline Development Plans

This will be determined at subdivision consent stage.

Ensure that subdivision is in accordance with the fixed or flexible elements of any relevant ODP.

SUB-P8 Infrastructure

Achieve integrated and comprehensive infrastructure with subdivision by ensuring:

- 1. upgrade of existing infrastructure where the benefit is solely for the subdivision and subsequent development, or otherwise provide for cost-sharing or other arrangements for any upgrade, such as financial contributions, that are proportional to the benefit received;

The infrastructure servicing report supporting this rezoning submission and proposed ODP demonstrates that future subdivision and development of the site can be serviced.

The specific details of this will be determined at future subdivision consent and engineering approval stage.

2. adequate infrastructure provision and capacity to service the scale and nature of anticipated land uses, including:
 - a. wastewater disposal that will maintain public health and minimise adverse effects on the environment, while discouraging small-scale standalone community facilities;
 - b. water supply;
 - c. stormwater management;
 - d. phone, internet and broadband connectivity can be achieved, with new lines being underground in urban environments, except within the Special Purpose Zone (Kāinga Nohoanga);
 - e. electricity supply, with new lines being underground in new urban environments except within the Special Purpose Zone (Kāinga Nohoanga);
3. where reticulated wastewater disposal is available, that any new site is to be provided with a means of connection to the system; and
4. where a reticulated wastewater system is not available, ensure that onsite treatment systems will be installed.

SUB-P9 Access to, protection and enhancement of the margins of water bodies

During subdivision development:

1. ensure the protection and enhancement of the margins of water bodies; and
2. maintain the diversity, quality and quantity of any resources valued for mahinga kai through protection or restoration.

It is not anticipated that there will be any adverse effects on water bodies. This will be determined at subdivision consent stage.

Relevant Objectives and Policies

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SUB-P10 Esplanade reserves and esplanade strips

Provide for the creation of esplanade reserves or esplanade strips in areas where there is an actual or potential benefit for access, recreation, conservation or natural hazard mitigation by:

1. identifying water bodies where such reserves or strips will be provided, regardless of subdivision site size;
2. recognising that provision of other areas that provide public benefit will be desirable; and
3. providing for minimum site sizes to be calculated as if any esplanade reserve resulting from the subdivision was part of the overall subdivision area.

No esplanade reserves or esplanade strips are required. Policy SUB-P10 is not considered relevant.

RESZ-O1 Residential growth, location, and timing

Sustainable residential growth that:

1. provides more housing in appropriate locations in a timely manner according to growth needs;
2. is responsive to community and district needs; and
3. enables new development, as well as redevelopment of existing Residential Zones.

The proposed ODP is consistent with the proposed residential growth direction identified in the District Development Strategy and would therefore provide housing in appropriate locations, respond to district needs, and enable new development. Overall, the proposed rezoning is consistent with RESZ-O1.

RESZ-O2 Residential sustainability

Efficient and sustainable use of residential land and infrastructure is provided through appropriate location of development and its design.

The proposed rezoning will enable an efficient and sustainable use of the site.

RESZ-O3 Residential form, scale, design, and amenity values

A form, scale, and design of development that:

1. achieves a good quality residential environment that is attractive and functional;

The proposed ODP has been designed in accordance with best practice principles. The proposed rezoning will enable a future subdivision to be consistent with RESZ-O3.

Relevant Objectives and Policies

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2. supports community health, safety and well-being;
3. maintains differences between zones; and
4. manages adverse effects on the surrounding environment.

RESZ-O4 Non-residential activities

Small-scale non-residential activities that take place in residential areas support the function of local communities.

The ODP is not proposing any non-residential activities. It is considered that RESZ-O4 is not relevant.

RESZ-O5 Housing choice

Residential Zones provide for the needs of the community through:

1. a range of residential unit types; and
2. a variety of residential unit densities.

The proposed rezoning will enable residential development in accordance with the General Residential and Medium Density Residential densities which will provide housing choice in the Waimakariri District. The proposal is consistent with RESZ-O5.

RESZ-P1 Design of development

New development in residential areas is well designed and laid out, including by:

1. ensuring that the bulk, scale and location of buildings on sites is consistent with the environment anticipated for the zone, and that impacts in relation to dominance, privacy and shadowing are minimised, while recognising the ability for larger sites in the General Residential Zone and Medium Density Residential Zone to absorb greater height;
2. ensuring that the combination of buildings, paved surface, and landscaped permeable surface coverage retain a landscaped component for residential sites and provide opportunity for on-site stormwater infiltration, and where this is reduced that it is offset by suitable planting, other green surface treatment, and stormwater attenuation;
3. maintaining streetscapes in Residential Zones where garaging and buildings are set back from the street, and where these setbacks are

The proposed ODP will enable future subdivision and residential development. The details of the bulk, scale, and location of buildings is not yet known; however, the ODP has been designed in a way to ensure residential density as expected in the General Residential Zone and Medium Density Residential Zone.

The further detail of residential dwellings and design will be addressed at subdivision consent stage.

<p>reduced, that sufficient space is still available for vehicle manoeuvring and impacts of dominance on the streetscape are minimised;</p> <ol style="list-style-type: none"> 4. facilitating passive surveillance and active residential frontages through controls on glazing, avoidance of blank facades, provision of habitable rooms and front door entrances to residential units facing the street, and consider modification of those controls only where other active design features such as verandas are incorporated; 5. minimising the adverse impact of high fences on streetscape character and public safety; and 6. ensuring that residential activities are provided with sufficient on-site outdoor living space for residents through access to outdoor living space that complements the housing typology, or where not directly provided, take into account alternative arrangements for open space (either within the site or within close proximity to the site). 	
<p>RESZ-P2 Multi-unit residential development</p> <p>Promote and manage the development of multi-unit residential development in the Medium Density Residential Zone and General Residential Zone, including the use of amalgamated or multi-site redevelopment, by:</p>	<p>This submission is not proposing multi-unit residential development at this time. Policy RESZ-P2 is not considered relevant.</p>
<p>RESZ-P3 Safety and well-being</p> <p>Provide for safety and well-being by:</p> <ol style="list-style-type: none"> 1. taking into account the following CPTED principles in the design of structures, residential units, outdoor areas and public open spaces: <ol style="list-style-type: none"> a. access – safe movement and connections; b. surveillance and sightlines – see and be seen; c. layout - clear and logical orientation; 	<p>The proposed ODP is not proposing the design or structure, residential units, outdoor areas, or public open spaces. However, the ODP has been designed to ensure safe movement and connections and sightlines through the ODP. The ODP will also enable a future pleasant living environment, so is consistent with RESZ-P3.</p>

-
- d. activity mix – eyes on the street;
 - e. sense of ownership – showing a space is cared for;
 - f. quality environments - well designed, managed and maintained environments;
 - g. physical protection – using active security measures; and
2. providing for peaceful and pleasant living environments which enable limited opportunities for signs, appropriately manage the impacts of on-site traffic generation to minimise impacts on neighbouring properties and road networks, and minimise adverse effects of noise and light, particularly in night time hours.
-

RESZ-P4 Sustainable design

In relation to design of buildings in Residential Zones, encourage and advocate for:

- 1. minimisation of energy and water use, and the use of low impact design such as optimal site layout, passive solar design, solar power and water heating, and rainwater collection, detention and use; and
 - 2. universal design which provides for all stages of life development, size, and abilities, in particular in relation to retirement village living and minor residential units.
-

The submission and proposed ODP is not proposing residential buildings. RESZ-P4 is not considered relevant.

RESZ-P5 Residential Commercial Precinct

Enable additional commercial activity to establish in the Residential Commercial Precinct where:

- 1. it assists the supply of commercial space for Rangiora town centre; and
 - 2. effects on any adjacent residential activity are minimised.
-

The submission and proposed ODP is not proposing commercial activity. RESZ-P5 is not considered relevant.

Relevant Objectives and Policies

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RESZ-P6 Non-residential activities

Non-residential activities are provided for in a manner that:

The submission and proposed ODP is not proposing non-residential activities. RESZ-P5 is not considered relevant.

RESZ-P7 Commercial activity in the General Residential and Medium Density Residential Zones

This submission is not proposing any commercial activity. RESZ-P7 is not considered relevant.

RESZ-P8 Housing Choice

Enable a range of residential unit types, sizes and densities where:

1. good urban design outcomes are achieved; and
2. development integrates with surrounding residential areas and infrastructure.

This submission and proposed ODP will provide additional housing capacity and housing choice which will integrate with the surrounding township and residential areas in Rangiora. The proposal is consistent with RESZ-P7.

RESZ-P9 Commercial activity in Settlement Zones

RESZ-P9 is not considered relevant.

RESZ-P10 Retirement villages

RESZ-P10 is not considered relevant.

RESZ-P11 Minor residential units

RESZ-P11 is not considered relevant.

RESZ-P12 Outline development plans

Use and development of land subject to an ODP shall:

1. be in accordance with the development requirements and fixed and flexible elements in the relevant ODP, or otherwise delivers equivalent or better outcomes while achieving an efficient, effective and consolidated urban form, except relation to any interim use and development addressed in (3);
2. ensure that development:
 - a. contributes to a strong sense of place, and a coherent, functional and safe neighbourhood;

This submission includes a proposed ODP to be included within the District Plan. Any further subdivision and development of the site, and assessment of this policy, will be determined at subdivision consent stage.

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- b. contributes to residential areas that comprise a diversity of housing types;
- c. retains and supports the relationship to, and where possible enhances, recreational, historic heritage and ecological features and values; and
- d. achieves a high level of visual and landscape amenity;
- e. interim use and development of land subject to an ODP shall not compromise the timely implementation of, or outcomes sought by, the ODP.

RESZ-P13 Location of higher density development

Locate higher density housing to support and have ready access to:

- 1. commercial business areas, community facilities and open space; and
- 2. public transport and well-connected walkable communities.

This submission and proposed ODP is proposing an area of Medium Density Residential Zone which will provide higher density development.

The area of MDRZ is accessible to open space and the community and business facilities in Rangiora. The proposed zone is close to public transport and will support well-connected walkable communities.

RESZ-P14 Development density

Development densities for new Development Areas and Large Lot Residential Zone Overlays shall be as follows:

- 1. in new Development Areas, achieve a minimum net density of 15 households per ha averaged across the whole of the residential Development Area within the relevant ODP, unless that are demonstrated constraints then no less than 12 households per ha.
- 2. In new Large Lot Residential Zone Overlays, achieve a net density of 1 to 2 households per ha.

The proposed rezoning and ODP will achieve the 15 households per hectare with the inclusion of the proposed Medium Density Residential Zone.

GRZ-O1 General Residential Zone

A general suburban residential zone with a range of larger site sizes providing for predominantly residential use.

The proposed rezoning and ODP is requesting the GRZ and will provide allotments for residential use. The proposal is consistent with GRZ-O1.

Relevant Objectives and Policies

GRZ-P1 Residential character and amenity values

Provide for activities and structures that support and maintain the character and amenity values anticipated for the zone which:

1. Provides for suburban character on larger sites primarily with detached residential units;
2. Provides for a pleasant residential environment, in particular minimising the adverse effects of night time noise, glare and light spill, and limited signs;
3. Provides opportunities for multi-unit residential development on larger sites;
4. Has sites generally dominated by landscaped areas, with open spacious streetscapes;
5. Through careful design provides a range of higher density living choices to be developed within the zone; and
6. Provides for small scale commercial activity that services the local community, and home businesses at a scale consistent with surrounding residential character and amenity values.

GRZ-P2 General Residential Zone Overlay

For any General Residential Zone Overlay, ensure an ODP is developed in accordance with SUB-P6 and incorporated into the District Plan.

MRZ-O1 Provision of medium density housing

A higher density suburban residential zone located close to amenities with a range of housing typologies providing for predominantly residential use.

MRZ-P1 Residential character

Provide for activities and structures that support and maintain the character and amenity values anticipated for the zone, which provides for:

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The detail of the future residential development will be determined at subdivision consent stage. The proposed rezoning and ODP is consistent with the General Residential Zone.

The submission includes an ODP that has been developed in accordance with SUB-P6 and is to be incorporated into the District Plan. The proposal is consistent with GRZ-P2.

The proposed rezoning includes an area of Medium Density Residential Zone. This will enable a higher density residential zone which will be located close to amenities with the opportunity for a range of housing typologies.

The proposed Medium Density Residential Zone will enable higher density living with walkable connections to open space reserves, and amenities in Rangiora.

Relevant Objectives and Policies

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1. Higher density living in areas with better access for walking to parks, main centres or local commercial centres;
2. Multi-unit redevelopment opportunities through flexible development controls and encouragement for multi-site redevelopment;
3. High quality building and landscape design for multi-unit residential development with appropriate streetscape landscaping and positive contribution to streetscape character;
4. Provides for a peaceful residential environment, in particular minimising the adverse effects of night time noise and outdoor lighting, and limited signs;
5. Appropriate internal amenity within sites;
6. A mix of detached, semi-detached and multi-unit living;
7. Small-scale commercial, or community-based activities, that service the local community, and home businesses; and
8. A wider range of home business-based commercial activity in the Residential Commercial Precinct adjacent to Rangiora Town Centre.

The details of the specific site development will be determined at future subdivision and land use stage.

Appendix G. Assessment of the NPS-UD 2020

NPS-UD: Objectives and Policies	Consideration
<p>Objective 1</p> <p>New Zealand has well-functioning urban environments that enable all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future.</p>	<p>The proposed rezoning of South West Rangiora Development Area will continue to provide a well-functioning urban environment with good connectivity to the adjacent Townsend Fields Development and provide for future expansion to West Rangiora</p>
<p>Objective 2</p> <p>Planning decisions improve housing affordability by supporting competitive land and development markets.</p>	<p>The proposed rezoning will improve housing affordability by enabling 200+ residential to be released in the short-medium term. The site is considered to be infrastructure-ready and plan-enabled, as adequate existing infrastructure exists and the land has been identified by the CRPS for future urban use.</p>
<p>Objective 3</p> <p>Regional policy statements and district plans enable more people to live in, and more businesses and community services to be located in, areas of an urban environment in which one or more of the following apply:</p> <ul style="list-style-type: none"> a. the area is in or near a centre zone or other area with many employment opportunities b. the area is well-serviced by existing or planned public transport c. there is high demand for housing or for business land in the area, relative to other areas within the urban environment. 	<p>The site is located within 2km of the town centre and is directly adjacent to existing residential zones. Public transport to the town centre is provided on Johns Road, being a short walk from the site.</p>
<p>Objective 4</p> <p>New Zealand's urban environments, including their amenity values, develop and change over time in response to the diverse and changing needs of people, communities, and future generations.</p>	<p>Provisions for the General Residential and Medium Density Residential Zones are already provided for in the Waimakariri District Plan. This will create consistent amenity values between residential developments.</p>

<p>Objective 5</p> <p>Planning decisions relating to urban environments, and FDSs, take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).</p>	<p>The proposal recognises that Te Rūnanga o Ngāi Tahu is the iwi authority and manawhenua is exercised through Te Ngāi Tuahuriri Rūnanga. Investigations of relevant documents do not identify any wahi tapu (sacred place) and other taonga (treasure) within the application site.</p>
<p>Objective 6</p> <p>Local authority decisions on urban development that affect urban environments are:</p> <ul style="list-style-type: none"> (a) integrated with infrastructure planning and funding decisions; and (b) strategic over the medium term and long term; and (c) responsive, particularly in relation to proposals that would supply significant development capacity. 	<p>The proposed rezoning has already been identified in several planning documents as being a residential greenfield priority area and suitable for development. The proposed South West ODP is largely consistent with the proposed West Rangiora ODP.</p>
<p>Objective 7</p> <p>Local authorities have robust and frequently updated information about their urban environments and use it to inform planning decisions.</p>	<p>The submission aim to provide Council the information required to make an informed decision to be able to rezone this site.</p>
<p>Objective 8</p> <p>New Zealand's urban environments:</p> <ul style="list-style-type: none"> (a) support reductions in greenhouse gas emissions; and (b) are resilient to the current and future effects of climate change 	<p>The proposed rezoning will support reductions in greenhouse gas emissions by promoting walking and cycling in the area. Green link reserves and connectivity to residential developments and the nearby school will provide areas to walk. Future development to the west would connect to Goldie Drive and provide future public transport opportunities.</p>
<p>Policy 1</p> <p>Planning decisions contribute to well-functioning urban environments, which are urban environments that, as a minimum:</p> <ul style="list-style-type: none"> (a) have or enable a variety of homes that: <ul style="list-style-type: none"> (i) meet the needs, in terms of type, price, and location, of different households; and (ii) enable Māori to express their cultural traditions and norms; and 	<p>The Residential Zoning would provide a well-functioning urban environment that meets the needs of different households and has good accessibility to Rangiora city centre while limiting as much as possible the adverse effects on the environment. The Section 32 assessment has shown the proposed re-zoning for Residential Rezoning (without certification) is the best use of the land in the short term.</p>

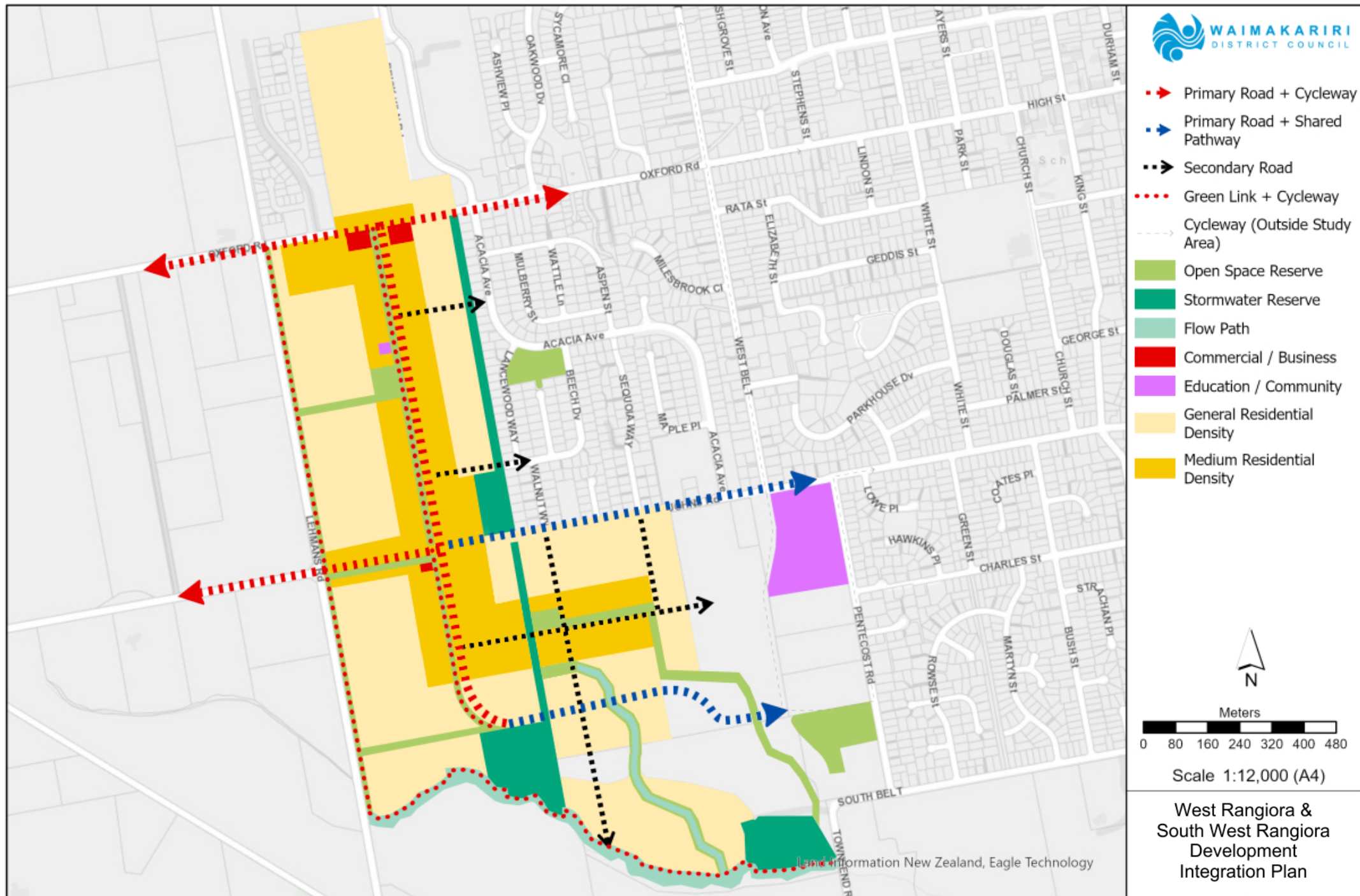
<ul style="list-style-type: none"> (b) have or enable a variety of sites that are suitable for different business sectors in terms of location and site size; and (c) have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; and (d) support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; and (e) support reductions in greenhouse gas emissions; and (f) are resilient to the likely current and future effects of climate change. 	
<p>Policy 2</p> <p>Tier 1, 2, and 3 local authorities, at all times, provide at least sufficient development capacity to meet expected demand for housing and for business land over the short term, medium term, and long term.</p>	<p>Christchurch is classified as a tier 1 urban environment, which includes Canterbury Regional Council, Christchurch City Council, Selwyn District Council and Waimakariri District Council.</p> <p>The proposed rezoning will contribute to the current shortfall of housing over the short-medium term in the Greater Christchurch region.</p>
<p>Policy 3</p> <p>In relation to tier 1 urban environments, regional policy statements and district plans enable:</p> <ul style="list-style-type: none"> (a) in city centre zones, building heights and density of urban form to realise as much development capacity as possible, to maximise benefits of intensification; and (b) in metropolitan centre zones, building heights and density of urban form to reflect demand for housing and business use in those locations, and in all cases building heights of at least 6 storeys; and (c) building heights of least 6 storeys within at least a walkable catchment of the following: <ul style="list-style-type: none"> (i) existing and planned rapid transit stops (ii) the edge of city centre zones 	<p>Proposed Residential GRZ and MRZ Zone provisions control the built-form standards. The residential density is considered appropriate for both the demand for housing and accessibility of existing public transport.</p>

<ul style="list-style-type: none"> (iii) the edge of metropolitan centre zones; and (d) in all other locations in the tier 1 urban environment, building heights and density of urban form commensurate with the greater of: <ul style="list-style-type: none"> (i) the level of accessibility by existing or planned active or public transport to a range of commercial activities and community services; or (ii) relative demand for housing and business use in that location. 	
<p>Policy 4</p> <p>Regional policy statements and district plans applying to tier 1 urban environments modify the relevant building height or density requirements under Policy 3 only to the extent necessary (as specified in subpart 6) to accommodate a qualifying matter in that area.</p>	<p>As above, Residential Zoning (GRZ & MRZ) considered appropriate density for the existing and proposed infrastructure and transport services in the area.</p>
<p>Policy 5</p> <p>Regional policy statements and district plans applying to tier 2 and 3 urban environments enable heights and density of urban form commensurate with the greater of:</p> <ul style="list-style-type: none"> (a) the level of accessibility by existing or planned active or public transport to a range of commercial activities and community services; or (b) relative demand for housing and business use in that location. 	<p>Not Applicable</p>
<p>Policy 6</p> <p>When making planning decisions that affect urban environments, decision-makers have particular regard to the following matters:</p> <ul style="list-style-type: none"> (a) the planned urban built form anticipated by those RMA planning documents that have given effect to this National Policy Statement (b) that the planned urban built form in those RMA planning documents may involve significant changes to an area, and those changes: <ul style="list-style-type: none"> (i) may detract from amenity values appreciated by some people but improve amenity values appreciated by other people, communities, 	<p>Residential GRZ and MRZ built-form provisions already exist within the proposed District Plan. The rezoning is considered the most appropriate development and the best use of the land, while providing for development capacity; therefore the rezoning request is consistent with this policy.</p>

<p>and future generations, including by providing increased and varied housing densities and types; and</p> <p>(ii) are not, of themselves, an adverse effect</p> <p>(c) the benefits of urban development that are consistent with well-functioning urban environments (as described in Policy 1)</p> <p>(d) any relevant contribution that will be made to meeting the requirements of this National Policy Statement to provide or realise development capacity</p> <p>(e) the likely current and future effects of climate change.</p>	
<p>Policy 7</p> <p>Tier 1 and 2 local authorities set housing bottom lines for the short-medium term and the long term in their regional policy statements and district plans.</p>	<p>The proposed rezoning will help Waimakariri District Council achieve their bottom-line targets for the short-medium terms.</p>
<p>Policy 8</p> <p>Local authority decisions affecting urban environments are responsive to plan changes that would add significantly to development capacity and contribute to well-functioning urban environments, even if the development capacity is:</p> <p>(a) unanticipated by RMA planning documents; or</p> <p>(b) out-of-sequence with planned land release.</p>	<p>This proposed rezoning is considered to be anticipated by the RMA planning documents. This re-zoning would significantly contribute to the current shortfall in development capacity while ensuring a well-functioning urban environment is developed.</p>
<p>Policy 9</p> <p>Local authorities, in taking account of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) in relation to urban environments, must:</p> <p>(a) involve hapū and iwi in the preparation of RMA planning documents and any FDSs by undertaking effective consultation that is early, meaningful and, as far as practicable, in accordance with tikanga Māori; and</p> <p>(b) when preparing RMA planning documents and FDSs, take into account the values and aspirations of hapū and iwi for urban development; and</p>	<p>The proposal recognises that Te Rūnanga o Ngāi Tahu is the iwi authority and manawhenua is exercised through Te Ngāi Tuahuriri Rūnanga. Investigations of relevant documents have not identified that the application site contains wahi tapu (sacred place) and other taonga (treasure).</p>

<ul style="list-style-type: none"> (c) provide opportunities in appropriate circumstances for Māori involvement in decision-making on resource consents, designations, heritage orders, and water conservation orders, including in relation to sites of significance to Māori and issues of cultural significance; and (d) operate in a way that is consistent with iwi participation legislation. 	
<p>Policy 10 Tier 1, 2, and 3 local authorities:</p> <ul style="list-style-type: none"> (a) that share jurisdiction over urban environments work together when implementing this National Policy Statement; and (b) engage with providers of development infrastructure and additional infrastructure to achieve integrated land use and infrastructure planning; and (c) engage with the development sector to identify significant opportunities for urban development. 	<p>The Proposal is consistent with the objectives and policies of the Canterbury Regional Policy Statement, therefore the re-zoning under the Waimakariri District Plan will be consistent with the CRPS and the purpose of the RMA.</p>
<p>Policy 11 In relation to car parking:</p> <ul style="list-style-type: none"> (a) the district plans of tier 1, 2, and 3 territorial authorities do not set minimum car parking rate requirements, other than for accessible car parks; and (b) tier 1, 2, and 3 local authorities are strongly encouraged to manage effects associated with the supply and demand of car parking through comprehensive parking management plans. 	<p>No minimum car parking rate requirements are proposed.</p>

Appendix H. Proposed West Rangiora and South West Rangiora Development Area Integration Plan



Appendix I. Proposed South West Rangiora Development Area Provisions

SWR - South West Rangiora Development Area (Zoned)

Introduction

Future development areas will be required in order to respond to population growth. In response to this issue, the Strategic Directions and Urban Form and Development Chapters sets out objectives and policies for when and where urban expansion should take place and the mechanism to be used to provide for future urban development.

~~Four~~ Five areas for development for Rangiora and Kaiapoi have been identified. Provisions are included for four which provide for their transition from an underlying Rural Lifestyle Zone to development in accordance with ~~DEV-WR-APP1~~ if and when they are required due to a demonstrated sufficiency shortage of land available in existing residential zones. South West Rangiora has been identified as a Zoned Development Area.

Urban development within one of the four unzoned Development Areas is managed through a certification process, where land is released for development by the District Council's Chief Executive Officer or their delegate, once identified criteria are met. The future urban development provisions for a Development Area is identified through the Development Area name on the Outline Development Plan. Once development of these areas has been completed, the District Council will remove the Development Area layer and rezone the area to the appropriate zones. South West Rangiora is zoned and will undertake urban development based on General Residential and Medium Density Residential Zone provisions without the need to apply the certification provisions.

The provisions in this chapter are consistent with the matters in Part 2 - District Wide Matters - Strategic Directions and give effect to matters in Part 2 - District Wide Matters - Urban Form and Development.

Objectives

DEV-SWR-O1

Development area

South West Rangiora Development Area contributes to achieving feasible development capacity for residential activities.

Policies

DEV-SWR-P1

Urban development

Provide for urban development in the South West Rangiora Development Area (in accordance with [DEV-SWR-APP1](#) – South West Rangiora Outline Development Plan) when:

1. the development will provide additional residential capacity to help achieve or exceed the projected total residential demand as identified in [UFD-O1](#) (in the short term);
2. water supply, wastewater system and stormwater infrastructure capacity is sufficient to support the proposed development; and is designed to integrate and provide for the West Rangiora Development Area Future Urban Development;
3. a geotechnical assessment and flood assessment for the area have been prepared and any identified risks contained within the assessments can be mitigated as part of subdivision design and consent.

DEV-SWR-P2

Subdivision and activities

Allow subdivision and activities where:

1. It is in accordance with the objectives, policies and rules of the General Residential Zone, Medium Density Residential Zone, and the relevant District wide provisions; and
2. It will not undermine or inhibit the future development of the adjoining Development Area in the West Rangiora Outline Development Plan.

Activity Rules

DEV-SWR-R1 Activities provided for in General Residential Zone

Activity status: PER

Where this activity complies with the following activity rules/standards in the General Residential Zone:

1. [GRZ-R1 to GRZ-R18](#); and
2. all General Residential Zone [Built Form Standards](#).

Activity status when compliance not achieved: see activity status for [GRZ-R1 to GRZ-R18](#)

Activity status: RDIS

Where this activity complies with the following activity rules/standards in the General Residential Zone:

3. [GRZ-R19 to GRZ-R21](#); and
4. all General Residential Zone [Built Form Standards](#).

Activity status when compliance not achieved: see activity status for [GRZ-R19 to GRZ-R21](#)

Activity status: DIS

Where this activity complies with the following activity rules/standards in the General Residential Zone:

5. [GRZ-R22 to GRZ-R28](#); and
6. all General Residential Zone [Built Form Standards](#).

Activity status when compliance not achieved: see activity status for [GRZ-R22 to GRZ-R28](#)

Activity status: NC

Activity status when compliance not achieved: see activity status for [GRZ-R29 to GRZ-R40](#)

Where this activity complies with the following activity rules/standards in the General Residential Zone:

7. [GRZ-R29 to GRZ-R40](#); and
8. all General Residential Zone [Built Form Standards](#).

For any activity statuses, any activity will need to comply with the following general activity standards:

- a. The activity is in accordance with the residential development requirements of [DEV-SWR-APP1](#).

DEV-SWR-R2 Activities provided for in Medium Density Residential Zone

Activity status: PER

Where this activity complies with the following activity rules/standards in the Medium Density Residential Zone:

1. [MRZ-R1 to MRZ-R17](#); and
2. all Medium Density Residential Zone [Built Form Standards](#).

Activity status when compliance not achieved: see activity status for [MRZ-R1 to MRZ-R17](#)

Activity status: RDIS

Where this activity complies with the following activity rules/standards in the Medium Density Residential Zone:

3. [MRZ-R18 to MRZ-R20](#); and
4. all Medium Density Residential Zone [Built Form Standards](#).

Activity status when compliance not achieved: see activity status for [MRZ-R18 to MRZ-R20](#)

Activity status: DIS

Where this activity complies with the following activity rules/standards in the Medium Density Residential Zone:

5. [MRZ-R21 to MRZ-R28](#); and
6. all Medium Density Residential Zone [Built Form Standards](#).

Activity status when compliance not achieved: see activity status for [MRZ-R21 to MRZ-R28](#)

Activity status: NC

Where this activity complies with the following activity rules/standards in the General Residential Zone:

7. [MRZ-R29 to MRZ-R40](#); and
8. all Medium Density Residential Zone [Built Form Standards](#).

Activity status when compliance not achieved: see activity status for [MRZ-R29 to MRZ-R40](#)

For any activity statuses, any activity will need to comply with the following general activity standards:

- a. The activity is in accordance with the residential development requirements of [DEV-SWR-APP1](#).

DEV-SWR-R3 Subdivision Activities in the Development Area

Activity status: CON

Where this activity complies with the following activity rules/standards in subdivision:

1. [SUB-R1 to SUB-R3](#); and
2. all [Subdivision Standards](#).

Activity status when compliance not achieved: see activity status for [SUB-R1 to SUB-R3](#)

Activity status: RDIS

Where this activity complies with the following activity rules/standards in subdivision:

3. [SUB-R4 to SUB-R8](#); and
4. all [Subdivision Standards](#).

Activity status when compliance not achieved: see activity status for [SUB-R4 to SUB-R8](#)

Activity status: DIS

Where this activity complies with the following activity rules/standards in subdivision:

5. [SUB-R9](#); and
6. all [Subdivision Standards](#).

Activity status when compliance not achieved: see activity status for [SUB-R9](#)

Activity status: NC

Where this activity complies with the following activity rules/standards in subdivision:

7. [SUB-R10 to SUB-R11](#); and
8. all [Subdivision Standards](#).

Activity status when compliance not achieved: see activity status for [SUB-R10 to SUB-R11](#)

For any activity statuses, any activity will need to comply with the following general activity standards:

- a. The activity is in accordance with the residential development requirements of [DEV-SWR-APP1](#).

Appendix

DEV-SWR-APP1 – South West Rangiora Outline Development Plan

Appendix DEV-SWR-APP1 – South West Rangiora Outline Development Plan

Land Use Plan

The Outline Development Plan for the **South** West Rangiora Development Area provides for a variety of site sizes, with medium density residential activity located along a key **a central west east secondary road connection** as this **is in close proximity to a primary road that will** have public transport links and associated higher amenity areas **next to open space networks**. Locating medium density residential activity **in this area** maximises opportunities for alternative transport, including walking and cycling, to local amenity and services. The location of a concentration of medium density residential activity, at a minimum ratio of 70% medium density and a maximum of 30% general density, at either side of this **secondary west east road** as shown in the Outline Development Plan is therefore fixed. The Medium Density Residential Zone enables a minimum lot size of 200m² while the General Residential Zone enables a minimum lot size of 500m². Overall, the **South** West Rangiora Development Area shall achieve a minimum residential density of 15 households per ha, unless there are identified constraints to development, in which case no less than 12 households per ha shall be achieved.

Land near the Southbrook Stream at the south of the Development Area is likely to be affected by Ashley River/Rakahuri flooding in a 1 in 200-year localised flooding and Ashley River/Rakahuri breakout event. Feasibility of residential development in this area is going to be more challenging as a result, **which has informed the location of increased density away from this southern location to ensure adequate housing can be provided for to the north.**

A new primary school, Te Matauru Primary School, is completed at Pentecost Road, **with the proposed medium density zone extending towards this school to enable more housing in close proximity to this community facility and aligning with direct road access towards this area.** It could be feasible that preschool(s) are established in the Development Area.

For water, wastewater and stormwater servicing reasons, staging of development from the south **east to the north west** is preferable, **to enable contiguous development with** the West Rangiora Development Area. The Outline Development Plan does not anticipate physically separated or ad-hoc development **between South West and West Rangiora Development Areas.**

Movement Network

The Outline Development Plan for the **South** West Rangiora Development Area provides access to this growth area through a network of primary and secondary roads that ensure development integration, efficient traffic management and public transport corridors. Only these more significant roads are identified in the movement network plan. The layout of additional tertiary roads to service the residential areas will respond to detailed subdivision design of those areas. The specific roading classification of all roads will be ultimately determined at the time of development, to provide flexibility and match the eventual roading classification system made operative through the District Plan. Primary and secondary roads for the **South** West Rangiora Development Area are located to ensure that all existing parcels of land, when developed, can be served by the roading network.

A key movement network feature for the **South** West Rangiora Development Area is a main **east/west** primary road through the centre of the growth area that intersects with the **West Rangiora** Development Area and curves to meet Townsend Road in the southeast of the Development Area. This primary road provides structure, connectivity and a high amenity corridor. A green corridor conducive to walking and cycling adjoins it on one side **until the proposed Stormwater Management Area,** as these have public transport links and maximise the proportion of residents accessing high amenity and connectivity areas. This primary road will be designed to promote reduced vehicle speeds and increased safety to other street users. Intersection treatment and/or upgrades need to be considered at the main intersections of the north/south primary road and Oxford/Johns Roads to reduce traffic speeds and enhance safety.

East/west movement patterns, largely through a number of secondary roads, provide subdivision structure, are integrated with existing roading connections east of the Development Area, and reflect intentions signalled through current Outline Development Plans for adjacent zoned land in the south-eastern portion of the Development Area to connect to Townsend Road and further to Pentecost Road. Secondary roads generally assume a form

which is of a more residential nature and cater less to through vehicle traffic. Te Matauru Primary School is located at the juncture of Pentecost Road and Johns Road and the anticipated movement network, **including both primary roading and secondary roading,** connects the residential growth area to the school well.

Cycling infrastructure is provided within a number of key movement corridors. **A shared path adjoins the main east/west** primary road, connects to a cycling path along the South Brook. A separated shared use path also connects the **Johns Road frontage** to Te Matauru Primary School to provide a safe, active journey. Driveways to new properties immediately adjoining separated shared use paths must be provided from the rear to avoid vehicle/cyclist/pedestrian conflict.

Pedestrian footpaths will be provided on at least one side of each internal road. The movement network plan should be read in conjunction with the green network plan which also provides key informal cycling and walking corridors, such as along green linkages. The principle of walkability is incorporated through the use of a connected roading pattern, additional pedestrian links and the location of open spaces.

Open Space and Stormwater Reserves

The Outline Development Plan for the **South** West Rangiora Development Area indicates **an** open space reserve location together with a network of stormwater management areas and green corridors throughout the site.

A space reserve is located south of Johns Road, east of the north/south primary road shown for the **West Rangiora** Development Area, **on the cross-roads of the secondary road network for accessibility and wayfinding, and adjoining a future north south stormwater reserve linkage.** These reserves are located strategically in places that are highly prominent, easily accessed, **adjoining a medium density residential area** and have the ability to add to the character and identity of the development, as well as being within a 500m radius of all residential households in the West **and South West** Rangiora Development Areas. Flexibility of the exact location of the reserve is possible, as long as it remains accessible within a 500m radius of the residential area. To provide functionality, access and visibility, open reserves must be bordered by at least one road and either a second road or public accessway, such as a green link.

A network of green links is shown. Green links must be bordered by at least one road frontage to provide appropriate access, visibility, amenity and safety for users (except where they provide short connections or serve to future-proof the option of a roadway). Where green links border both sides of a flow path, one road frontage between both sides is the minimum requirement.

Any required open space reserve should be prioritised in the early stages of a new residential development, and subsequently when further expansion extends beyond the margins of radius and/or resident population guidelines.

Green links also join up to stormwater management reserves and corridors that can have a passive recreational purpose for walking, cycling and playing, such as along the eastern edge of the **West Rangiora** Development Area **adjoining the South West Rangiora site**. This stormwater corridor, which is anticipated to be approximately 15m wide, is required to avoid runoff in larger rainfall events entering the existing urban areas of Rangiora.

A network of stormwater reserves are identified for the West Rangiora Development Area to respond to separate stormwater catchments. The southern stormwater reserve **west of South West Rangiora Area** is proposed to be constructed in the Ashley River breakout zone, as this land would not be particularly suitable for the construction of residential dwellings. The ground in this area is known to have relatively high groundwater and therefore it is assumed this would need to be a wet basin. The south-eastern stormwater reserve west of Townsend Road, already constructed for the Townsend Fields development, are all wet basins which have allowances for conveyance of spring water. **The density of the proposed** site development pattern may dictate alternative stormwater management solutions, such as the use of on-site smaller (temporary or otherwise) stormwater reserves, soak pits, swales and/or raingardens. Therefore, stormwater management must be investigated and considered by individual landowners in reference to neighbouring development opportunities and servicing implications in order to achieve, as much as possible, an integrated solution.

Streams, springs and waterways are protected and included in the stormwater reserves where relevant, particularly in the south where they are present. Both southern flow paths are protected and green links provided at either side. Appropriate waterbody setbacks apply where required by the Natural Character of Freshwater Bodies Chapter of the District Plan.

Waterbodies must be protected intact, or improved, as part of any development and any potential adverse impacts on the local and receiving waterbody ecology must be mitigated. Where possible, amenity planting will be encouraged, together with enhancement of habitat heterogeneity and in-stream conditions to improve stream health, facilitate migrations and promote recruitment. It is possible that some springs could feed directly into whanau mahinga kai areas and engagement with mana whenua is important.

Stormwater reserves provide attractive open space and visual relief in a built up residential environment, and the location of the Johns Road stormwater reserve in particular provides opportunities for the adjacent medium density residential areas to look out onto it and benefit from its amenity. Stormwater will be managed by an appropriately designed stormwater treatment system with high amenity values. All of **South West** Rangiora Development Area's stormwater catchment discharges to the South Brook. All stormwater ponds are subject to design detailing.

Water and Wastewater Network

The provision of reticulated water supply assumes a skeleton network for the **South** West Rangiora Development Area, where only water pipes 100mm in diameter and greater are specified. The exact location of the reticulation may change when road layouts are confirmed, noting that some identified road locations as specified under 'Movement Network' are fixed and others are flexible.

Reticulation upgrades proposed for Rangiora are both within Development Areas (East, North East and West, **South West**) and within the existing network. Due to their location, all of the existing network upgrades can be attributed to the Development Areas. Source and headworks upgrades are not Development Area specific, rather they apply to the whole scheme.

A number of water network upgrades are required to service West Rangiora **and South West Rangiora** Development Area's four catchments. Reticulation requirements include upgrades to the existing network and extra over upgrades to development reticulation. These upgrades are required to maintain the existing levels of service to current and future customers. New mains along key roads are required to upgrade the Southwest Rangiora Supply Main, Johns Road West Supply Main, Lehmans Road Ring Main and Ayers Street Supply Main.

Development in the West Rangiora, **South West Rangiora**, North East and East Development Areas also contribute to the requirement to upgrade a number of wider Rangiora sources and headworks, such as additional wells and associated pipework at Rangiora Source, new Surface Pumps and Generator at Ayers Street Headworks, new reservoirs at Ayers Street and South Belt, and a new Surface Pump at South Belt Headworks.

Existing water reticulation extends to the edge of the West Rangiora Development Area, **(past the South West Rangiora Area)**, making it straight-forward to connect to the scheme. High groundwater levels in the very southern portions of the Development Area may lead to some elevated costs.

Gravity wastewater infrastructure will service the **South** West Rangiora Development Area and only the key trunk infrastructure is shown. Trunk mains run through the centre of the catchments to eventually connect to the Townsend Fields trunk main (and the Rangiora Central Sewer Upgrades). Ideally, the network would be constructed from south to north, so that there is infrastructure for subsequent catchments to connect into. Temporary solutions would need to be discussed if development was to occur in the north first.

Fixed Outline Development Plan Features for the South West Rangiora Development Area:

- Location of a concentration of medium density residential activity (meaning a minimum ratio of 70% medium density residential zone density and a maximum 30% general residential zone density) **extending along the proposed Secondary Road in the South East adjacent open space network towards the school.**
- Cycleways at Johns Road and southern flow path
- Integrated road connections with Walnut Way and Sequoia Way
- Flow paths and adjoining green links and cycleways, including any required water body setbacks.

South West Rangiora Outline Development Plan – Overall

