

Transfer 268369 procured 4 April 1966 at
11:22 am. Glaucotheilus Slimmer
to Raymond Edwin Watson of Chota
Farmer. E. M. C. R.

Working 204395 produced 4 April
1962 at 11:28 am. Kingbird Express
Water tank. The firming Co. operated
Insurance. Arrived by two tank
limited off 11:28 am

June 24 10:10am
Pmliowatg

Working Instructions

Intergo 499424 Raymond Edwin Watson to Michael
Harry Godby and George Arthur Winton and to William
James Rodgers and to the name Michael Harry Godby
and George Arthur Winton and to John Winton Rodie
and Russell D. Spring. Affidavit of 8 to the name John
Winton Rodie and Robin Auchinbreck Campbell in a
produced 20/4/1959 at 2.58 p. C/O P

Transmission 537180 of the joint interest of Michael Harry Godby and George Arthur Hutton in Mortgage 499426 to the said George Arthur Hutton Entered 27/10/1960 at 2.52 p.m. *W. H. Hutton*

Transmission 556922 of the gentlemanly of
John Astor, Rhodes and Robin Suchenbreck Campbell
in mortgage 499434 to the said Robin Suchenbreck
Campbell entered 3/4/1961 at 10.11 am of the

Trans 556923 of 1st in interest taken back
of Campbell to 1st interest Batterell produced
3/4/1961 at C. B. B. Batterell

Tremammina: 571008 off the joint interest of
Marshall Harry Gething and George Arthur
Hutton in 1969-72 & La George Arthur
Hutton E. Ditch 14.2.1962 at 1250 fms. di.

Transfer 571.00 + ^{George Arthur Section} ~~George Arthur Section~~ ~~and David~~
499924 ~~George Arthur Section~~ ~~and David~~
David ~~Section~~ Produced on 2.1.82 at 12.15

Transmitted 571421 of the great interest of
John Hunter Photo and Russell D. Bony
Mitchell in writing 499224 to Russell
D. Bony Mitchell dated 7.7.1962 p. 436 -
[Signature] D.R.

Transfer 571422 of his interest in mortgage
499424 Russell D. Penny Mitchell to the
said Russell D. Penny Mitchell and
Percival Leonard Colver. Entered 21.2.1913.
at #37a-

Transmission 614021 of the Joint share of Russell
Henry Mitchell and Duncan Leonard Connor
in mortgage 499474 to the said Duncan
Leonard Connor as Survivor Entered 28/11/1963 = 52.40 ^{RM}
ALR

transfer 614022 of first share in mortgage 499+24
Lincan Leazar's Oniso to the said Duncan
Leonard Campbell and Peter Wynne Williams - 28/11/1963 at 24/1/

Discharge of Mortgage 499424 as to
the interest of Duncan Leonard Envor
-7-5-1966 at 11/10 a.m. *WLB*

Mortgage 624375 to the Trustees
Executors and Administrators of
New Zealand Limited - 29.10.1966 at 11.20 a.m.

Mortgage 626 326 to Australia and New
 Zealand Bank **DISCHARGED**
 11-13 a.m. 29 5 00 82

Variation of Mortgage 624325 20/2/1966 at
10.15am (Mortgage 624325) Mortgage 624325
consentory) 2 minutes

all Variation of mortgage 624325
 - produced 23/12/1969 at 1.40 p
 Brown ALR

Transfer 813047 to G. Charles Wells
and Robert Geoffrey Wells both of
Spencerville farmers as tenants
in common in equal shares
29.10.1970 at 2.40 pm

Mortgage 813048 State
Advanced Corporation 1970-1971 at 2:46
Entered 18/11/1970 at 2:55 am

THIS REPRODUCTION (ON A REDUCED SCALE)
CERTIFIED TO BE A TRUE COPY OF THE
ORIGINAL REGISTER FOR THE PURPOSES OF
SECTION 215A LAND TRANSFER ACT 1952.

Variation of Mortgage 813048 -
6/12/1972 at 11.30 a.m. (Mortgagee
under Mortgage 649845 consenting)

H. Monat
A.L.R.

Mortgage 176361/3 to The Rural Banking and Finance Corporation of New Zealand -
11.5.1978 at 10.42 am

DISCHARGED
1.1.1979
for A.L.R.

Variation of Mortgage 176361/3 - 18.7.1978
at 10.13 am.

Transfer 187809/3 to Peter Dale Bagrie of
Ohoka, Farm Worker - 1.8.1978 at 11.39 am.

Mortgage 650845/3 to The Rural
Banking And Finance Corporation
of New Zealand - 1.11.1986 at
9.09a.m.

DISCHARGED
19.1.1987
for A.L.R.

Mortgage 687312/2 to The Rural
Banking and Finance Corporation -
19.6.1987 at 11.41 am

DISCHARGED
28.10.1989
for A.L.R.

Mortgage 812799/2 to The Rural Banking
and Finance Corporation of New Zealand
- 28.6.1989 at 11.41 am

DISCHARGED
17.10.1990
for A.L.R.

A75011/1

Mortgage 892580/1 to The Rural Banking Group (New
Zealand) Limited - 17.8.1990 at 11.40 am

DISCHARGED
24.1.1991
for A.L.R.

Transfer A29622/1 to Peter Dale Bagrie of
Ohoka, Farmer and Anthea Gay Bagrie, his
wife as tenants in common in equal shares
- 17.12.1992 at 11.32am

for A.L.R.

Mortgage A29622/3 to William Lindsay Bagrie
and Margaret Elaine Bagrie (in shares) -
17.12.1992 at 11.32am

for A.L.R.

Mortgage A29622/4 to William Lindsay Bagrie
and Margaret Elaine Bagrie (in shares) -
17.12.1992 at 11.32am

for A.L.R.

Mortgage A29622/5 to William Lindsay Bagrie
and Margaret Elaine Bagrie (in shares) -
17.12.1992 at 11.32am

for A.L.R.

No.917710/1 Change of Name of the mortgagee
under Mortgage 812799/2 to The Rural Bank
Limited - produced 28.1.1991 and entered
7.10.1993 at 11.27am

C. Murre
for A.L.R.

Variation of Mortgage 892580/1 - 21.10.1993
at 11.32am

for A.L.R.

Transmission A288462/1 of his share
William Lindsay Bagrie in Mortgage
A29622/3 to Peter Dale Bagrie, Rosanne
Mavis Dunn and Shelley Hunter as
Executors - 24.3.1997 at 9.32am

Transmission A288462/1 of his share
William Lindsay Bagrie in Mortgage
A29622/4 to Peter Dale Bagrie, Rosanne
Mavis Dunn and Shelley Hunter as
Executors - 24.3.1997 at 9.32am

Transmission A288462/1 of his share
William Lindsay Bagrie in Mortgage
A29622/5 to Peter Dale Bagrie, Rosanne
Mavis Dunn and Shelley Hunter as
Executors - 24.3.1997 at 9.32am

for A.L.R.

A451453.3 Mortgage to Nancy Maria Hay and
to Aynsley Miln Ferguson in shares

A451453.4 Memorandum of Priority making
Mortgages A451453.3, A29622.3, A29622.4
and A29622.5 first, second, third and
fourth mortgages respectively

all 24.3.2000 at 11.08

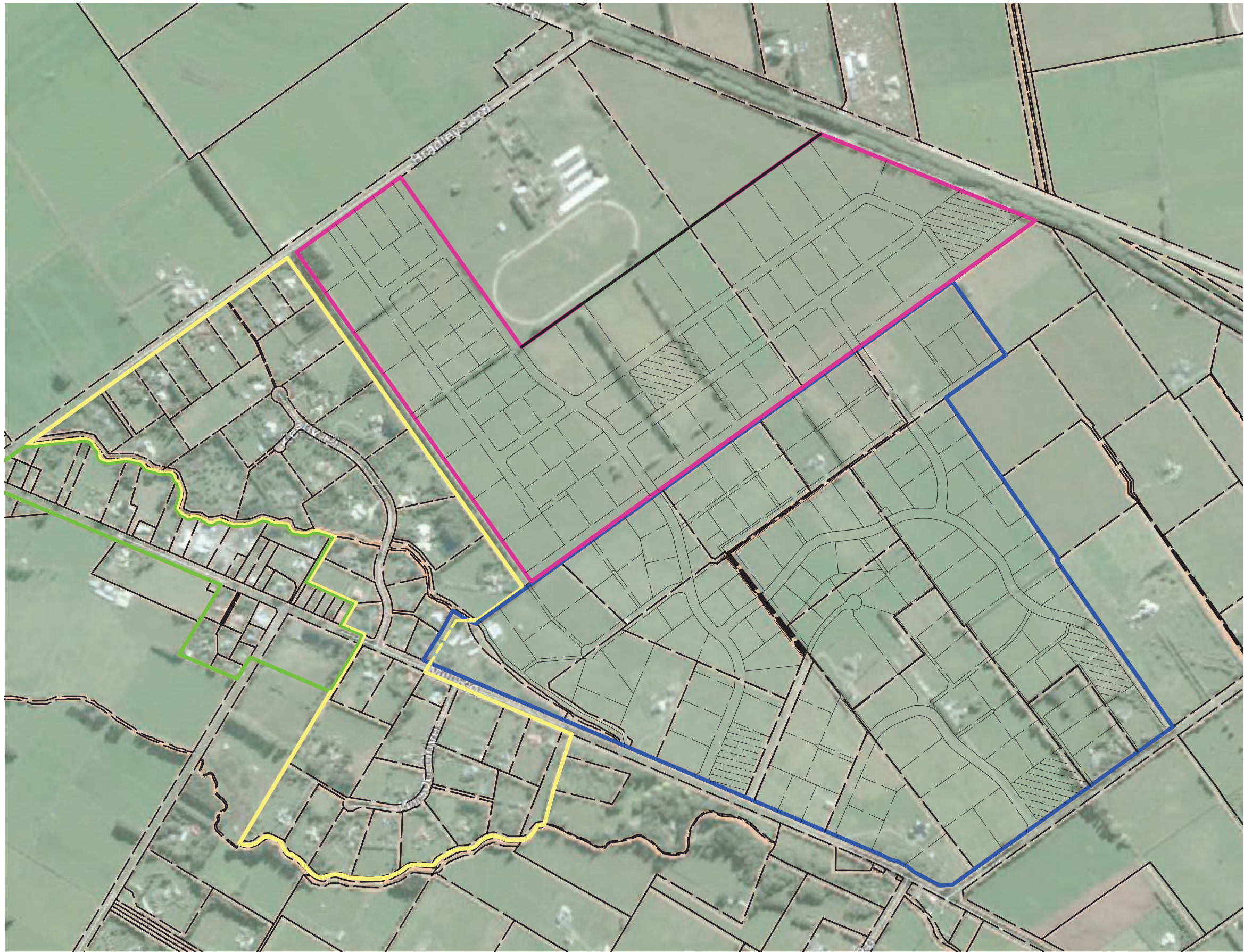
Kobie
for RGL

A466395.1 Transfer of the share of
Aynsley Miln Ferguson in Mortgage
A451453.3 to Raymond Stanley Newton
- 17.7.2000 at 9.40

Kobie
for RGL

Annexure 2

Location Plan



- Legend:**
- Zone Residential 3
 - Zone Residential 4B
 - PC 17 - Ohoka Land Change Group
 - Bagrie Land
 - Existing Boundaries
 - Proposed Boundaries
 - Proposed Stormwater Reserve Areas

WWW.SURVUS.CO.NZ

SURVUS
CONSULTANTS
surveying engineering property development

4 Meadow Street, PO Box 5558, Papanui, Christchurch
P 03 352 5599 AMBERLEY 03 314 9200
F 03 352 5527 ASHBURTON 03 307 7021
TOLL FREE 0505 787 887 DARFIELD 03 318 8151

Location Diagram Bradleys Road
Ohoka

| Rev | Date | By | Amendments |
|-----|----------|-----|------------------|
| B | 30/03/12 | ADC | Location Diagram |
| A | 20/03/12 | ADC | Location Diagram |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Scale
1 : 8000
Date
Mar 2012

Job Ref
10359/04
Sheet
1 of 1
Revision
B A3

Annexure 3: Assessment of Relevant Planning Documents

ANNEXURE THREE

Canterbury Regional Policy Statement – Chapter 12A

Table One: Relevant Objectives and Policies

| RPS –Objectives and Policies (Chapter 12A – Development of Greater Christchurch) | Assessment |
|---|--|
| <p>Objective 1: Urban Consolidation Urban Development in Greater Christchurch shall be managed to achieve consolidation of existing urban areas, to avoid unsustainable expansion outside existing urban areas, take account of the need to relocate households following the Canterbury Earthquakes and to bring about:</p> <p>(a)</p> <p>(f) Growth in rural-residential development to equate to no more than</p> <p>5% of the planned growth of households within urban areas.</p> | <p>The provision of the zone will consolidate the settlement of Ohoka to within is definable physical boundaries between Bradley Road and Threlkelds Road. The provision of the zone will also provide location for households as a result of the February 2011 earthquake.</p> <p>Rural residential development is provided in the RPS for to a limited extent in recognition of the desirability of providing a range of choice in housing types</p> |
| <p>Objective 3: Recognising Urban Growth Limitations Provide for and manage urban growth within Greater Christchurch while protecting:</p> <p>(e) the character and amenity of rural areas and settlements from adverse effects of change; and</p> <p>(f) people and property from unacceptable risk from natural hazards.</p> | <p>The character and amenity of the Ohoka settlement and adjoining rural area has been carefully considered in the preparation of the Plan Change (refer Approach of the Plan Change in Section 1 of the main report). Provisions are proposed to maintain character and amenity.</p> <p>Based on the site investigation and assessment the report concluded there is no evidence of any liquefaction having occurred at or near the site during recent large earthquakes. The report considered that the likelihood of liquefaction or lateral spreading occurring at the site to be very low based on the nature of the sub-surface materials (namely gravel).</p> |
| <p>Policy 6: Integration of Urban Form, and Infrastructure within Urban Limits (a) Territorial Authorities shall provide for the strategic integration of infrastructure and development through the progressive release of new Greenfield Areas for residential development and the encouragement of intensification to provide for increases over time in household numbers</p> | <p>The site will provide for up to 66 lots, of an anticipated 150 lots in the RRDP.</p> |

| | | | | | |
|--|------|------|------|------|--|
| as set out in Table 1. | | | | | |
| Waimakariri District | | | | | |
| Rural Residential Areas (outside Urban Limits) | +500 | +500 | +510 | 1570 | |
| Policy 9 Transport Effectiveness (a) Development of Greenfields Areas, Key Activity Centres, and areas accommodating intensification and rural residential activities shall avoid overloading existing and proposed transport network infrastructure, particularly strategic roads, and avoid detracting from the primary through-traffic function of State Highways and arterial roads | | | | | |
| Policy 13: Rural Residential Development Rural Residential development further to areas already zoned in district plans as at 28 July 2007 may be provided for by territorial authorities, if it does not exceed the maximum quantities for the periods set out in Table 1, Policy 6, and if it accords with the methods under this policy. | | | | | |
| Relevant Methods 13.1 Areas within which Rural Residential development may occur shall be defined by changes to the district plan by the territorial authorities subject to the following: (i) The location must be outside the Urban Limits; (ii) All subdivision and development must be located so as to be able to be economically provided with a reticulated sewer and water supply integrated with a publicly owned system, and appropriate stormwater treatment and disposal; (iii) Legal and physical access is provided to a sealed road, but not directly to a road defined in the relevant district plan as a Strategic or Arterial Road, or as a State highway under the Government Roading Powers Act; (iv) The location of any proposed Rural Residential development shall: - avoid noise sensitive activities occurring within the 50 dBA Ldn air noise contour surrounding Christchurch International Airport so as not to compromise the future efficient operation of Christchurch International Airport or the health, well-being and amenity of | | | | | |
| The traffic assessment concludes that the road network has sufficient geometric capacity to cater for the estimated additional traffic from full development of the applicant's site. The proposal will have little effect on the levels of service and levels of delay in the immediate area and as such the traffic effects of the proposal on the operation of the surrounding road network are considered to be less than minor. The assessment considered this proposal in isolation, and the potential scenario if PC17 where to go ahead. | | | | | |
| The RPS provides for additional rural residential subdivision. | | | | | |
| In regard to relevant methods: | | | | | |
| <ul style="list-style-type: none">- The site is outside the urban limits- Reticulated water and wastewater is planned for Ohoka by the Waimakariri District Council- Legal access is available to a sealed road. It is not a state highway.- Is not within the 50 dBA Ldn air noise contour- Provides 2 road access for emergencies- The plan change regulates that no dwellings are within the odour constraints setback to avoid reverse sensitivity- The site will be integrated into the existing settlement with multiple walkway connections and via access to existing main road network of Ohoka via Bradleys Road- An ODP provides an integrated design for site development which will achieve integration with, and maintenance of, the existing character of Ohoka f- Based on the site investigation and assessment the report concluded there is | | | | | |

| | |
|--|--|
| <p>people;</p> <ul style="list-style-type: none"> - avoid land where the potential for liquefaction and lateral displacement is such as to be uneconomic for urban development to safely proceed; (WAIT FOR GEOTECH) - support existing or upgraded community infrastructure and provide for good access to emergency services; - not give rise to significant reverse sensitivity effects with adjacent rural activities, including quarrying and agricultural research farms, or strategic infrastructure; - avoid significant natural hazard areas including steep or unstable land; (AWAIT GEOTECHNICAL) - where adjacent to or in close proximity to an existing urban or rural residential area, be able to be integrated into or consolidated with the existing settlement; and <p>(v) An Outline Development Plan is prepared which sets out an integrated design for subdivision and land use, and provides for the long-term maintenance of rural residential character.</p> <p>(vi) A Rural Residential development area shall not be regarded as in transition to full urban development.</p> | <p>no evidence of any liquefaction having occurred at or near the site during recent large earthquakes. The report considered that the likelihood of liquefaction or lateral spreading occurring at the site to be very low based on the nature of the sub-surface materials (namely gravel).</p> <ul style="list-style-type: none"> - The site is considered generally suitable for the proposed future residential development, subject to the findings of the AutoScala investigation which will be presented in the final report. |
|--|--|

Table 2: Relevant Objectives and Policies, the Canterbury Regional Policy Statement and Proposed Regional Policy Statement 2011

| Regional Policy Statement | Assessment |
|---|---|
| <p>Objective 2 Minimise the irreversible effect of land use activities on land comprising versatile soils where such use would foreclose future land use options that benefit from being located on those soils, where it is practicable to so.</p> | <p>Classification of land according to suitability for arable cropping , the site has very good multiple-use option, slight limitations and is suitable for cropping according to the Landcare Research website. While the land comprises of good soils, because of limitations of the site due to its size and location next to Ohoka, it is not practical to use the farms for productive activities.</p> |

| | |
|---|---|
| <p>Objective 3 Protection of the environment from on-site and off-site adverse effects: (a) resulting from land that has become contaminated</p> | <p>With the exception of an offal pit located adjacent to the southern boundary of the Site (proposed for rezoning), all of the contamination sources are located outside of the proposed residential subdivision boundary and therefore the NES does not apply for the proposed site.</p> <p>The assessment recommends the offal pit in the southern portion of the proposed site is removed and backfilled with clean fill during the site redevelopment works. In addition, due to the long history of farming activities across the site, the assessment recommends that an accidental discovery protocol is incorporated into the site redevelopment management plan to address the procedures and steps to be taken in the event potential contamination sources from historical farming practises (such as domestic and farming waste/offal pits) are encountered during the site redevelopment works.</p> |
| <p>Objective 2 (Settlement and the Built Environment) Achieve patterns of urban development and settlement that do not adversely affect the efficient operation, use and development of:.. (a) Roading infrastructure</p> | <p>The traffic assessment concludes that the road network has sufficient geometric capacity to cater for the estimated additional traffic from full development of the applicant's site. The proposal will have little effect on the levels of service and levels of delay in the immediate area and as such the traffic effects of the proposal on the operation of the surrounding road network are considered to be less than minor. The assessment considered this proposal in isolation, and the potential scenario if PC17 where to go ahead.</p> |
| <p>Objective 2 – Transportation</p> <p>Avoid, remedy, or mitigate the adverse effects on the environment of transport use and provision.</p> <p>Policy 2 Promote the use of transport modes which have low adverse environmental effects.</p> <p>Policy 3 Promote changes in movement patterns, travel habits and the location of activities, which achieve a safe, efficient and cost effective use of the transport infrastructure and reduce the demand for transport.</p> | <p>The site provides multiple non-motorised transport options with cycle, pedestrian and equestrian links back to Ohoka settlement and to rural areas beyond.</p> <p>The site is within a rural area, so car travel is likely, however Ohoka is close to Rangiora and Kaiapoi.</p> |
| <p>Proposed Regional Policy Statement</p> | |
| <p>Land Use and Infrastructure</p> <p><i>Objective 5.2.1 – Location, design and function of development</i></p> | <p>The Ohoka village essentially sits between Bradleys's Road to the northwest and Threlkelds Road and Jacksons Road to the south east, with varying degrees of development protruding back from Mill Road, but predominantly more development to the north of Mills road. The site has logical physical boundaries including Bradleys Road to the north west and Main Drain Road to the north. These provide logical</p> |

| | |
|---|---|
| <p><i>(Entire Region)</i></p> <p><i>Development, including papakāinga and marae is located and designed so that it functions in a way that:</i></p> <p><i>(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...</i></p> <p><i>(2) enables people and communities, including future generations, to provide for their social, economic and cultural well-being and health and safety; and which:</i></p> <p><i>(a) maintains, and where appropriate, enhances the overall quality of the natural environment of the Canterbury region, including its coast line, significant landscapes and natural values;</i></p> <p><i>(b) provides sufficient housing choice to meet the region's housing needs;</i></p> <p><i>(c) encourages sustainable economic development by enabling business activities in appropriate locations;</i></p> <p><i>(d) minimises energy use;</i></p> <p><i>(e) enables rural activities that support the rural environment;</i></p> <p><i>(f) is compatible with regionally significant infrastructure; and</i></p> <p><i>(g) avoids adverse effects on significant natural and physical</i></p> | <p>physical limits to define further growth beyond Bradley's Road to the north west and north in Ohoka.</p> <p>The needs of future generations are well served by rural residential areas that provide integrated, well planned and sensitive designed zones in regard to the surrounding environment, which in this case is achieved.</p> <p>The zone will provide for low density housing choice within an existing settlement.</p> |
|---|---|

Waimakariri District Plan

Table Three: Relevant Objectives and Policies

| Waimakariri District Plan | Assessment |
|--|--|
| Chapter 11 – Utilities and Traffic Management | |
| <p>Objective 11.1.1 Utilities that maintain or enhance the community's social, economic and cultural wellbeing, and its health and safety.</p> <p>Policy 11.1.1.1 A utility should: a. contribute to a safe environment; b. maintain or enhance public health; c. promote efficient use of resources and efficient development of the utility, so that resources are conserved and used in a sustainable manner; e. where it is necessary to service new development, be paid for by the developer, or as a condition of consent for the development; and f. maintain and enhance social wellbeing.</p> <p>Policy 11.1.1.2 Every new site within a design catchment of an existing or proposed utility should connect to the utility wherever possible.</p> | <p>Reticulated water and wastewater is planned for Ohoka by the Waimakariri District Council. It is understood provision of a reticulated system will solve some environmental issues with on-site systems in Ohoka. Applicable development contributions at the time of subdivision apply a fair and reasonable contribution to cost of services.</p> |
| <p>Policy 11.1.1.5 New developments and activities in relation to their traffic generation characteristics should: a. locate on or establish primary access to an appropriate level of road within the road hierarchy; b. not have vehicular access to an inappropriate level of road in the hierarchy; and c. provide cycleways along arterial, strategic and collector roads where: - necessary to provide an identified transport or recreation function; and - alternative opportunities do not exist within the road hierarchy.</p> | <p>The traffic assessment concludes that the road network has sufficient geometric capacity to cater for the estimated additional traffic from full development of the applicant's site. The proposal will have little effect on the levels of service and levels of delay in the immediate area and as such the traffic effects of the proposal on the operation of the surrounding road network are considered to be less than minor. The assessment considered this proposal in isolation, and the potential scenario if PC17 were to go ahead.</p> |
| Chapter 13 – Resource Management Framework | |

| | |
|---|--|
| <p>Objective 13.1.1 Recognise and provide for the community's social and economic relationships within the District and external to the District, particularly those with Christchurch City, so that the District's natural, living, and productive environments:</p> <ul style="list-style-type: none"> a. are managed in an integrated and sustainable way; b. provide for and safeguard the community's wellbeing, health, and safety; c. are managed to enable the protection and enhancement of natural and physical resources; and d. are not adversely affected by resource use, development and protection <p>Policy 13.1.1.2 Avoid, remedy or mitigate the adverse effects of the development of Residential 4A and 4B Zones by limiting the establishment of new zones to locations where the subdivision and development will not:</p> <ul style="list-style-type: none"> a. adversely affect significant natural and physical resources; b. exacerbate damage from natural hazards (including flood damage); and c. create conflict with neighbouring land uses. | <p>The zone change has been assessed against Part 2 of the Act and is considered to sustainably manage natural and physical resources. In terms of considering an appropriate location for the 4A zone all criteria under policy 13.1.1.2 are met as follows:</p> <ul style="list-style-type: none"> - There are no outstanding significant ecological or landscape feature of the site. In terms of the natural resource, the land and its life producing capacity in terms of productive use, the Section 32 identifies there are limitations for continued long term rural productivity. In terms of physical resources, the site can be provided with reticulated services, minimizing the effect on natural resources and the site has minor effects on the roading network. - Based on the site investigation and assessment the report concluded there is no evidence of any liquefaction having occurred at or near the site during recent large earthquakes. The report considered that the likelihood of liquefaction or lateral spreading occurring at the site to be very low based on the nature of the sub-surface materials (namely gravel). - The Stormwater management for the site will deal with a 1 in 10 and 1 in 50 year flood - Great care has been taken with the design of the site. On the north western boundary the site sizes have a lower average density of 7500m² so as to reduce the amount of urban activity close to the Keetly Place rural residential 4B area. The south eastern boundary has proposed lot sizes that are consistent with proposed development (i.e. PC 17). The rural neighbours across Bradleys Road do not undertake intensive rural activities that give rise to reverse sensitivity. The balance of the Bagrie farm has poultry sheds, but a no build area is proposed that will avoid conflict. Large lots (1ha or greater) are located in the northern part of the site to provide for zone boundary treatment with and transition to the rural farmland beyond the site. |
| <p>Policy 13.1.1.4 Encourage patterns and forms of settlement, transport patterns and built environment that:</p> <ul style="list-style-type: none"> a. reduce the demand for transport; b. provide choice of transport modes which have low adverse environmental impact; c. decrease the production of motor vehicle emissions; | <p>The area of Ohoka has been identified through the RRDP. This plan recognizes that there needs to be a choice in living environments. The site is in good proximity to Kaiapoi and Rangiora. The site provides for multiple pedestrian, cycle and equestrian connections to the village of Ohoka and to rural area.</p> |

| | |
|---|--|
| <p>d. make efficient use of regional transport network; and e. reduce the rate of use of non-renewable energy sources</p> | |
| <p>Chapter 14 – Rural Zones</p> | |
| <p>Policy 14.1.1.1 Avoid subdivision and/or dwellinghouse development that results in any loss of rural character or is likely to constrain lawfully established farming activities.</p> <p>Policy 14.1.1.4 Maintain rural character as the setting for Residential 4A and 4B Zones.</p> | <p>In regard to Policy 14.1.1.1 this policy is assumed to relate more to assessment of dwellings or subdivision/activity in the rural zone. However the policy is relevant insofar that it identifies the rural character is valued in the Rural zone and that lawfully established farming activities are not constrained. The establishment of the R4 zone is physically separated from farming activity across Bradleys Road. There is currently no farming activity on that land that is sensitive. The balance of the Bagrie land has poultry operations, these will be protected by an Odour Constraint contour from sensitive activities, such as dwellings in the R4A zone. The proposed zone does represent a change in the immediate environment in terms of some of its rural boundaries, however the landscape assessment concludes that the change is slight.</p> <p>Policy 14.1.1.4 recognises that people living in Residential 4A and 4B Zones value an outlook which is dominated by paddocks, trees, natural features, and agricultural, pastoral or horticultural activities. Some long established Residential 4 Zones are on the edges of the main towns and part of their setting is, and will remain, urban in nature</p> <p>In the commissioners decision on Plan Change 10 to the Waimakariri District Plan it was noted that Policy 14.1.1.4 applies to the surrounding rural areas within which the Rural 4A zone is set, rather than the R4 zone itself. This suggests that a rural outlook is needed from the edge of R4 zone and from some locations within the zone, but not uniformly throughout the zone. This is the case in this plan change.</p> |
| <p>Chapter 15 – Urban Environment</p> | |
| <p>Objective 15.1.1 Quality urban environments which maintain and enhance the form and function, the rural setting, character and amenity values of urban areas.</p> <p>Policy 15.1.1.1 Integrate new development, subdivision, and activities into the urban environments in a way that maintains and enhances the form, function and amenity values of the urban areas.</p> <p>Policy 15.1.1.2</p> | <p>The urban environment includes the small town of Ohoka. The District Plan identifies that Urban form has a major bearing on how successfully an urban area functions and contributes to its resident's social and economic wellbeing. The form and function of an urban area significantly affects its qualities reflected in its setting, character, and amenity values.</p> <p>The proposed zone has good accessibility to the main 'heart' of Ohoka i.e. Mill Road. The site provides several connections with the existing community. Great care has gone into designing an appropriate layout of density, especially along the boundaries</p> |

| | |
|--|---|
| <p>Within the urban environment subdivision, land use, development and protection should avoid, or mitigate adverse effects on:</p> <ul style="list-style-type: none"> a. the rural setting of the District's towns and settlements; b. efficient and effective functioning of roads; c. ease and efficiency of access; d. urban water bodies, and downstream effects on rural water bodies; e. mixed density housing from low scale, low density to higher density levels in areas designed as a comprehensive development. This provides for flexibility in some areas allowing for varied housing needs; f. quiet and safe environments; g. cycleways; and h. the individual character of the settlement. | <p>of the site more visible to the community.</p> <p>The proposed zone follows logical and physical boundaries that generally define the north west Ohoka Village area, these being Bradley's Road and Main Drain Road.</p> <p>The ODP for the sight has been 'landscape' led, with many feature to ensure the rural setting of Ohoka is maintained (refer Section 1 in Approach of the Plan Change) and ensure connectivity through good road and walkway/cycleway connections.</p> |
| <p>Chapter 17 – Residential Zones</p> | |
| <p>Objective 17.1.1 Residential Zones that provide for residents' health, safety and wellbeing and that provide a range of living environments with distinctive characteristics. Policy 17.1.1.1 Maintain and enhance the characteristics of Residential Zones that give them their particular character and quality of environment. Policy 17.1.1.2 Recognise and provide for differences between Residential Zones reflecting the community's expectations that a range of living environments will be maintained and enhanced.</p> | <p>The commissioner decision on Proposed Plan Change 10 to the Waimakariri District Plan (which was for a change to 4A zoning in Manderville) held that Objective 17.1.1 and the subsequent policies are key provisions. They seek to provide a range of living environments with distinctive characteristics, whilst maintaining and enhancing the characteristics of residential zones that give them their particular character and quality of environment. Therefore in providing for a new rural residential zones, regardless of R4A or R4B, the key outcome is that whichever is provided for that it has 'distinctive characteristics' and that the zone maintains and enhances the characteristics of residential zones. The proposed ODP and range of methods detailed in Section 2 of this document achieve this, both internally for the site, and its interface with adjoining rural and residential zones. While the plan change does represent a change to the size of the urban boundary in Ohoka, the landscape design led approach of the plan change takes particular care to ensure that the character of Ohoka villiage is maintained, and where possible, enhanced.</p> |
| <p>Table 17.1: Residential Zone Characteristics – Residential 4A/B</p> <ul style="list-style-type: none"> — Predominant activity is living; — detached dwellings and associated buildings; — some limited farming and horticulture; — dwelling density is lowest for Residential Zones; — dwellings in generous settings; — average lot size of 0.25-1.0 hectare; — limited number of lots located in a rural environment; — rural style roads or accessways; — opportunity for a rural outlook from within the zone; — few vehicle movements within the zone; | <p>The proposed zone meets all of the characteristics set out in Table 17.1.</p> |

| | |
|---|--|
| <ul style="list-style-type: none"> — access to zones not from arterial roads; — community water and/or sewerage schemes; and — limited kerb, channelling and street lighting | |
| <p>Objective 18.1.1 Sustainable management of natural and physical resources that recognises and provides for:</p> <ul style="list-style-type: none"> a. changes in the environment of an area as a result of land use development and subdivision; b. changes in the resource management expectations the community holds for the area; and c. the actual and potential effects of subdivision, use and development. <p>Policy 18.1.1.1 Growth and development proposals should provide an assessment of how:</p> <ul style="list-style-type: none"> — the use, development, or protection of natural and physical resources affected by the proposal will be managed in a sustainable and integrated way; and — the adverse effects on those resources and the existing community will be avoided, remedied, or mitigated. <p>In particular, proposals should not be inconsistent with other objectives and policies in the District Plan, and show how and the extent to which they will: Those relevant:</p> <ul style="list-style-type: none"> a. protect areas of significant indigenous vegetation and habitats of indigenous fauna including vegetation and habitat sites listed in Appendix 25.1; b. protect the outstanding landscape area as defined in the District Plan Maps; c. avoid or mitigate natural hazards including: <ul style="list-style-type: none"> — flooding as defined in the District Plan Maps, — flooding from the Waimakariri or Ashley/Rakahuri Rivers, — seismic conditions including the potential for liquefaction and amplification effects, — damage from the sea, including erosion, storm and tsunami, and — land instability; d. protect the life supporting capacity of soils; e. maintain and enhance the environmental characteristics of adjoining zones, and the environment of the zone within which the proposal is located, as set out in Policies 14.1.1.2, 14.1.1.3, 15.1.1.1, 16.1.1.1, 16.1.1.5, 17.1.1.2 and 17.1.1.3; f. retain the rural environment between Residential 4A and 4B Zones g. provide access to and along rivers, open spaces and reserves; h. maintain and enhance the form and function of the District's towns; | <p>Objective 18.1.1 a. and b. recognise and provide for changes in the environment and resource management expectations of the community in regard to a particular area on the provision that natural and physical resources are sustainably managed. The proposal will represent a 'change' to the environment, managing that change in a way that maintains the character of Ohoka and the communities expectations in this regard has been the reason for a 'landscape' led approach. In particular Policy 18.1.1.1 is the basis of determining the effects of any plan change proposal.</p> <ul style="list-style-type: none"> a. No areas of significant vegetation on the site b. No outstanding landscape within the site or adjoining c. Based on the site investigation and assessment the report concluded there is no evidence of any liquefaction having occurred at or near the site during recent large earthquakes. The report considered that the likelihood of liquefaction or lateral spreading occurring at the site to be very low based on the nature of the sub-surface materials (namely gravel). d. Classification of land according to suitability for arable cropping , the site has very good multiple-use option, slight limitations and is suitable for cropping according to the Landcare Research website. While the land comprises of good soils, because of limitations of the site due to its size and location next to Ohoka, it is not practical to use the farms for productive activities. e. The ODP and proposed provisions for site development and road treatments maintain and enhance characteristics of adjoining zones, as well as the proposed zone itself f. The site has clearly defined boundaries and will not cause in-fill of rural land between Ohoka and other rural residential settlements in the locality. g. Access to the Cust river and potentially to the Ohoka stream can be provided for the zone |

| | |
|---|---|
| <p>k. provide infrastructure for services and roading in a manner consistent with this District Plan;</p> <p>l. ensure the efficient and effective integration of any new infrastructure into the existing network, or ensure the efficient and effective ongoing working of a stand-alone system;</p> <p>n. protect groundwater quality and quantity;</p> <p>u. enable local communities to be more self-sustaining;</p> <p>v. affect the demand for transport;</p> <p>w. provide choice in transport mode, particularly modes with low adverse environmental effects; and</p> | <p>h. Refer discussion on 15.1.1</p> <p>k. This will be provided as part of subdivision consent</p> <p>l. Reticulated water and wastewater is planned for Ohoka by the Waimakariri District Council</p> <p>n. The services report confirms that services will be provided to the site in a way that will not impact ground water</p> <p>u. The provision of a larger population will allow for increased local services with a density of development to support it.</p> <p>v. The demand for transport of establishing the zone will increase, as can be expected in a rural residential zone.</p> <p>w. The site provides for cycle, walkway and pedestrian connections</p> |
| <p>Policy 18.1.1.3</p> <p>Any proposal for extensions to existing zones, or for new zones, should recognise the nature, scale and intensity of effects arising from existing activities adjoining or near to the site of the plan change and show how the proposal will avoid, remedy or mitigate any adverse effects on the environment arising from those existing activities.</p> | <p>The existing Poultly farm operations to the north west on the balance area of the land will have odour effects on sensitive activities, such as dwellings. The ODP has a odour constraints area within which building development is non-complying</p> |
| <p>Policy 18.1.1.9</p> <p>Limit the Ohoka settlement to within its Residential 3 and 4B boundaries existing at 20 June 1998.</p> | <p>Refer discussion in document. Proposed amendment to policy 18.1.1.9</p> |

Regional Land Transport Strategy

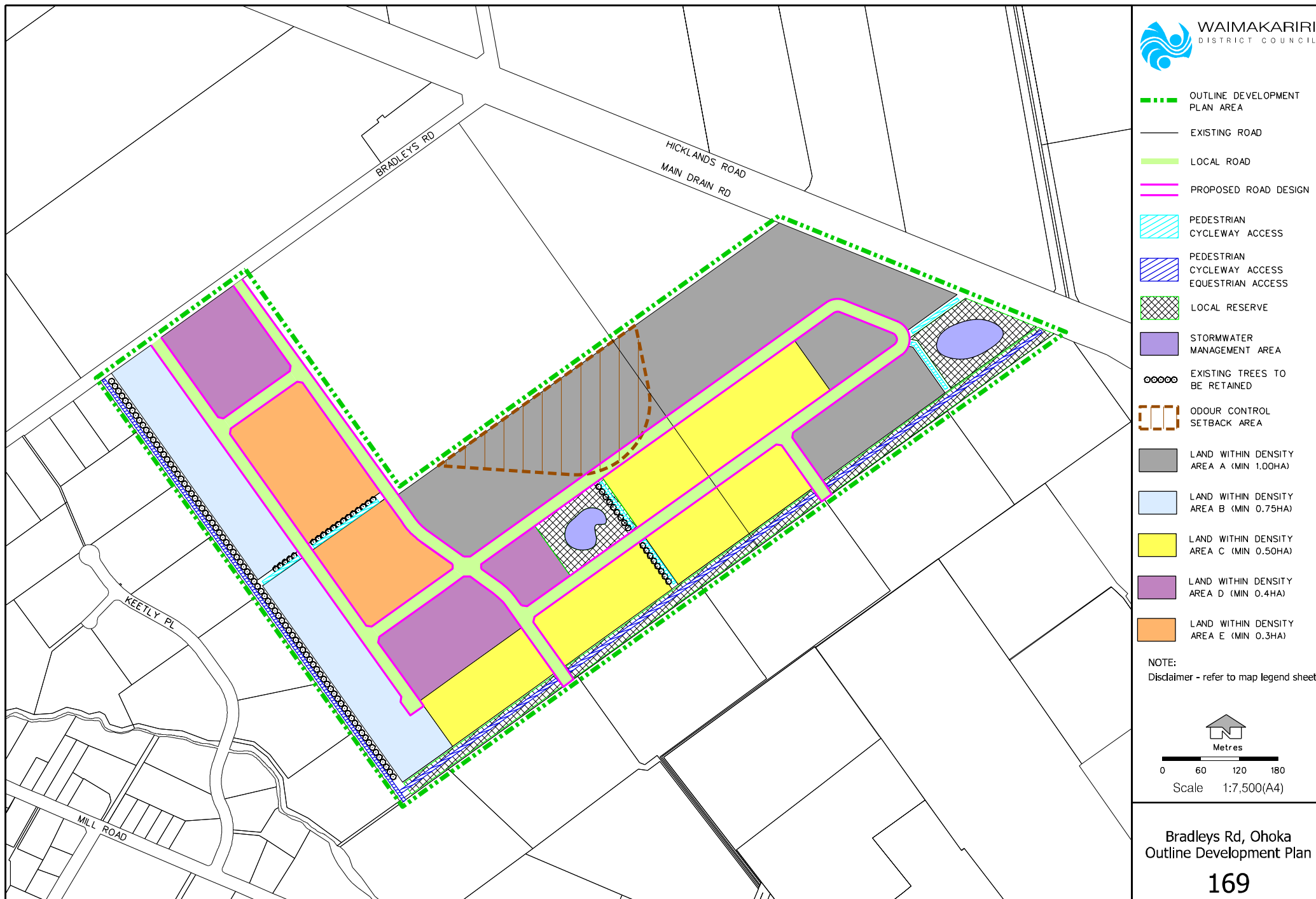
Table Four: Relevant Objectives and Policies

| Regional Land Transport Strategy | Assessment |
|---|--|
| • Ensure a resilient, environmentally sustainable and integrated transport system | The report traffic report concludes the road network has sufficient geometric capacity |

| | |
|---|---|
| <ul style="list-style-type: none"> • Increase transport safety for all users • Protect and promote public health • Assist economic development • Improve levels of accessibility for all. | <p>to cater for the estimated additional traffic from full development of the applicant's site.</p> <p>The proposal will have little effect on the levels of service and levels of delay in the immediate area and as such the traffic effects of the proposal on the operation of the surrounding road network are considered to be less than minor. The assessment considered this proposal in isolation, and the potential scenario if PC17 were to go ahead.</p> <p>The site provides for alternative transport modes, with several links proposed for walking, cycling and equestrian access. The site will have two access points for emergency situations. The location of the zone has good access to the strategic roading network to SH 1 to Rangiora, Kaiapoi and Christchurch City.</p> |
|---|---|

Annexure 4

Outline Development Plan



Annexure 5

Layer Diagrams Informing the Outline Development Plan



OPEN SPACE, CYCLE & PEDESTRIAN NETWORK PLAN

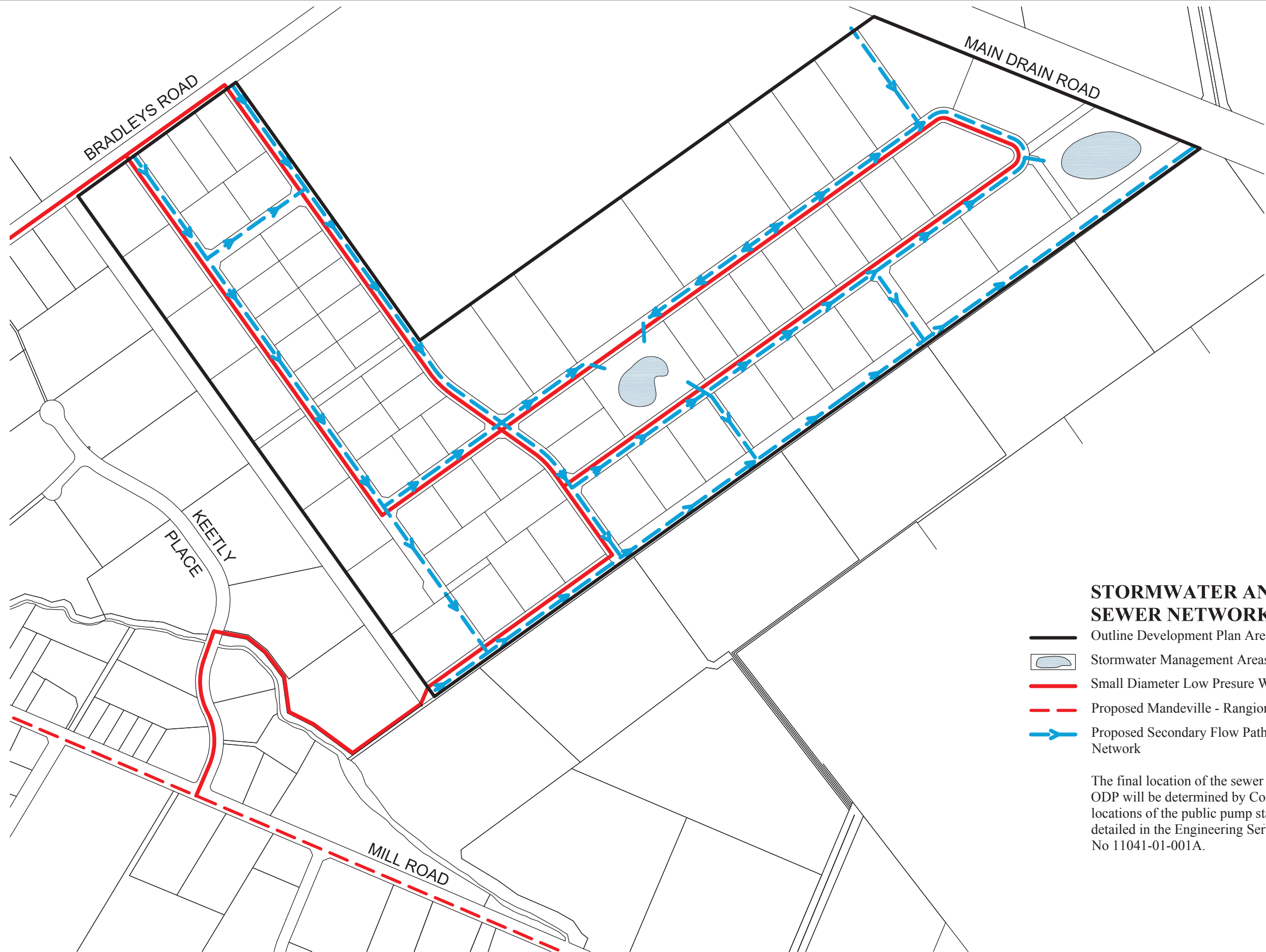
- Outline Development Plan Area
- Local Road
- Local Purpose Reserve
- Stormwater Management Areas (Local Purpose Reserve)
- Existing Trees to be Retained
- Public Pedestrian / Cycle / Equestrian Access Strip
- Public Pedestrian / Cycle Access Strip

PROPOSED AMENDMENTS TO PC17 ODP
RESIDENTIAL 4A - BRADLEYS ROAD, OHOKA

Rev A - 30/03/12 - 10359-03b - Outline Development Plan Mar12

SCALE - 1 : 5,000 @ A3
DATE - MARCH 2012
SHEET - 2 of 4

This drawing and its contents are the property of Survus Consultants. Any unauthorised employment or reproduction, in full or in part, is forbidden.



STORMWATER AND SEWER NETWORK PLAN

- Outline Development Plan Area
- Stormwater Management Areas
- Small Diameter Low Pressure Wastewater Main
- Proposed Mandeville - Rangiora Rising Main Route
- Proposed Secondary Flow Path via Development Road Network

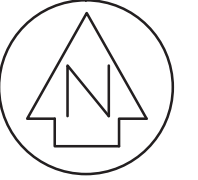
The final location of the sewer main shown on this ODP will be determined by Council. The various locations of the public pump stations required, are detailed in the Engineering Services Report, drawing No 11041-01-001A.

PROPOSED AMENDMENTS TO PC17 ODP
RESIDENTIAL 4A - BRADLEYS ROAD, OHOKA

Rev A - 30/03/12 - 10359-03b - Outline Development Plan Mar12

SCALE - 1 : 5,000 @ A3
DATE - MARCH 2012
SHEET - 3 of 4

This drawing and its contents are the property of Survus Consultants. Any unauthorised employment or reproduction, in full or in part, is forbidden.



ROADING NETWORK PLAN

- Outline Development Plan Area
- Primary Route
- Secondary Route

PROPOSED AMENDMENTS TO PC17 ODP
RESIDENTIAL 4A - BRADLEYS ROAD, OHOKA

SCALE - 1 : 5,000 @ A3
DATE - MARCH 2012
SHEET - 4 of 4

Annexure 6 Assessment of Odour Effects by Golder Associates



March 2012

BAGRIE BROILER FARM, OHOKA

Assessment of Odour Effects

Submitted to:
Peter and Ann Bagrie
C/- Fiona Aston Consultancy Ltd
PO Box 1435
Christchurch 8140

REPORT



Report Number. 1178104-525
Distribution:
PDF





Table of Contents

| | | |
|------------|--|-----------|
| 1.0 | INTRODUCTION | 1 |
| 1.1 | Overview | 1 |
| 2.0 | DESCRIPTION OF BROILER FARM | 1 |
| 2.1 | Introduction | 1 |
| 2.2 | Overview of Intensive Broiler Chicken Farm Operation | 3 |
| 2.3 | Broiler Numbers | 3 |
| 2.4 | Shed Ventilation | 5 |
| 2.5 | Litter | 5 |
| 3.0 | ODOUR DISCHARGES | 8 |
| 3.1 | Mechanisms for Odour Generation | 8 |
| 3.2 | Determination of Odour Emission Rates | 8 |
| 4.0 | RECEIVING ENVIRONMENT | 9 |
| 4.1 | Surrounding Land Uses | 9 |
| 4.2 | Topography and Meteorology | 10 |
| 5.0 | ASSESSMENT METHODOLOGY | 11 |
| 5.1 | Overview of Assessment Approaches | 11 |
| 5.2 | Dispersion Modelling - The "Rickerby" Approach | 12 |
| 5.2.1 | Description | 12 |
| 5.2.2 | Considerations arising from RIRDC report | 13 |
| 5.2.3 | Model configuration | 13 |
| 5.3 | Odour Modelling Guideline | 14 |
| 6.0 | ODOUR DISPERSION MODELLING RESULTS | 14 |
| 6.1 | Introduction | 14 |
| 6.2 | Existing Broiler Operation | 15 |
| 6.2.1 | Modelling results | 15 |
| 6.2.2 | Community feedback | 15 |
| 6.3 | Modified Broiler Operation | 15 |
| 7.0 | DISCUSSION AND CONCLUSIONS | 17 |
| 7.1 | Effects Comparison of Existing and Future Shed Layouts | 17 |
| 7.2 | Comparison to Buffer Distance Guidance | 18 |



BAGRIE BROILER FARM ODOUR ASSESSMENT

| | | |
|------------|------------------------------------|-----------|
| 7.3 | Area for Proposed Plan Change..... | 18 |
| 7.4 | Conclusions | 18 |
| 8.0 | REFERENCES..... | 19 |

TABLES

| | | |
|----------|--|----|
| Table 1: | Maximum broiler numbers per shed – existing shed configuration..... | 3 |
| Table 2: | Maximum broiler numbers per shed – future shed configuration..... | 3 |
| Table 3: | Distance from existing broiler sheds to nearest existing residences. | 9 |
| Table 4: | Recommended buffer distances, from Appendix V of the Taranaki Regional Air Plan – (TDC 2011). | 12 |

FIGURES

| | | |
|-----------|---|----|
| Figure 1: | Bagrie broiler farm in relation to the proposed plan change land. | 2 |
| Figure 2: | The existing and future shed layout. | 4 |
| Figure 3: | Fan and shed layout for existing sheds..... | 6 |
| Figure 4: | Fan and shed layout for shed 4 and new shed 5..... | 7 |
| Figure 5: | Bagrie broiler chicken farm, surrounding area, and existing residences (nearest residences indicated as green squares). | 10 |
| Figure 6: | Wind rose for Christchurch, 1997/1998 (data source: Environment Canterbury). | 11 |
| Figure 7: | Existing site scenario with three small sheds and one large shed – predicted 1 hour average 99.5 th percentile odour concentrations (OU/m ³) (contours in yellow, with the 5 OU/m ³ contour shown in red). | 16 |
| Figure 8: | Future site scenario with two sheds – predicted 1 hour average 99.5 th percentile odour concentrations (OU/m ³) (contours in yellow, with the 5 OU/m ³ contour shown in red)..... | 17 |

APPENDICES

APPENDIX A

Report Limitations

APPENDIX B

Chicken Shed Odour Emission Rate Calculations

APPENDIX C

Example Modelling Input File



ABBREVIATIONS AND UNITS

| | |
|-------------------|--------------------------------|
| °C | Degrees Celsius |
| GLC | Ground level concentration |
| Golder | Golder Associates (NZ) Limited |
| m | Metre |
| m/s | Metres per second |
| m ³ | Cubic metre |
| MfE | Ministry for the Environment |
| RMA | Resource Management Act 1991 |
| OU/m ³ | Odour units per cubic metre |



1.0 INTRODUCTION

1.1 Overview

Peter and Ann Bagrie (the “Bagries”) own and operate a broiler chicken farm near Ohoka. They are proposing a rural-residential rezoning plan change for part of their property. As part of the plan change application, consideration of the potential odour effects of the Bagries’ broiler operation on the land they propose to rezone has been carried out. This report provides an assessment of potential odour effects from the broiler farm operation.

The Bagries’ private plan change application is for two-thirds of their land be rezoned for rural residential purposes, based on the Waimakariri District Council (WDC) R4A zone definition (5,000 m² average lot size). The WDC Rural Residential Development Plan, which was adopted in June 2010, identifies Ohoka as a preferred location for rural-residential development, with a maximum allocation of 150 rural residential lots¹.

The Bagries’ broiler operation currently consists of four broiler chicken sheds. Three of the four sheds were significantly damaged in the 2010 and 2011 earthquakes and are to be replaced. The Bagries propose to replace the three damaged sheds with a new tunnel shed. The number of birds currently raised will remain the same, at approximately 65,000. The replacement shed is expected to be commissioned during 2012. However, to provide flexibility for the Bagries’ plan-change application in case this timeframe is not achieved, this assessment evaluates both the existing and future shed layouts.

The objective of the odour assessment² is to establish the distance from the broiler sheds (both existing and future shed layouts) beyond which adverse odour effects are unlikely to be offensive or objectionable, specifically in relation to the land that the Bagries propose to rezone for rural-residential land use.

The method of odour assessment is that used for the Rickerby broiler farm expansion carried out by Aurora Environmental (2001), herein known as the “Rickerby approach”. This approach was scrutinised through Environment Court proceedings (Environment Court Decision C23/2004) and found to be robust. The approach has been applied on several occasions since this time and is still considered to be robust.

This report provides a description of the broiler farm and discussion of odour discharges from the farm. This is followed by an overview of the receiving environment and a detailed description of the approach used to assess odour discharges from the farm. Finally, a discussion of how the odour assessment results relate to the proposed plan change is provided.

2.0 DESCRIPTION OF BROILER FARM

2.1 Introduction

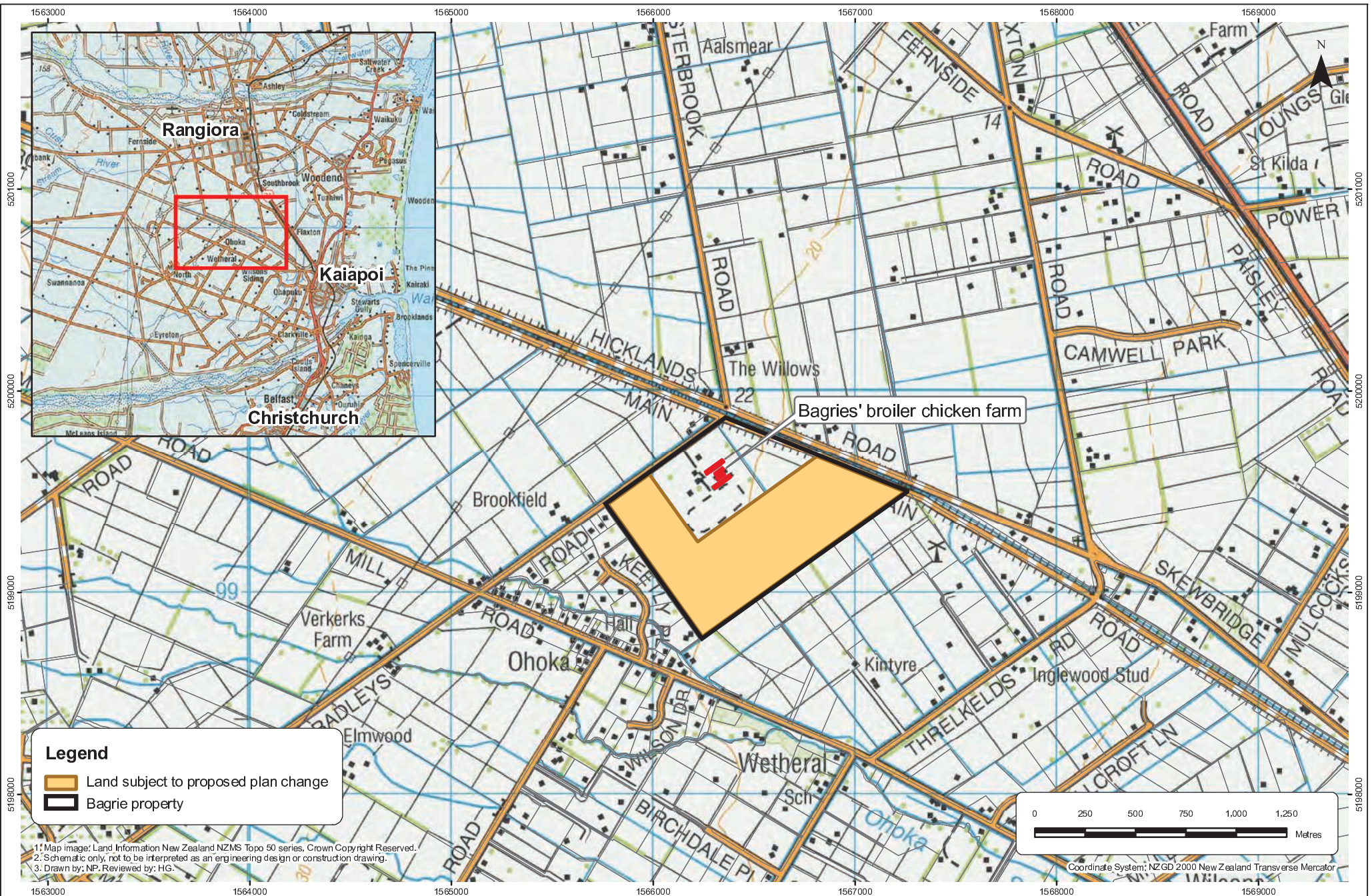
The Bagries’ broiler chicken farm is located adjacent to the Ohoka Township, north Canterbury, as shown in Figure 1. The farm is affiliated with Tegel Foods Limited and, Golder understands, has a maximum bird capacity of approximately 65,000³. There are three small sheds dating from the 1960s and 1970s (each holding approximately 10,833 birds) and one larger, more recent shed (holding approximately 32,500 birds). As mentioned above, the three smaller sheds were significantly damaged during the 2010/2011 earthquakes and will be replaced this year with a new tunnel-flow design shed that can hold approximately 32,500 birds.

The term “tunnel-flow” means that the air flow in the shed can be channelled along the shed’s length during days that are hot and when the chickens are older. Channelling the airflow from one end of the shed to the other results in a wind-chill effect, and helps to cool the birds. When the shed operates in this manner, the two fans at the western end are turned off.

¹ Email to Richard Chilton dated 15 December 2011 from Fiona Aston.

² This report is subject to the limitations given in APPENDIX A.

³ Personal communication during at site meeting with Peter Bagrie, 15 March 2012.





2.2 Overview of Intensive Broiler Chicken Farm Operation

In intensive broiler farms, young chickens are brought to the farm when they are one to a few days old, and are housed on a shallow litter bed of wood shavings (typically 50 mm deep and of pinus radiata) in large purpose built sheds. Bird faeces absorb into the litter, which is removed the following day after all birds have been removed. Prior to a new batch of birds being introduced, a new bed of litter is put down. The entire growth and clean-out cycle takes seven to eight weeks.

2.3 Broiler Numbers

A summary of the maximum broiler numbers per shed is provided in Table 1 for the existing operation and Table 2 for the future shed layout, with the existing and future shed layouts shown in Figure 2.

The birds are all removed from the farm to an abattoir depending on Tegel's requirements, when the birds have a weight of at least 1.58 kg. This corresponds to birds that are approximately 28 days old, depending on their growth rate. The maximum age of the birds when harvested is 42 days. The removal of broilers is managed by a Tegel contractor. Each shed is then cleaned and left for 10 to 14 days for quarantine purposes before the next batch of chickens is introduced to the shed.

According to the Bagries, bird mortality is typically 2.5 %, which is consistent with many intensive broiler farms in New Zealand. Dead birds are removed from the sheds and frozen on the same day before being removed from the site on a weekly basis by a contractor for disposal.

Table 1: Maximum broiler numbers per shed – existing shed configuration.

| Shed number | Birds |
|--------------|---------------|
| Shed 1 | 10,834 |
| Shed 2 | 10,833 |
| Shed 3 | 10,833 |
| Shed 4 | 32,500 |
| Total | 65,000 |

Table 2: Maximum broiler numbers per shed – future shed configuration.

| Shed number | Birds |
|--------------|---------------|
| Shed 4 | 32,500 |
| Shed 5 | 32,500 |
| Total | 65,000 |