

BELFAST AREA PLAN

Rural Resources Study

September 2008



Belfast: view from the North-East towards the Waimakariri River

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
1. INTRODUCTION	4
2. THE RURAL LAND RESOURCE	8
2.1 Rural zoning	8
2.2 Characteristics of the area	8
2.3 The Rural Edge	9
3. THE RURAL SOIL RESOURCE	12
3.1 Land Use Capability of Soils	12
3.2 Horticultural versatility	13
4. LAND USE ANALYSIS	18
4.1 Rural Area Categories A-G	18
4.2 Large size lots – Rural lots	18
4.3 Medium size lots – Semi-rural lots	18
4.4 Small size lots – Rural Residential and Residential lots	18
4.5 Characteristics of areas	19
5. INFRASTRUCTURE ISSUES	22
5.1 Wastewater reticulation	22
5.2 Drainage/Stormwater discharge	22
5.3 Water supply:	23
5.4 Transport:	23
6. ASSESSMENT OF RURAL LAND VALUE	25
7. REGULATORY AND NON REGULATORY CONSIDERATIONS	27
7.1 LTCCP Community Outcomes	27
7.2 Community consultation	27
7.3 Regional Policy Statement 1998: (RPS)	27
7.4 Proposed Canterbury Natural Resources Regional Plan (NRRP)	29
7.5 Urban Development Strategy (UDS)	29
7.6 City Plan Objectives and Policies	30
7.7 Waterways and Wetlands Asset Management Strategy 1999	31
7.8 Draft Open Space Strategy	31
8. CONSULTATION FEEDBACK	33
8.1 General	33
8.2 Development Potential	33
8.3 General Growth Pockets	34
9. ASSESSMENT OF THE RURAL AREA	35
9.1 Area A – City / Belfast Gateway – South East Belfast	35
9.2 Area B – Rural Edge - East Belfast	36
9.3 Area C – Northern Gateway – North Belfast	37
9.4 Area D – Rural Edge - West Belfast	38
9.5 Area E – Rural Edge - Southwest Belfast	39
9.6 Area F – Rural Edge - Southeast Belfast	40
9.7 Area G – Northern Gateway – North-east Belfast	40
10. RECOMMENDED OUTCOMES FOR RURAL LAND	41
11. CONCLUSION	46
Bibliography	48

EXECUTIVE SUMMARY

The aim of the Rural Resources Report is to provide:

- An overview of the values of that Rurally zoned area within the Belfast Study Area through an examination of the soil resources;
- Outline the current land use practices and pressures for the urbanisation of such areas through an examination of the property formation, nominal land value and infrastructure constraints to intensified development;
- A summary of the respective regulatory environment relevant to both the recognition of the Rural resource in its own right, and also those matters that would need to be considered should the area be urbanised; and
- A generic assessment of the Rural resource, outlining on the basis of the above, which areas are likely to be subject to a transition from Rural to Urban as a consequence of the Belfast Area Plan.

It is noted that any final decisions on the location of land use within Belfast will be subject to further consultation, constraint identification and analysis with respect to the other relevant Phase I Technical Reports that form the Area Plan for Belfast.

Many factors will play a role in determining the future development and redevelopment options for the rural areas surrounding the Belfast settlement. There is a strong regulatory emphasis on protecting or maintaining versatile soils, consolidating development and ensuring a discernable physical 'edge' between urban and rural activities. However, these all need to be carefully considered alongside the need for the City to grow to accommodate increasing population growth and allowing lifestyle choice through the provision of a variety of living densities.

Considerable pressure is being applied to have rural densities around Belfast increased through rural residential sized allotments of some 1 – 3 ha, which has the potential to cause the gradual fragmentation of productive rural lots, and also a corresponding difficulty in terms of retrofitting a more intensified urban development into such fragmented areas. Pressure to provide for a more intensified use of current rural land surrounding the Belfast area appears to be driven by changing lifestyle choices, and the relatively low yields of rural production and associated land holdings. Efficiently, it may be a better policy response to identify which areas of the Rural environment should undergo transition to urban uses, and which due to either constraints or specific existing Rural values should be retained for Rural and productive purposes.

In response to these changes the UDS has sought to provide some guidance for future growth in the rural environment. The UDS process, and its implementation through Change 1 to the RPS has identified Belfast as a growth node in terms of achieving its overall settlement pattern for Christchurch.

Although rural land around Belfast has the potential to provide residential and business land for future population growth, this needs to be balanced and co-ordinated with infrastructure development. While servicing is possible, other factors such as visual amenity, maintaining the floodplain, providing stormwater management and enhancement of waterway margins also need to be taken into account in terms of any rezoning proposals.

1. INTRODUCTION

The Belfast area is undergoing significant change, which is partly due to City Plan decisions to rezone large areas for urban growth, and partly due to population changes and land use developments in the area. Over the last decade, the area has experienced rapid urban growth, which has resulted in substantial changes to the urban fabric of the Belfast Area. These changes include the development of the Northwood subdivision which introduced a variety of residential densities to the area. There is also continuing pressure to convert adjoining rural land to support residential and industrial activities.

The need to assess the opportunities and constraints for such rapid land use change within the Belfast Area has therefore been identified. There is a need to identify the strategic issues that are likely to arise in the area, and provide for development that meets the aspirations of the local community, including the need to. Identify and protect of the key resources and attributes of the area that will define and shape the environment over the next 30 years is also a requirement.

The Area Development Plan process is considered an effective means to reconcile the demand for development, with the protection of the environment. It provides a broad level, strategic planning tool for the Council and the local community to define and make decisions on the shape and context of development within the Belfast area. As such, a study area has been defined, which comprises approximately 1349 hectares of land encompassing the existing urban, rural and industrial Belfast area, and extending northwards to the margin of the Otukaikino tributaries, and then south to the southern boundary of the Styx River. It includes part of the Kaputone River and part of the upper and mid reaches of the Styx River (refer **Figure 1**).

The Belfast Area Plan process involves a multidisciplinary approach drawing information from many expert fields, including: policy; demographics; economics; urban design and heritage; parks and open space; transport; essential infrastructure; and community development. It is recognised that an important component of the process is to address the key resource management issues that affect the rural land resources within the Belfast study area. However, it should be acknowledged that this is one report of many that define the issues to be considered.

The purpose of this report is to:

- assess and identify the key resource management issues currently and potentially affecting the rural land resources within the study area;
- assess the value of the rural land resource; and
- provide recommendations as to whether land use change, in particular from rural to urban use, is appropriate and justified.

For the purposes of this report, the rural area is further segregated into seven smaller rural study areas (Areas A-G), as identified in **Figure 2**.

1.1 Definition of sites

There are a variety of definitions that are used within this report to identify and demarcate specific site sizes and associated land use associations with properties in the Belfast area. It is noted that the basis of these definitions are necessarily broad to encompass the most common or typical land use association correlated with property size. It is recognised that there may well be rare examples of land holdings that are not encompassed neatly within the range provided, by way of example there may be a

limited number of properties in the area below 4 hectares in size that could be productively managed as a productive rural land holding.

The site area terms used in this report are defined as follows:

Residential – less than 0.2 ha (2000m²)
Rural-residential – 0.2 ha (2000m²) to 2.0 ha
Semi-rural – 2.0 ha to 4.0 ha
Rural – greater than 4.0 ha

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Figure 1: Belfast Area Plan Study Area

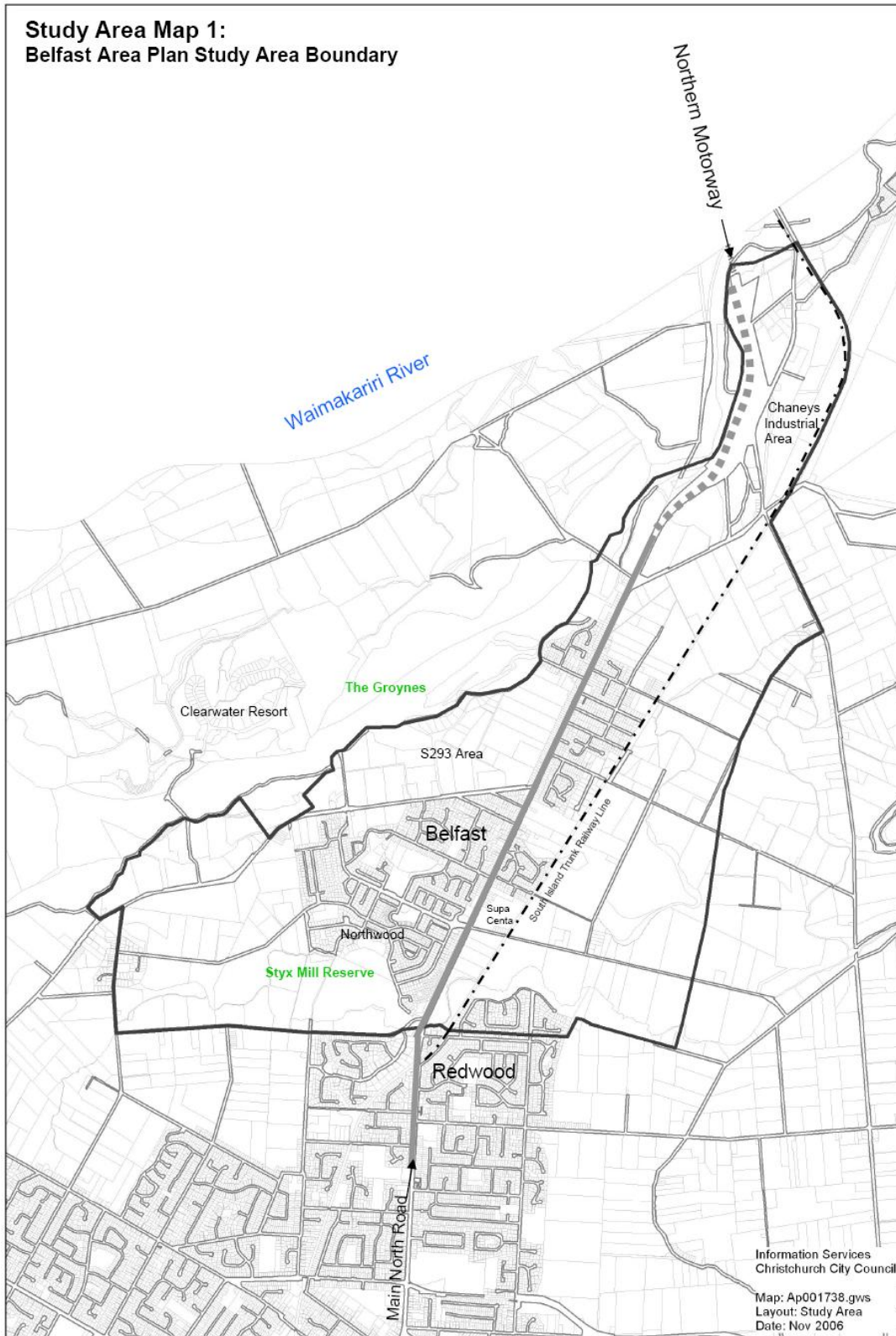
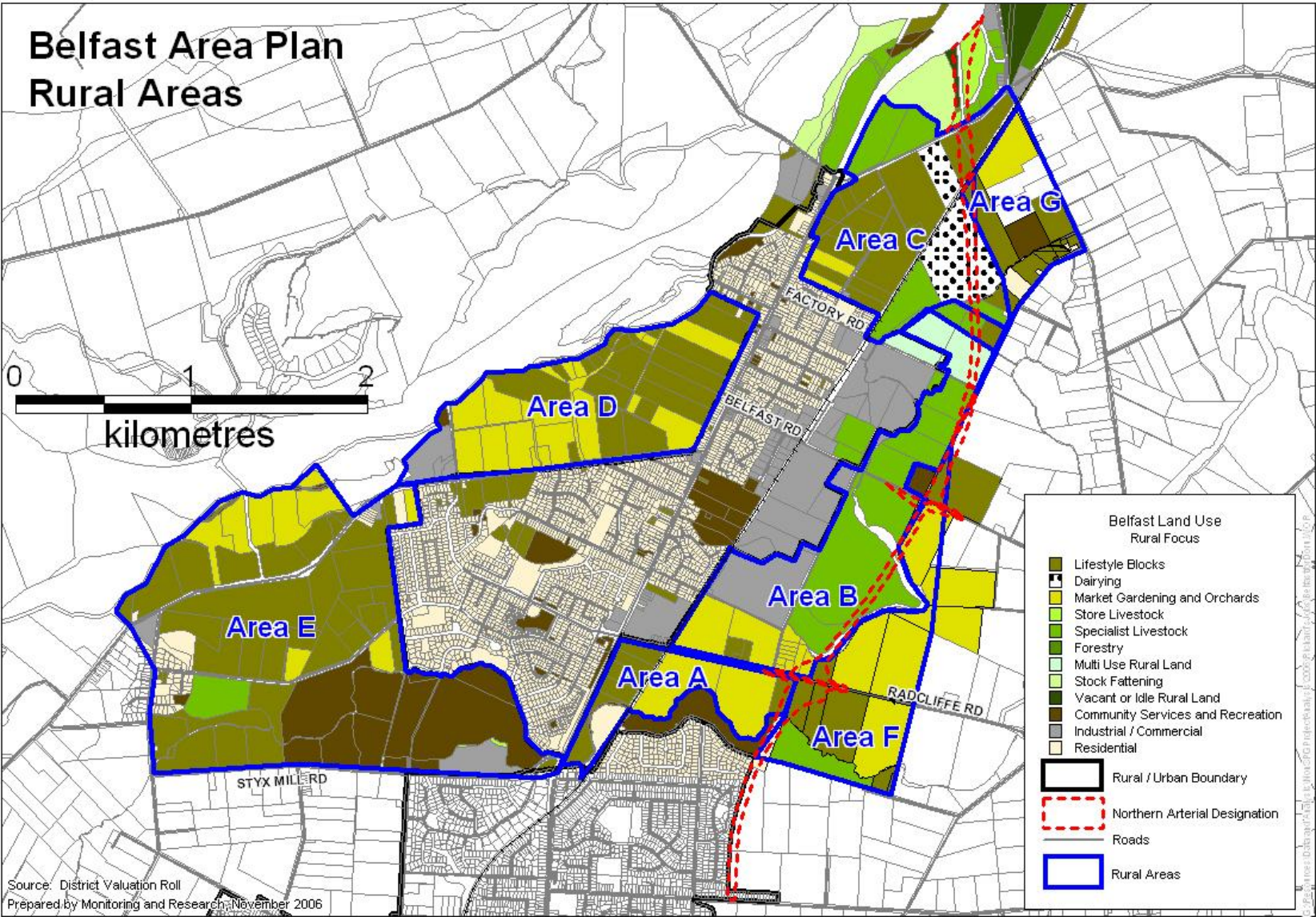


Figure 2: Belfast Area Plan Rural Study Areas



2. THE RURAL LAND RESOURCE

The total Belfast Area Plan study area covers around 1,200 ha of urban and rural land, with around 60% of the land used for rural activities. The rural land resource within the study area is zoned as 'Rural 3' which effectively encircles the urban core of the Belfast settlement.

The rural zoned areas within the Belfast study area cover approximately 705.9 ha, and comprise of 229 allotments and represent about 2.35% of Christchurch City's total rural area (excluding Banks Peninsula).

2.1 Rural zoning

The Rural 3 (Styx–Marshland) Zone extends in a westward direction from Marshland Road, Lower Styx Road area to the south-eastern river terrace of the Waimakariri River, and from Spencerville Road in the north to the edge of the urban area south of Winters Road and the Northcote–New Brighton Expressway. The Rural 3 zoning includes the majority of the Styx River catchment and the Belfast rural area.

The main purpose of this zone is the maintenance of primary production. The City Plan seeks to maintain the current land use patterns and rural amenity through a rule package that requires lower density development on large properties (4ha), with large setbacks from neighbouring properties and roads.

Southern and western parts of the zone are characterised more by market gardens and orchards, while the Rural 3 zone adjoining the Styx River to the north tends to be characterised by pasture.

While the Rural 3 zone as a whole contains significant areas of the City's versatile soil resources, the Marshland soils have some limitations in terms of poor drainage and settlement problems due to the overlying peat substrata which can lead to geotechnical issues in terms of large scale building and development projects.

The Rural 3 zone also contains the wider Styx River corridor which is characterised by large areas of rural open space. The Styx River corridor provides a high level of visual amenity and ecological habitat.

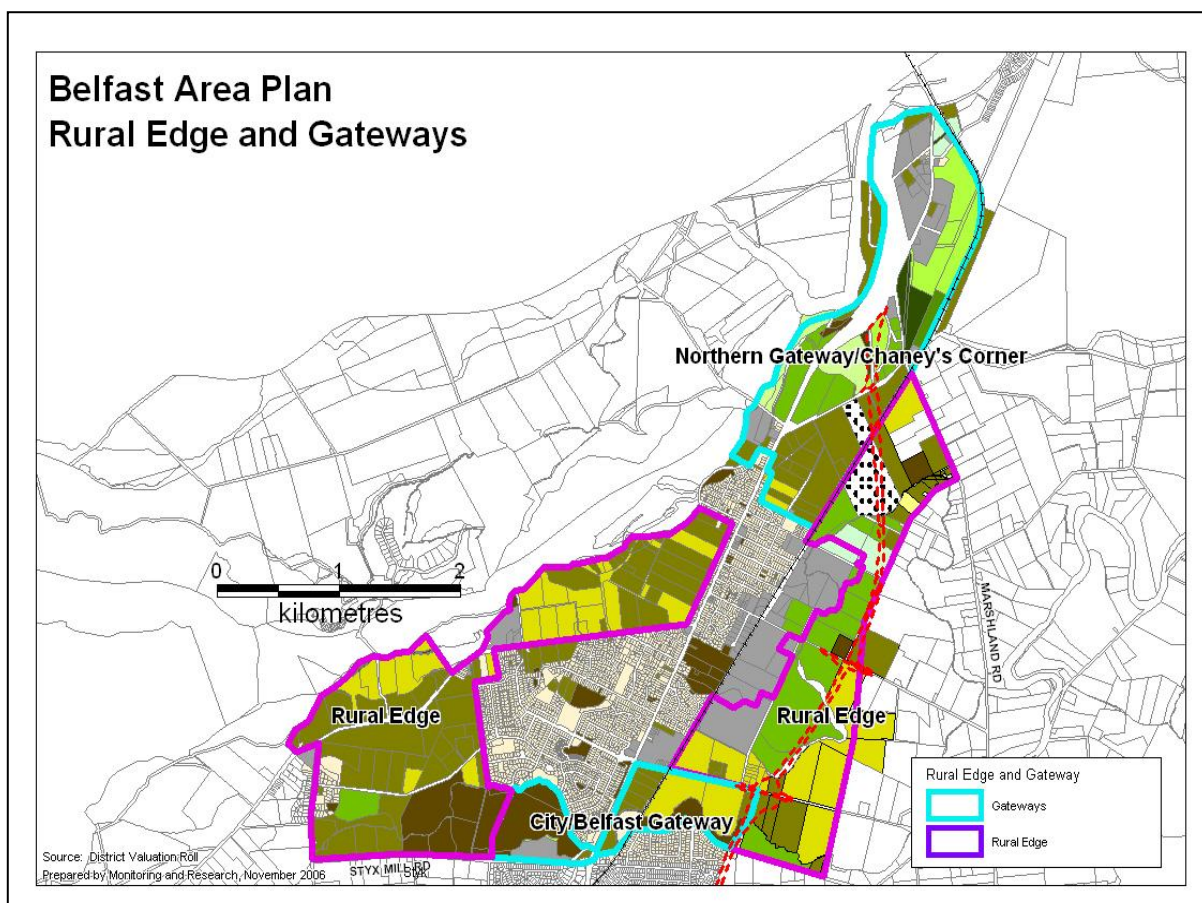
2.2 Characteristics of the area

The rural area surrounding Belfast comprises a rural edge and gateways described as follows, and illustrated in **Figure 3** below:

- the 'Northern Gateway' to Belfast and Christchurch City, Chaneys Corner and the Waimakariri River to the north;
- The 'City / Belfast' gateway to the south, Styx Mill Road and the Styx River;
- The 'Rural Edge' to the east and north, bisected diagonally by the proposed Northern Arterial and the South Island Main Trunk Railway; and
- The 'Rural Edge' to the west bounded by Johns Road, Styx Mill Reserve, Otukaikino Stream (south branch of the Waimakariri River), the Waimakariri river terraces and stopbanks.

Detailed description and analysis of amenity issues can be found in the Belfast Area Plan Urban Design Study and Landscape Assessment as referenced in the bibliography.

Figure 3: Belfast Rural Edge and Gateways.



2.3 The Rural Edge

The following analysis is derived from land use data and activities in the City Council Strategy & Planning Group's electronic data base as referenced in the bibliography.

2.3.1 East side of Belfast:

This area is bisected both by the Main Trunk Railway, and the proposed Northern Arterial running approximately in a northeast–southwest direction. Two meat processing plants - PPCS – Silver Fern Farms / Belfast Park Ltd and Canterbury Frozen Meat Co. Ltd own the land between Radcliffe and Factory Roads respectively. A considerable area is used as pasture in association with the works, particularly for specialist livestock grazing, with much of this grazing area located within the catchment of, or in close proximity to the Kaputone Stream. Some dairying is carried out in the north, while market gardening predominates to the south.

The eastern edge also contains significant waterways - the Styx River and Kaputone Stream. It is noted that there are a number of industrial activities within the catchment or in close proximity to the Kaputone Stream catchment. Any rezoning to more intensive uses would require reserves and appropriate buffering adjacent to these waterway margins to manage water quality run off from adjoining industrial activities.

2.3.2 West side of Belfast:

The stopbank and floodplain forming terraces alongside the Otukaikino Stream create a strong physical and natural barrier to growth to the west of Area D.

The west and southwest of Belfast are characterised by lifestyle blocks, market gardens and orchards. The open character of many of the lifestyle blocks in this area mean that they are commonly associated with some form of rural activity, and indeed a number of such life style blocks are utilised for productive, if unprofitable semi-rural uses.

Approximately 93 ha west of Johns Road (87.5% of Area D), located between Darroch Street and the Groynes recreation area entrance, is still subject to an appeal process in the Environment Court on several issues including access to infrastructure capacity (sewage disposal and water supply), and a detailed set of provisions for land use and financial contributions. An interim decision, as subject to Appeal, was released in early 2008 which cleared the way for a limited development yield of some 600 dwellings and 2,700m² GFA of business activity, but acknowledged transport constraints in the area through the remainder of the residential households being deferred until the Western Bypass can be progressed.



Photo 1: ‘The Section 293 Land’ (Area D) Belfast, including rural land west towards the Waimakariri River.

2.3.3 The City / South Gateway

The entrance to Belfast, across the extended Styx overbridge, and east of Main North Road, is dominated by the Styx River and provides a strong boundary definition. Several productive semi-rural blocks, used for market gardening and some berry fruit production, provide an attractive rural outlook and amenity across to the Styx River and the river terrace. There is however some pressure on this area for increased urbanisation, including expansion of the commercial development currently centred on the Belfast Supa Centa.

The City Plan ensures a level of protection and enhancement of the significant landscape and ecological values of the Styx River by requiring an esplanade reserve of 10m or 20m minimum, and also imposes building setbacks from the River corridor.

In 2003, the “Redwood Springs” residential subdivision (including Coolspring Way / Riverwood Boulevard) was established to the south of Area A and to the east of the railway line. This area is zoned Living 1A and has a zone boundary setback of 50m from the edge of the Styx River terrace.

To the west of the Styx overbridge, the vista is characterised by lower density housing at Regent’s Park and the open space of the Styx River and Styx Mill Reserve. This creates

a noticeable contrast with the residential areas of Redwood in the south, and the recent subdivision of Northwood and the older settlement of Belfast to the north.



Photo 2: Styx River looking south from eastern end of Radcliffe.

2.3.4 North Gateway

The North Gateway is at the end of the motorway coming into Christchurch. This area has a diverse land use pattern, which includes: pastoral farming and store livestock; stock fattening; specialist livestock; dairying, lifestyle blocks; some vacant rural land; and interspersed with industrial activity. There are residential houses predominantly in a linear form fronting Main North Road. A hall / hotel 'the Peg Hotel' is located on the Dickeys Road corner, the hotel was called 'The Peg' because it was located exactly seven miles from the old Post Office in Market Square (Victoria Square).

Chaney's Corner, at the northern end of Marshland Road, is characterised by some industrial activity with lifestyle blocks located beyond that. The area also provides a less significant gateway function into the city.



Photo 3: Main North Road looking north.

3. THE RURAL SOIL RESOURCE

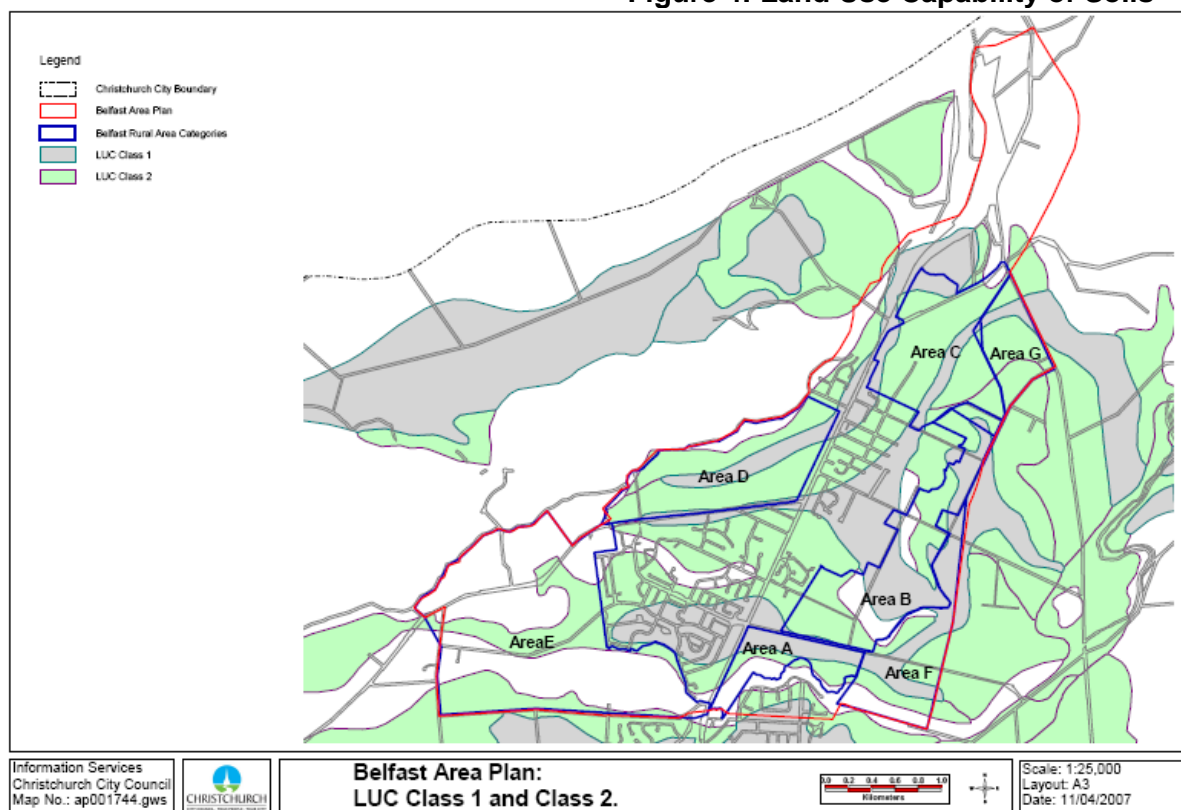
3.1 Land Use Capability of Soils

The NZ Land Resource Inventory classifies soils as to their ability to be used for agricultural use. About 25% of Canterbury plains soils have little to slight limitations for arable use i.e. Land Use Class I and II (see Figure 4).

Class I and Class II soils are classified as high versatility; soils which have slight limitations to horticultural crop production. The value of these soils can still vary due to groundwater levels and local drainage conditions.

All areas (Rural areas A-G as identified in Figure 2) within Belfast contain some Class I soils, particularly along the western rural edge in Area D. Although Class II soils are spread throughout the remainder of Belfast rural sub areas, they are more predominate in the catchments of the Styx and Otukaikino Rivers and Kaputone Stream.

Figure 4: Land Use Capability of Soils



The Belfast rural area contains a significant amount of Class I and Class II soils (excluding waterway corridors) as is reflected in the present Rural 3 zoning in the Plan that applies to this area. **Table 1**, below, identifies the proportion of the total rural area within the Belfast study area as differentiated between the Rural sub-areas identified in **Figure 2**, as well as identifying the proportion of Class I and II soils located within each of the sub-areas.

Table 1: Land Use Capability of Soils -Totals by Area (hectares and percentage area).

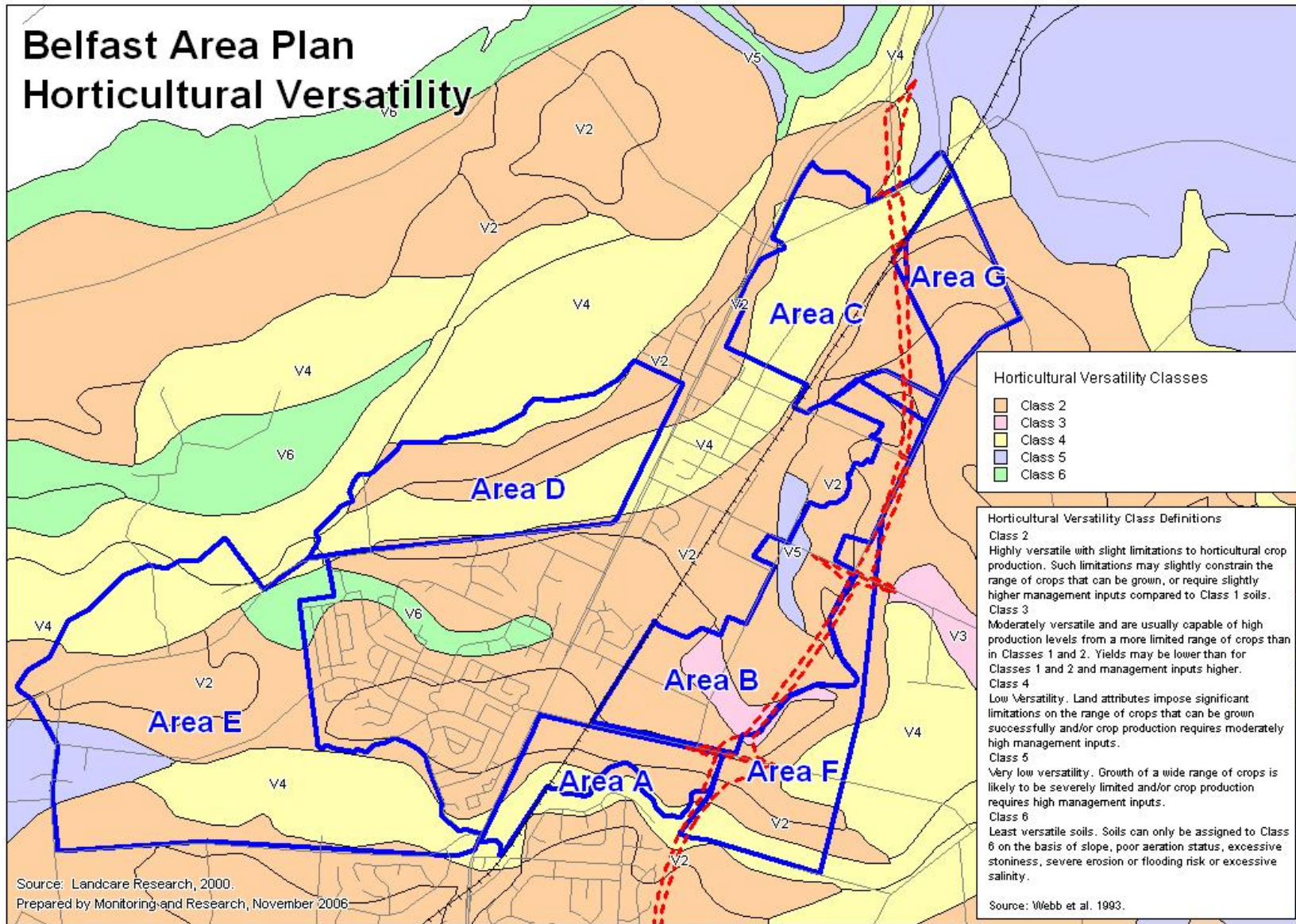
Areas A-G total area	Area Class I soil	% of area with Class I soil	Area Class II soil	% of area with Class II soil
A 40.449 ha	15.9 ha	39.42 %	12.23 ha	30.22 %
B 113.230 ha	41.14 ha	36.33 %	53.95 ha	47.65 %
C 103.040 ha	21.70 ha	21.06 %	78.94 ha	76.62 %
D 110.940 ha	24.31 ha	21.92 %	75.16 ha	67.75 %
E 261.450 ha	0.13 ha	0.05 %	80.7 ha	30.87 %
F 74.730 ha	32.34 ha	43.27 %	28.66 ha	38.35 %
G 39.24 ha	5.62 ha	14.33 %	33.62 ha	85.68 %
Total 743.080 ha	141.14 ha	19.00 %	363.26 ha	49.00 %

3.2 Horticultural versatility

Versatility for Horticultural crop production is based on a combination of versatility for orchard activities (Webb and Wilson 1994) and for arable crops (Wilson 1984) – refer **Figure 5**.

Soil versatility is a means of assessing the extent of productivity soils in Christchurch City, and is based on a Horticultural Versatility System ('VAS'). The VAS takes into account the physical characteristics of soils such as soil structure, soil moisture, nutrient level etc. Belfast's rural tradition for orchard growing and market gardening exemplifies the horticultural versatility of the soil in this area as an efficient use.

Figure 5: Horticultural Versatility



3.3 Soil types

Soils types for Belfast are illustrated below in **Figure 6**.

Much of the study area is classified as either as Selwyn stony sandy loam or loamy sand, (S13), Waimakariri deep fine sandy loam (WaOc) or Waimakariri stony sandy loam (Wa4). Along the upper reaches and mid section of the Styx River, the soil is Te Kakahi shallow and stony sandy loam. The 1993 Landcare Research report¹ states this soil is unsuitable for urban use without substantial modification, creating a constraint on development in the area. This includes soils in the catchment which have a high water table and would require substantial drainage if built upon.

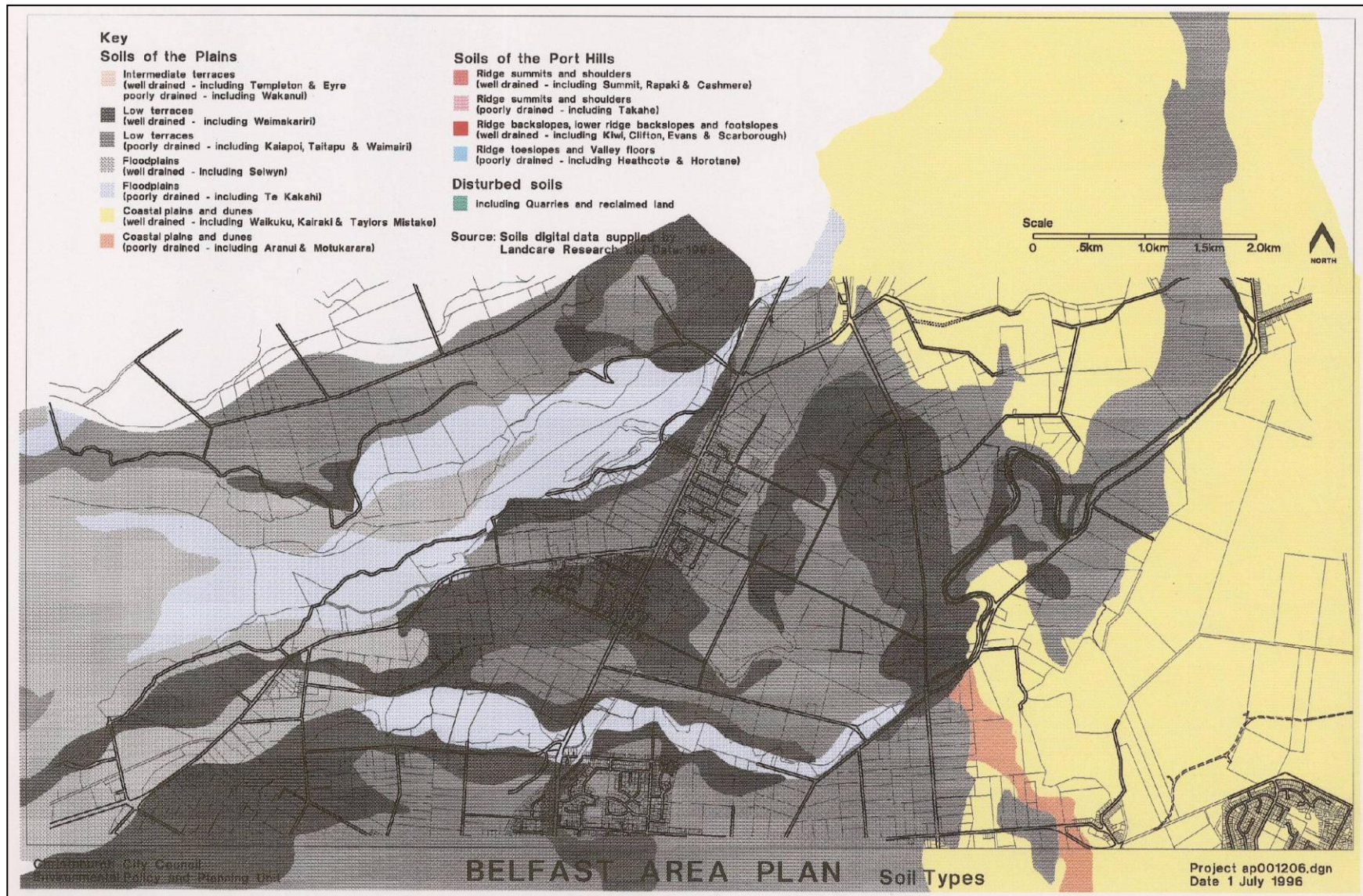
East of Main North Road, the soil is a Waimakariri deep fine sandy loam (WaOc), and alongside that a Kaiapoi shallow sandy loam (KpOb) and Kaiapoi deep silt loam (KpOa). There is a high degree of correlation between a soil and its versatility/capability. For example, two dominant soils, the Waimakariri deep fine sandy loam (WaOc) and the Kaiapoi shallow sandy loam ((Kp2), are largely a Class I soil². Both have good drainage capacity well suited to horticultural activities (orchards, vineyards), pasture for livestock grazing, dairying and to a lesser extent for market gardening.

The Te Kakahi shallow and stony sandy loam (Tj3) along the upper reaches and mid section of the Styx River is a wet type of soil. In some parts along the Styx River, where it is mixed with the Waimakariri fine sandy loam (WaOc), it is suitable for market gardening and berry fruit production. This soil also tends to support remnant native vegetation and can also contain springs. The Te Kakahi soils are likely to be the most suitable soil for wetland restoration and management.

¹ 1993. Landcare Research, Lincoln, New Zealand. Information Source for Soils – Notes to accompany Maps of Land Resources for Christchurch City. Webb T, Smith SM, Trangma BB.

² 1993. Landcare Research, Lincoln, New Zealand. Information Source for Soils – Notes to accompany Maps of Land Resources for Christchurch City. Webb T, Smith SM, Trangma BB.

Figure 6: Soil Types.



Source: Landcare Research 1993.)

3.4 Soil contamination/contaminated land

Due to the long term use of the area for agriculture, horticulture and industry, there is potential for soil contamination. An initial Contamination Assessment for the entire Belfast area has been undertaken through a commissioned report from Pattle Delamore and Partners (2006)³ ('PDP2006'). The details of this report, and associated maps are included within the 'Belfast Area Plan – Constraints Technical Paper. 2008. It is noted that the PDP2006 assessment was undertaken as a detailed desk top exercise and site walkover. Further analysis of any of the 'contaminated sites' identified would need to be undertaken by geotechnical bore testing to comprehensively evaluate the type and range of materials identified within each area identified.

The report identifies the following issues for those sub-areas that are identified in **Figure 2**.

Table 2 Rural Contamination Issues

Rural Areas	Contamination Issues
A	Market Gardens and Orchards (HAIL 29)
B	Storage Tank: Dangerous Goods (HAIL 48), Storage Tanks (HAIL 48), Landfill, Cemeteries (HAIL11).
C	Storage Tank: Dangerous Goods (HAIL 48), Timber Treatment Plant (HAIL 50).
D	Market Gardens and Orchards (HAIL 29), Storage Tank: Dangerous Goods (HAIL 48), Storage Tanks (HAIL 48), Landfill (edge of study area).
E	Gun Club (HAIL 25), Storage Tank: Dangerous Goods (HAIL 48), Market Gardens and Orchards (HAIL 29), Timber Treatment Plant (HAIL 50).
F	Market Gardens and Orchards (HAIL 29).
G	Not recorded.

The PDP2006 report notes that the urbanisation of land historically utilised for horticultural use is a common occurrence in New Zealand, although there should be a precautionary approach to the rezoning and intensified use of such areas.

³ 2006. Pattle Delamore and Partners. Assessment of Potentially Contaminated Sites and Issues for Land Development in the Belfast Area.

4. LAND USE ANALYSIS

4.1 Rural Area Categories A-G

As has been identified in **Figure 2**, the rural area has been assessed in terms of seven sub-areas based on geographic location, geo-physical and topographical boundaries. Seven sub-areas, as labelled A to G has been used to provide a more disaggregated assessment of the rural resource values of the area. Areas A, B, C, F and G are located east of Main North Road and comprise 356 ha; Areas D and E are west of Main North Road and comprise of some 350 ha.

Approximately 52% of the Belfast study area comprises of either rural activity or rural character, as distinct from an urban zoning and respective use. The majority of the 229 allotments in the Study Area that are zoned Rural are generally used for agricultural purposes, although intensity of activity varies from area to area, with only a limited number retaining the potential to undertake productive rural uses. It is however noted, that there is a strong correlation that exists between soil types and resultant land use, with many of those areas identified as containing versatile soils retaining their ability to be utilised for intensive horticulture and agricultural uses.

Of the total 1,222 ha in the Belfast Area Plan study area, around 705.93 ha are considered to be rural (as zoned), or semi rural in character. However, there are a number of disparate non-rural activities that are located outside of the urbanised Belfast area including:

- two substantial business areas, being the Styx Mill Refuse Station (zoned Special Purpose (Transfer Station) zone and a firewood yard at 379 Gardiners Road (zoned Rural 3);
- an area of 68.9 ha zoned recreation / conservation, which includes the Styx Mill Reserve and Otukaikino Reserve (Conservation 1 zone); and
- a Living 1E zone at Haddon Lane/Springvale Gardens area.

4.2 Large size lots – Rural lots

For the purpose of this report all lots greater than 4.0ha are defined as “rural”. Around 68% of the total rural area of 637.3 ha is contained in 66 lots over 4 ha, with an average lot size of 6.67 ha. Of these only 23 lots are over 6 ha in area; the majority of which are located mostly in Areas C, D, E being those rurally zoned areas to the west of Main North Road.

Land use for all rural lots in the area include stock fattening, store livestock, specialist livestock and dairying. Although these activities only account for 20% (128.6 ha) of the Belfast rural area. Land for market gardening and orchards covers approximately 159.3 ha (or 25% of the total rural area). The remainder of the rural area tends to be utilised for either lifestyle purposes, or for a range of small scale semi rural activities.

4.3 Medium size lots – Semi-rural lots

Semi-rural lots are defined as being between 2.0 and 4.0ha. Around 20% of all rurally zoned lots in the Study Area (122.4 ha, 42 lots) have areas between 2 and 4 ha. The majority of these medium sized lots are located in Areas A, B and D, being located north and south of Radcliffe Road, or north of Johns Road respectively. A number of semi-rural sized blocks are used for orchards and market gardens.

4.4 Small size lots – Rural Residential and Residential lots

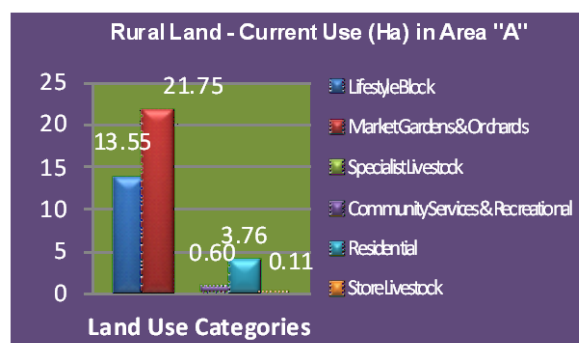
This study defines “rural residential” lots as being between 0.2m² (2000m²) to 2.0ha and “residential” lots as being less than 0.2m² (2000m²). These smaller sized lots are

predominantly located in Areas A as clustered around the Blakes Road / Radcliffe Road, Area C to the north of Factory Road and Area D particularly towards the South Branch of the Otukaikino.

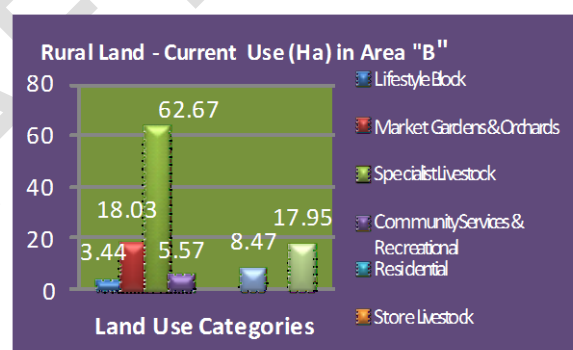
4.5 Characteristics of areas

The characteristics of each of the areas have been summarised below:

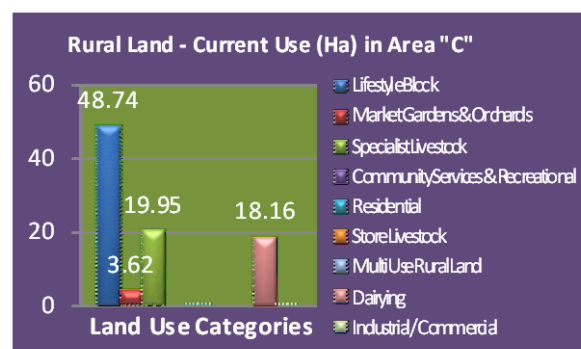
Area A contains 39.78 ha of land, with its key attributes being its southern gateway to role to Christchurch City and Redwood. Land ownership is relatively fragmented within this area. Market gardens and orchards are a significant land use (56%), while rural lifestyle blocks account for 34% of the area. Land development pressure in this area includes expansion of the Belfast Supa Centa for that area with high visibility to Main North Road, as has now been lodged with the Christchurch City Council under the auspices of Plan Change 22. There will also be a conflict between maintaining and enhancing natural character and ecology associated with the Styx River corridor, and land development pressure for medium density development.



Area B contains 116.13 ha of land with some 54% of that area used as pasture. 11 lots in this area are over 4 ha and together comprise 94 ha. Around 18 ha (15% of the area) located along Radcliffe Road is used for market gardens. Land development pressure in this area includes the ability to rehabilitate and redevelop land associated with the historical freezing work activity (including the disposal of carcass and building material in situ). There will also be a conflict between maintaining and enhancing natural character and ecology associated with the Kaputone stream corridor, and land development pressure. The area to the east will be dissected by the proposed Northern State Highway bypass which would pose issues in terms of reverse sensitivity regardless of whether the area is urbanised, as well as direct impacts on the Kaputone Stream and its associated springs.

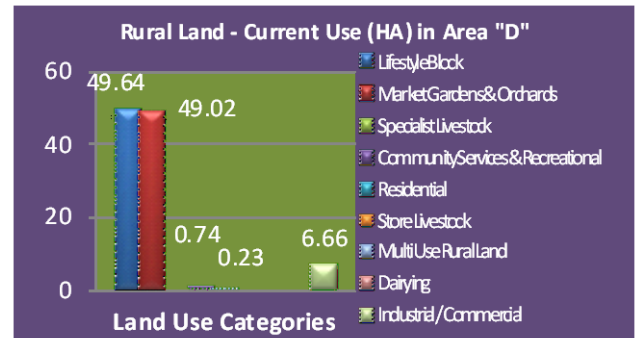


Area C contains 90.73 ha of land, and is dominated by relatively fragmented ownership and mixed uses. 54% of the land use is recorded as rural lifestyle blocks, although the eastern entrance to the area is dominated by large rural lots. Land uses include market gardening and dairying and livestock related activities. Area C contains 8 lots of over 4 ha in area, comprising almost 60 ha. Additionally the area has eleven

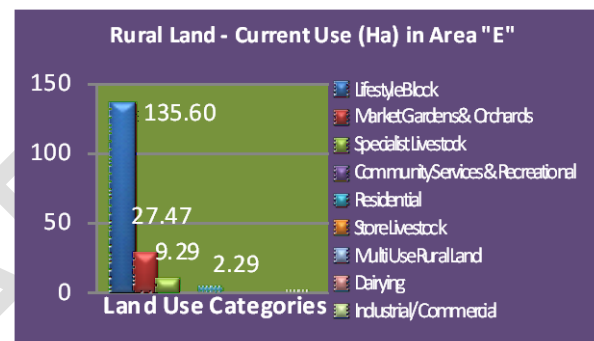


rural residential lots range between 1 and 2 ha. Land development pressure in this area includes a conflict between providing for more intensive land use, including industrial development, and the existing absence of service infrastructure as currently provided.

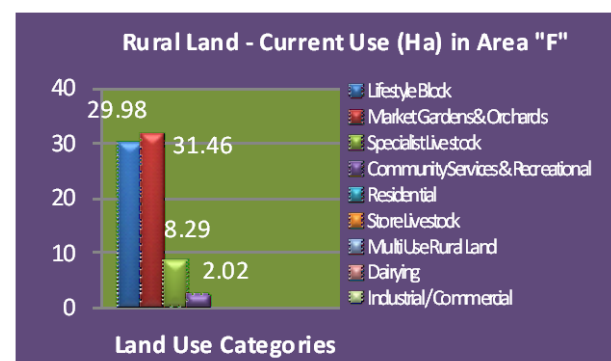
Area D contains 106.3 ha of land, with half of the area owned by two companies, Canterbury Land Trust Holding Ltd (28 ha) and Eminence Investment Ltd (28 ha). A significant number of lots (27) range between 0.2-0.9 ha in this area. The remaining area is made up of 11 semi-rural lots and 10 rural lots of greater than 4 ha. This area is subject to a recent Environment Court Decision⁴ which effectively provides for the urbanisation of the area for medium density housing and a small associated business area as based on a detailed Outline Development Plan,



Area E contains 243.95 ha of land. 175 ha are zoned Rural 3, with the balance 69 ha being used either for recreational purposes (48 ha), residential (zoned L1 E on 7.15 ha) or industrial activity (7.6 ha). The majority of the lots in this area are larger than 4 ha and are recorded as being used for rural lifestyle activities. A significant area, approximately 28 ha (16%), is used for market gardening and orchards. Whilst there is considerable pressure to develop this area for residential purposes, Variation 4 to the Environmental Canterbury Change 1 to the Regional Policy Statement constrains such development through the adherence to the Ldn 50 dBA Airport noise contour which would limit residential development over a significant component of Area E.

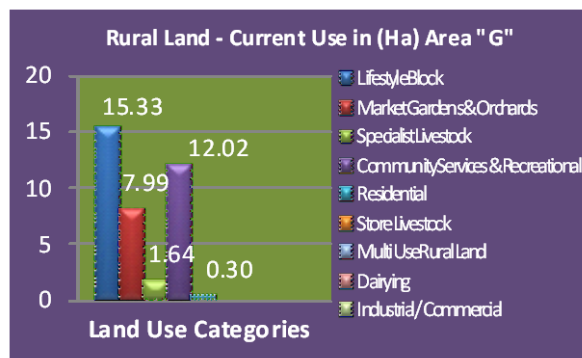


Area F contains 71.75 ha of land. 44% of the area is used for market gardens and orchards and 42% of the land used for rural lifestyle activities. This area is largely to the east of the Northern State Highway designation and as considered to be suitable for urbanisation. There may well be reverse sensitivity issues on existing residents on this area when the Northern State Highway is commissioned.



⁴ Johns Road Horticulture Ltd vs Christchurch City Council C41/2008

Area G contains 37.29 ha and represents a mixture of land use activities. Ouruhia Domain is around 12 ha of the area (32%) and is close to a small rural residential area (comprising 4 small properties) west of the Guthries Road / Marshland Road corner. Around 8 ha (21.5%), is used as market garden, located in the northern corner of Area G. As with Area 'F', given the severance as a consequence of the Northern State Highway, this area would appropriately retain its Rural zoning.



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5. INFRASTRUCTURE ISSUES

The following information is largely derived from a consultants (GHD) report produced for the Council in November 2007. The report contains an infrastructure and costing analysis as would be needed to support urban development of land in the Belfast area, particularly waste water and water supply, transport, and community facilities. The report also highlights sequencing issues between work and population growth.

5.1 Wastewater reticulation

The existing Main North Road sewer system has a capacity constraint, and there are issues with sequencing the extremes of the development area, particularly to the north towards the Chaney's Block and Areas C and G.

Until 2006, the major part of the Belfast sewer system waste (servicing a population of 4000) was treated locally at the Belfast Treatment Plant. The treated water was then discharged into the Belfast Oxidation ponds (designed and upgraded for a maximum 6000 population capacity) and, through an infiltration gallery, finally being discharged into the Otukaikino Stream.

However, in order to improve the quality of discharge, and to remove this discharge from the Otukaikino River, the existing pumping station was upgraded to 185 litres/second capacity, and wastewater is now directly pumped to the Christchurch Treatment works in Bromley through a new pipe connection (450 mm diameter), as installed in August 2006. The current (pumped) flow of waste water is only around 130 litres/second.

The waste water from the Clearwater Resort development is still be processed by the Belfast Treatment Plant, and this is likely to continue until the end of 2008 / beginning of 2009, when the plant will be decommissioned and the waste water will also discharge to Bromley through the new (under pressure) pipeline.

The pipeline neither contains, nor has the capacity to incorporate waste produced by the existing two meat processing companies, these being Silver Fern Farms / Belfast Park Ltd and Canterbury Frozen Meat Co. Ltd. Both companies, as major industrial / rural land owners and employers, have their own treatment plant and consent from ECAN (until 2010) to discharge highly treated effluent water into Otukaikino River. However, it is uncertain if ECAN will renew the consents when these expire, or whether these Industrial activities would even seek to retain their activities on these sites.

At that time (2010) the plants may be not able to or prepared to fund their wastewater discharge into the Belfast wastewater system and that will add uncertainty to their future. Whilst there are some solutions / options to overcome a shortfall in capacity to accommodate waste for either or both meatworks, nether plant has yet provided any indication of pursuing alternative consent or service capacity options.

While the northern industrial area around Chaney's has extensive areas already zoned for industrial development, it is not serviced with water supply, wastewater or surface water infrastructure. However, there is significant and predominantly low density industrial activity already occurring in the area.

5.2 Drainage/Stormwater discharge

The Styx River, Kaputone Stream and the Waimakariri River already act as drainage systems for the Styx Catchment and its associated land use. These river systems also

provide an opportunity, after appropriate treatment, for the discharge of surface water from developing areas within the Belfast area.

The Northwood development drains into the Styx River at two points upstream of the State highway crossing after passing through retention ponds and associated first flush treatment areas. Undeveloped land west of Main North Road, between the Styx River and Thompsons Road, also drains to the Styx River. Much of the older developed area of Belfast is drained by a partially piped system running along Main North Road, passing under the motorway and discharging into the Waimakariri River.

A number of drains to the east have their outfall into the Kaputone Stream, and further north in the Chaney's area drainage is either into the Wilson's Swamp system or the Waimakariri River.

Any urbanisation of the existing rural areas of Belfast would require stormwater management and treatment to be achieved through resilient first flush / retention systems as integrated throughout greenfield development areas. It is noted though that as much of the Belfast area is susceptible to high groundwater levels and variable soil conditions, site testing will be required, and it is likely that larger than normal detention options likely needed. Stormwater management systems are preferably located adjacent to a waterway to both enable expansion of the esplanade reserve as well as provide a secondary flow path, and any redevelopment of land adjoining either the Styx or Kaputone should be predisposed on the basis of providing a substantial esplanade reserve which would also contain appropriate stormwater management facilities.

Any retention / treatment facilities need to be in place ahead of, or as part of any development of rural areas. The Council would need to acquire the land required to provide for Stormwater Management facilities at the outset of any rezoning process, and ensure the construction of the works.

5.3 Water supply:

There is no water supply (pipe network) to any rural or proposed industrial zones, with the exception of some rural properties in Area E, along Clearwater Avenue, Johns Road, (200 mm diameter public pipe) and Styx Mill Road (63 mm diameter public pipeline).

5.4 Transport:

So far urban development in the area has been spread along the length of Main North Road with a significant recent expansion at Northwood between Johns and Main North Roads. The current road network provides only limited access to areas that might be planned for future development. The key components of the road network in the area, Main North Road and Johns Road are already heavily loaded by increased traffic from both within the area and from outside the study area. Main North Road serves both the local area and commuter and freight traffic in and out of Christchurch to the north. Ongoing development across the City boundary in Waimakariri District will further exacerbate congestion. This growth and its sequencing is addressed by both the Canterbury Urban Development Strategy as well as Change 1 to the Regional Policy Statement.

Planned provision of the Western motorway to provide a bypass of Belfast from Johns Road the State Highway to the north, in conjunction with the already designated Northern State Highway will alleviate existing congestion problems within Belfast and the surrounding area, and assist in terms of ensuring that new development can be released in conjunction with supporting infrastructure provision. However, in terms of the Western Bypass, no commitment has been made by the New Zealand Transport

Agency to carry out these works at this stage, although there is as a consequence of the staged redevelopment of Area D, a requirement that detailed designs and planning mechanisms be put in place by 2010 to provide where, when and how the Western Bypass is to be commissioned.

There is a need for certainty regarding funding and timeframes for the development and operation of the Northern and Western bypasses by both the New Zealand Transport Agency and the City Council. The Transport Agency's 10 Year Strategic Roading programme currently only provides certainty for the development of the Northern Bypass routes. It is likely that until either the Northern or both highways are operational, significant urban development in Belfast would be deferred.

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6. ASSESSMENT OF RURAL LAND VALUE

Quotable Values (QV) figures from 2006 have been used to provide a nominal base value for the analysis in this section of the report. As such, they are representative only of a general value (base year 2006) to provide a comparative analysis of land values in the area, and should not in any way be relied on as a definitive value for specific properties or areas. The type of activity, intensity of development, methods used and economic outputs determine differences in land values. The nominal values (2006) used in this analysis are used to demonstrate a verified difference between:

- those lots with residential activity;
- those with active rural activity;
- and undeveloped land that due to its size or location can be considered as being in 'transition' and starting to exhibit a more urban land value.

Comparisons were made with real estate agencies and the commercial valuations as contained in 'The Press'. Figures generally showed a minimum 20% increased value than the QV. The purpose of this assessment is simply to try and provide an indicative estimation of the land value, and hence demands and likely long term uses for such land. To determine market value of land, the services of a registered valuer would need to be engaged.

Table 3 below shows the land values for the rural edge west of Main North Road being twice or almost three times higher than land value related to areas east of Main North Road.

Table 3: Comparative nominal land values (2006) in \$/m²

\$ / m ²	Zone	Lot size [ha]				
		> 5 ha	4 – 5 ha	2 – 4 ha	1 – 2 ha	< 1 ha
East of Main North Rd.	A	\$8.56	--	\$11.35	\$14.31	--
	B	\$5.14 /	\$4.13	\$8.05	\$12.45	\$11.15
	C	\$4.98	\$6.65	\$7.24	\$12.81	\$7.26
	F	\$6.23	--	\$9.15	\$13.02	\$29.51
	G	\$6.12	\$7.90	\$6.24	\$17.45	\$26.95
Average →		\$6.21	\$6.23	\$9.65	\$14.01	\$18.71
West of Main North Rd.	D	\$14.45	\$17.41	\$15.32	\$28.93	\$36.37
	E	\$10.54	\$14.38	\$18.35	\$38.29	\$32.20
Average →		\$12.5	\$15.90	\$16.84	\$33.61	\$34.29

Property value is a reflection of a number of influences including, the extent of development on a property and associated capital cost, the development potential, location, accessibility, and infrastructure provision.

The value of the property is firstly derived from a combination of land value and improvements, being the existing dwelling and associated ancillary buildings such as those used for rural, horticultural and agricultural activities. The capital value is provided by the level/degree of activity and value input, whether it is used for productive activities such as orchards, hobby vineyards, flower growing, market gardens, berry fruit growing, and by the capital returns derived from these activities.

However for rural land, counter intuitively, where site density is high (i.e. an intensive cadastral pattern), then there may be increased economic pressure to further develop such land, with such an expectation being reflected in the value of the property. Where properties are developed as lifestyle blocks with high capital value, it can be generally assumed that it is unlikely that further subdivision could easily occur, making retrofitting a more permeable urban zoning in such cases more difficult.

7. REGULATORY AND NON REGULATORY CONSIDERATIONS

7.1 LTCCP Community Outcomes

The City Council's Long Term Council Community Plan (LTCCP) anticipates urban development or growth as an integrated process that relates to, and has to provide for the community needs. Two specific outcomes identified in the LTCCP that are related to this project area are:

7.1.1 A City with a sustainable and natural environment

Any urban growth of rural land needs to evolve in such way that the natural resources, the biodiversity, the landscapes, and the integrity of ecosystems' are protected and enhanced, and should guarantee that people and business that benefit from development can enjoy and value the natural environment and take responsibility for protecting and restoring it.

7.1.2 A Liveable City

Urban growth should ensure people have access to appropriate housing, can easily move to, from and within the area, have access to open spaces and live in an attractive and well designed neighbourhood.

7.2 Community consultation

The Belfast Rural Area Consultation Plan provided the opportunity to discover interests and aspirations of rural landowners. Feedback was received from residents in March 2007. This provided valuable input on the growth potential and aspirations of the rural community over the next 30 years, and will be integrated into the Area Plan. The feedback is discussed in Section 8 of this report.

Two consultation exercises with urban residents have already been undertaken as part of the initial Area Plan work in 2003, which provided a number of outcomes that the community of the area would wish to see reflected in any development within Belfast. This feedback includes: retaining a village character; developing a community 'heart' centred around the existing Sheldon park; improving public transport within Belfast and into the city; and coordinating improvements and linkages for the parks and reserves.

7.3 Regional Policy Statement 1998: (RPS)

The Regional Policy Statement provides an overview of the resource management issues of Canterbury. It sets out how natural and physical resources are to be managed in an integrated way with the aim of sustainable management. The following chapters are of significance to this study:

7.3.1 Chapter 7 Soils and Land Use

This chapter focuses on promoting sustainable management of all land. Objective 2, Policy 6 are concerned with the protection of Class I & II soils, with inherently high productive values that allow them to sustain higher levels of productivity with less inputs than required for other soils. The policies and explanations give clear guidelines for the consideration of future uses of this land and the circumstances where other uses may be more appropriate to meet the purpose of the RMA.

Recent Environment Court Decisions⁵ in respect of these provisions of the Canterbury Regional Policy Statement show that there is not a mandatory requirement on district plans in respect of the protection of versatile soils. As such, it is considered that Policy 6

⁵ Suburban Estates vs Christchurch City Council C81/2002 and Waimakiriri Employment Park Ltd vs Waimakiriri District Council C66/2003.

is not expressed in absolute terms and recognises that there will be situations where the irreversible loss of soil will occur. To that extent, failure to promote the life supporting capacity of soils will be a matter which bears upon an integrated decision with respect to Sections 5, 31 and 32 of the Resource Management Act 1991, in relation to any rezoning of rural land in the Belfast Area.

The Christchurch City Plan places strong emphasis on not compromising versatile soils by land use activities and foreclosing future land use options, whilst recognising that urban growth needs to be assessed alongside these policies, and provided for. As such, and in a similar manner to the relevant provisions in the RPS, the protection of versatile soils is not expressed in any absolute sense, and the Plan contemplates circumstances where class I and II soils will be lost irreversibly.

7.3.2 Chapter 12 Settlement and the Built Environment

This chapter contains issues, policies and objectives concerning urban development and the physical expansion of settlements, which have significant effects on the sustainable management of natural and physical resources, including removal of land from productive use, and adverse effects on ecological and cultural values. These issues are balanced against the positive effects of urbanisation. Urban areas house the region's population and have a significant role in meeting the present and future social, economic and cultural needs of the region's population.

Issue 1 (p186), highlights the adverse effects of urbanisation and the physical expansion of settlements on resources, and seeks to minimise these (**Objective 1** (p187)). In Belfast, these effects could include: land occupied by urbanisation, loss of amenity values, contamination and threats to flow of water bodies, loss of indigenous flora and fauna and exceeding the capacity or inefficient use of infrastructure and utility services. Therefore the associated policies promote settlement and transport patterns that are effective and efficient, (**Policy 1** p189), and discourage any urban development and physical expansion of settlements that may result in various adverse effects, (**Policy 2** p190).

Objective 2 (p192) is concerned that urban development does not adversely affect infrastructure such as roads, electricity transmission and distribution.

The above objectives and policies also need to be balanced with the loss of rural character on the outskirts of Christchurch (**Issue 2** p195), maintaining significant landscape or ecological values, maintaining amenity value and Christchurch's rural-urban contrast (**Objective 3**, p195. **Policy 5** (p196)) and discouraging urban development in such areas. Detailed analysis of these issues can be found in the Waterways and Wetlands Natural Asset Management Strategy, The Styx River Vision 2000 - 2041, and the Belfast Area Plan Landscape Assessment and Urban Design Study.

7.3.3 Proposed Plan Change No 1 RPS:

The July 2007 notified Chapter 12A to the RPS introduced a detailed policy framework for managing urban growth within the Christchurch Metropolitan. **Objective 1** identifies that urban development within the Greater Christchurch area should be managed to achieve consolidation, with a key focus on achieving higher density development particularly in inner Christchurch and around Key Activity centres. **Objective 3** provides for urban growth limits to manage urban growth, with supporting **Policy 1** directing relevant territorial authorities to prevent urban activities locating outside the 'Urban Limits'. In relation to the existing urban areas of Belfast, **Policy 2** is relevant in that it

seeks a higher level of consolidation for existing residential areas, whereas **Policy 3** seeks to ensure that sufficient Business Land is provided to encourage self-sufficiency of employment and business activities. **Policy 6** and its respective Table 2, identified for Belfast the staging and sequencing for greenfield residential development in the area. It is noted that this was amended by Variation 4, as notified on 23 August 2008, which revised the Ldn 50 dBA Air Noise Contour, and has resulted in an amended sequence and release of household development within the Belfast Area as set out in **Table 4** below:

Table 4 - RPS, Chapter 12A Development Sequencing for Greater Christchurch 2007 – 2041, as amended Variation 4

	Map Notation for greenfield areas	2007-2016 Households	2017 – 2026 Households	2027-2041 Households	Total Available Households
Belfast s293	CN1	1140	360		1500
Upper Styx	CN3		1525	387	1912
East Belfast	CN4		1030	120	1150
Total		1140	2915	507	4562

Source: Amended from Proposed Change 1, Policy 6 – Section from Table 2 (as amended by Variation 4).

7.4 Proposed Canterbury Natural Resources Regional Plan (NRRP)

Issue 2 (page 8-9 Chapter 8, Soil Conservation) is concerned with loss of versatile soils. The policies and explanations consider future uses of this land and circumstances where other uses may be more appropriate to meet the purpose of the RMA. This issue has not been addressed further within the Proposed Natural Regional Plan.

7.5 Urban Development Strategy (UDS)

The Urban Development Strategy for Greater Christchurch, provides an umbrella approach in managing growth by the partners (Waimakariri and Selwyn District Councils, Environment Canterbury and the New Zealand Transport Agency), for the next 35 years. The Belfast Area Plan will provide the City Council with a more detailed approach to managing growth in the Belfast area over a similar time period.

The Greater Christchurch Urban Development Strategy (UDS) was notified in June 2007, and has been enacted in part by Change 1 to the Regional Policy Statement (as discussed above). The UDS identifies Belfast as the northern gateway into Christchurch, as an area for residential intensification and new employment areas, and as a community services focal point.

It should be noted that the UDS signals that the staging of residential growth in the area is to coincide with the timing for the provision of the Northern Arterial (2016), and that a higher net residential intensity of housing is anticipated in Greenfield areas (at 15 houses / ha).

Further, the UDS sets out a number of key issues for growth and settlement patterns that relate to Belfast, these include:

- designing new development that promotes urban design principles;
- protecting and enhancing open spaces;
- encouraging sustainable travel systems;
- incorporating low impact design principles and ensures that new business growth and employment opportunities are located within areas where there is room for growth, good transport links, and appropriate labour supply.

7.6 City Plan Objectives and Policies

City Plan Objectives and policies are relevant in considering an extension of the urban boundary and the resultant treatment of the rural-urban edge. The relevant objectives and policies from the Rural and Urban Growth chapters of the City Plan are discussed below:

7.6.1 Rural Objectives and Policies – Chapter 13

The overriding goal for the rural area is “*The sustained potential of land, soil, water and infrastructural resources...to support life and to meet reasonably foreseeable future rural and urban needs.*”

The City Plan seeks to enhance those qualities which create a contrasting and distinct rural environment close to the urban area of the City, and, that adverse effects of activities in the rural area are recognised and controlled.

Rural objectives and policies also consider soil and water resources, land use patterns, densities, non-rural activities, intensive farming, (rural) infrastructure, and rural amenity values. Additionally, the rural provisions of the Plan seek to minimise the conflict between rural land use activities and residential activities in the rural environment.

7.6.2 Urban Growth Objectives and Policies – Chapter 6.

Objective 1 promotes urban consolidation, emphasising a compact pattern of development, in contrast to isolated and dispersed patterns of urban growth into what are currently rural areas. As Belfast is recognised as one of several growth nodes in the draft UDS, future management of rural land becomes more important in this context.

The City Plan recognises that peripheral urban growth in Belfast would need to be of a scale and character consistent with a primary emphasis on urban consolidation which avoid remedies or mitigates adverse impacts on water, versatile soils, significant amenity values and other natural resources; and which makes efficient use of physical resources.

The City Plan also recognises:

- peripheral urban growth should also not be detached from current urban boundaries;
- the cost of providing public infrastructure should be minimised;
- growth should be encouraged where community facilities already exist;
- consideration can be given to expansion into rural areas and onto versatile soils (**Policy 2.1.1** Volume 2 Chapter 2 Natural environment) subject to a number of caveats;
- avoid urbanisation of land of containing significant natural values;
- avoid development in hazardous areas;
- consider potentially incompatible activities when assessing urban growth proposals; and
- incremental expansion to the urban area is preferred over a growth over a number of peripheral locations, with a preference to urban development that is contained, at least in part by a well defined barrier to further outward expansion for urban development.

The rural-urban interface should be used to reinforce consolidation of the urban area by improving: the landscape quality of the rural-urban interface; and where possible

creating a transition to low density housing, open space, or esplanade reserves where there is no clear physical boundary to urban growth.

7.7 Waterways and Wetlands Asset Management Strategy 1999

Within the study area, the Styx River runs approximately west to east before winding northwards. The river's asset management strategy seeks to:

- Recognise the potential for, and support the holistic management of urban and rural land uses, and ecological values through the whole catchment.
- Support the community's ongoing involvement in the Styx catchment.
- Express the richness of both Maori and European and historical values within the Styx River, its tributaries and associated landforms and wetlands.
- Acknowledge and protect the functioning of the floodplains and ecological values associated with the Styx catchment, at the same time as managing drainage needs.
- Restore the natural flow regime through detention in conjunction with water quality management and ecological restoration work.
- Protect and restore, where practical, spring flows.
- Protect and restore the range of habitats represented within the catchment.
- Support the Open Space Strategy, which recognises the importance of the Styx River as a green corridor, and identify important sites in both urban and rural areas where protection is necessary.
- Restore natural values within the catchment.
- To develop areas for recreational activities along the length of the waterway.
- Undertake a study of the water quality of the Kaputone Stream, a tributary of the Styx River.

The Otukaikino River, (in early European times known as the South Branch of the Waimakariri River), runs approximately along the western edge of Belfast, including along the western boundaries of Area D (the s293 land adjacent to the north of Johns Road) and Area E (adjacent to the Clearwater resort). Planning strategies for this river system are similar to those for the Styx River, although there is recognition that there is less development pressure as this area is unlikely to be urbanised.

7.8 Draft Open Space Strategy

As population grows within the City, there is a corresponding increase in demand for access to, and use of open spaces. Therefore, provision and distribution around the city is essential to meet the needs of the surrounding community.

The Belfast area has potential to increase and have a diversity of open space to meet the recreational needs of the surrounding community. This may be achieved at the time of development through reserves contributions, the provision of esplanade reserves, and through open space covenants.

Any urbanisation of existing rural land, or even undeveloped business or residential land should be carefully managed. This is to ensure that the future acquisition of strategic and coordinated land as suitable for open space activities can then be vested as public and conservation reserve.

There is also potential for further open space creation and development along the river and streams which flow through the study area, particularly the Kaputone and the Styx river corridors. This should be a priority where margins along these waterways have: either a current land use which has low productive use but high amenity and ecological

value; or where the urbanisation of a sub area would result in substantial multi-value gains from obtaining a substantial esplanade reserve, such as along that short length of the Kaputone Steam, between Sheldon Park and Fords Road to the north.

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8. CONSULTATION FEEDBACK

As part of developing a plan to guide the long term development of Belfast, the City Council is also collaborating with the community, in order to identify those attributes identified by the community as being necessary to be protected or enhanced to foster the unique characteristics of Belfast within any redevelopment proposals.

As Belfast is developing rapidly, and has potential for further growth, feedback was sought from rural residents or landowners about how it might look in the future.

The City Council gathered further information from rural landowners in March 2007, as part of its ongoing consultation for the Belfast Area Plan process. This followed initial steps taken in 2003 to talk to people who live, work and play in urban areas of Belfast. More detailed analysis is found in a separate report - Rural Landowner feedback (refer to Bibliography).

The purpose of seeking Rural community views was to:

1. advise stakeholders the Council is preparing an Area Plan for the study area and why,
2. identify Rural community views, and
3. seek any further information valuable to the area planning process.

The Council wanted to know what rural landowners liked about Belfast, changes they would like to see, what should not change, and what they knew about the area that might impact on any plans for the future.

Respondents came from Areas C, D, E and G. The lack of responses from Areas A, B, and F may be reflected by these areas being more rural in nature.

A summary of those responses indicated is outlined in Sections 8.1 to 8.3 below.

8.1 General

The following summarises the general comments provided by landowners:

- The Belfast settlement was valued as a location that is distinct, or visually separate from Christchurch City.
- Many of the existing rural landholdings were valued as residential environments due to their expansive section sizes, and the extent of mature landscape and planting existing on such sites.
- Rural amenity was viewed as important in that it provided such benefits as increased privacy, greater distance between neighbours, and the provision of rural outlooks and open space.
- Rural land holdings were valued in terms of the extent of open space on sites within such a close proximity to Christchurch City.
- Rural-residential and semi-rural / lifestyle blocks were suggested as being appropriate in proximity to open spaces like the Groynes, Clearwater Resort, the Waimakariri River and the natural environment.

8.2 Development Potential

A number of the questions contained within the survey questionnaire dealt with aspects of the redevelopment of the Rural area surrounding Belfast. A summary of the main responses includes:

- Development of the wider Belfast area was identified as being generally foreseeable over time, with many rural landowners seeing their landholdings being urbanised.
- Change was seen as inevitable as the area is largely serviced, it provided mixed uses to allow for an integrated community, and kept development to around the periphery of the City.
- Urban expansion was seen as providing for the attractive local environment to be shared.
- Pedestrians and cyclists should be better provided for when new areas were developed adjacent to Belfast.
- More natural areas and open space were viewed as being important through the urbanisation of peripheral areas.

8.3 General Growth Pockets

Although this is an oversimplification of the responses received by the City Council, the following areas were largely seen as appropriate for urbanisation through this consultation exercise:

- Areas to the north east, around Chaney's and south towards Factory Road were seen as being generally appropriate for more industrial uses, with residential activities located between Main North Road and the railway land, and rural activities retained further to the east;
- The area immediately below the existing Wilson's Swamp / Otukaikino Reserve was viewed as a natural extension of the above reserves conservation zoning;
- Areas adjacent to the existing PPCS factory site were seen as appropriate for industrial activity, with a retention of rural land zoning being the secondary favoured response;
- Areas surrounding the existing Supa Centa were seen as supporting a mixture of residential activity and conservation; and
- Areas to the south west of the Study Area, surrounding the Styx River Corridor and leading up to Johns Road were seen as providing for residential and recreational / leisure activities.

9. ASSESSMENT OF THE RURAL AREA

The Rural 3 zone bordering the northern edge of the urban area is potentially subject to pressures for urban expansion, particularly in the western part of the zone. The City Plan identifies the main purpose of this zone as being the maintenance of primary production. The related package of provisions, including minimum subdivision sizes, seeks to maintain the rural amenity of the zone by restricting development to a low density to provide for the operational needs of agricultural production in the area.

Any redevelopment of this area for more intensive urban purposes does, however need to be balanced against both the Regional Policy Statement and the City Plan objectives, policies and rules. Regional objectives provide a focus on soil protection, although not an absolute requirement; whilst the City Plan provisions provide a strong Urban Growth emphasis and the need to provide a clear and explicit urban rural boundary.

Many factors play a role in determining the outcome for rural land around Belfast. While there is a regional emphasis on protecting or maintaining versatile soils, these would have to be carefully considered alongside the need for the City to grow to accommodate increasing population growth and allowing lifestyle choice through the provision of a variety of living densities.

Additional influences include land ownership patterns. Large areas of land within Areas B and D are owned by several companies or landowners, while land ownership in areas A and C is characterised by that of a few individuals and / or companies. Ownership of allotments in Areas E, F and G is reasonably diverse between smaller land holdings, and those clearly land banking rural land in anticipation of potential urbanisation.

9.1 Area A – City / Belfast Gateway – South East Belfast

The City/Belfast Gateway area in South East Belfast borders the northern edge of the greater Christchurch urban area. As a result of this close proximity, this area is subject to considerable pressure for urban expansion, particularly that area close to Main North Road which is currently subject to a Plan Change request to expand the commercial activities centred on the Belfast Supa Centa.

Area A is likely to be affected by the eventual alignment of the Northern Arterial, currently located on the eastern boundary of this sub Area. Whilst an alignment has been designated within the relevant planning documents since the 1970s, the final alignment width and location of any inter-changes (if at all), would require some modification to this designation.

As more than half of Area A (56%, 21.75 ha) is in one single ownership (T A Mundy), it is likely that this area will potentially attract earlier interest for development than the 2017 release date currently identified in Change 1 (as amended) to the RPS.

This area has a very good soil structure, partly dominated by the Kaiapoi shallow sandy loam (Kp2) along the area's southern boundary. The land is currently used for market gardening and orchards.

Area A adjoins an existing subdivision to the south and west and a commercial area ('Supa Centa') to the north. If rezoning did occur in Area A it would result in a more consolidated urban form, with good access to Main North Road, and potentially via an interchange to the Northern Bypass.

However, this area currently provides an urban-rural interface through the creation of a 'green gap' or semi-rural distinctive break between Christchurch and Belfast. The development of Area A would result in the merging of Belfast with the greater Christchurch urban area, and the potential loss of Belfast as a distinctly separate entity. The provision of significantly wide esplanade reserve on the Styx River of a similar width to that fronting Willowview Drive to the south (of some 50m) would maintain some degree of visual separation between Belfast and Christchurch.

Further, any future development would need to overcome some significant constraints, including:

- The current lack of capacity in the current transport infrastructure, that is, development would need to await the development of the Northern Arterial;
- The availability of, access to, and capacity of network services (especially water supply and waste water);
- A setback of 10m (west of the railway line) and 30m (east of the railway line) from the Styx River and the need to create a habitat protection zone along the north bank of Styx River;
- Substantial areas would need to be provided for stormwater detention to facilitate increased intensification in response to the low lying nature of the area and its role as a stormwater detention area;
- It is bisected by the railway line which creates the potential to divide the community, and would require buffering and acoustic screening; and
- To a lesser extent, the alignment of the Northern Arterial currently shown on the eastern edge of Area A would also require buffering and acoustic screening.

Lying on the urban edge, most of the land in Area A is likely to encounter considerable pressure for development into residential development. This will need to be balanced with the protection and enhancement of the important landscape and ecological values within the Styx River corridor. It is also likely that for any development to proceed, an esplanade reserve of greater than the current setback in the City Plan would be required in association within any Outline Development Plan for the area.

9.2 Area B – Rural Edge - East Belfast

Area B is located on the eastern rural edge of Belfast, east of the railway line. The area adjoins the Belfast industrial area to the west and rural land to the north, south and east.

Any development of this land is likely to be affected by flooding, surface water and a high level of groundwater. Land contamination associated with previous activities associated with the freezing works would also require either rehabilitation or remediation in situ, prior to the development of any sensitive or intensive land uses for this area.

Future residential development in East Belfast is constrained by the existing land uses. The existing two meat processing plants are the dominant land use in Area B and they also comprise the largest landowners. Together they own 104.5 ha - (87.2 ha in Area B and 17.35 ha in Area C); approximately 20.5% of the rural land around Belfast.

Area B lacks a strong connection to the existing transport infrastructure. Future residential development would require a number of improvements to the transport linkages in this area.

Area B will be affected by the eventual alignment of the Northern Arterial. Land required for the Northern Arterial alignment has already been acquired by the New Zealand Transport Agency, (as well as in Areas A, B, C and F) and it, in combination with the

existing and adjacent freezing work activities may well be an influence on the lower nominal land values (2006) in this area. The outcomes of the Urban Development Strategy, as implemented through Change 1 to the RPS will assist in the finalisation of the Northern Arterial, although budget constraints will determine when it is built.

Existing small tracts of land are likely to act as impediments to development and would require a coordinated structure plan to provide a more appropriate level of alignment and integration with surrounding development. Land locked between the railway line and the proposed Northern Arterial, and between the proposed Northern Arterial and the meat processing plants would be a constraint on development.

Further, any future development would need to overcome some significant constraints, including:

- Lack of capacity in the current transport infrastructure, that is, development would need to await the development of the Northern Arterial;
- Availability of, access to, and capacity of network services (especially water supply and waste water);
- Substantial areas would need to be provided for stormwater detention to facilitate increased intensification in response to the low lying nature of the area and its role as a stormwater detention area; and
- The need to create a habitat protection zone and / or green link along both margins of the Kaputone Stream;

Any development of Area B is dependent on the future of the meat processing plants and the location of the Northern Arterial.

9.3 Area C – Northern Gateway – North Belfast

The Northern Gateway area in North Belfast borders the northern edge of the Belfast urban area. As a result of this close proximity, this area may potentially be subject to future pressure for urban expansion, particularly around the Factory Road area.

The land use pattern in Area C is predominantly large rural lots, used for associated rural activities, including market gardens, dairying and livestock related activities. The soil in this area is less versatile than in other study areas, however it has good drainage.

One of the advantages for this area is that a portion of it (that closest to the existing urban area to the south) is accessible both from Main North Road and Tyrone Street, and it is not affected by the current alignment of the Northern Arterial.

One of the constraints, is a portion of the area is located within the aquifer protection zone identified in the NRRP's Christchurch Groundwater Recharge Zone 2, with additional mitigation required for any intensified development that may contain or store substances that would impact on the quality of groundwater recharge.

Further, any future development would need to overcome some significant constraints, including:

- Lack of capacity in the current transport infrastructure, that is, high traffic generating development would need to await the development of the Northern Arterial;
- Availability of, access to, and capacity of network services (especially water supply and waste water);
- Substantial areas would need to be provided for stormwater detention to facilitate increased intensification in response to the low lying nature of the area and its role as a stormwater detention area, although that area to the south of the existing

Otukaikino Reserve could provide a substantial detention basin to cater for development in the balance of the area; and

- It is bisected by the railway line which creates the potential to divide the community, and would require buffering and acoustic screening for sensitive uses.

Area C might offer light industrial development potential if it is able to be serviced with sewage disposal and water supply. Nevertheless, high ground water may also be a limitation to highly intensified development, with substantial areas needing to be set aside for stormwater detention and treatment.

9.4 Area D – Rural Edge - West Belfast

Area D is located on the north-western edge of Belfast, north of Johns Road. The area adjoins Belfast urban areas to the north, south and to the east across Main North Road.

A significant percentage of Area D is owned by two companies, Eminence Investments Limited and Canterbury Land Trust Ltd. Eminence Investment Ltd purchased 28 ha (26.4% of Area D) from Applefields Ltd in 1999. Canterbury Land Trust Ltd and Eminence Investment Ltd have already expressed their interest in developing the land they own for residential activities. This land is subject to a s293 Environment Court decision which sets out a very comprehensive and well designed urban environment, the development of which is subject to a Outline Development Plan ('ODP'), and financial contributions are to provide for the formation of the Western Belfast Bypass.

Currently, the area is recorded as mostly orchards and pasture, although it is noted that active orchard production is not undertaken.

While the number of lifestyle blocks (46.7% of Area D) suggest the area is desirable for such activities, their location, between Johns Road and Otukaikino Stream and close to an existing urban area along the east side of Johns Road, would provide a suitable transition from rural to rural activities.

Further subdivision of lifestyle blocks with subsequent demand for increased densities may not be easy because of the way the sites have been laid out and the placement of buildings. This has been overcome, where possible, through the comprehensive ODP and supporting policy as imposed by the Environment Court (refer C41/2008).

Area D provides the opportunity to create a consolidated urban environment, by connecting the northern and southern portions of Belfast. The stopbank and floodplain forming terraces located along the Otukaikino Stream create a strong physical and natural barrier to growth west of Area D, and provide links to the wider reserve networks of the Groynes and the Clearwater Resort to the west.

However, any future development would need to overcome some significant constraints, including:

- Lack of capacity in the current transport infrastructure, that is, development beyond the first 600 residential units and 2,700m² GFA commercial development would need to await the development of the Western Bypass;
- Availability of, access to, and capacity of network services (especially water supply and waste water); and
- Substantial areas would need to be provided for stormwater detention to facilitate increased intensification in response to the low lying nature of the area and its role as a stormwater detention area.

Although it is noted that these issues are largely resolved through the imposition of land use controls and the associated ODP as contained in C41/2008.

9.5 Area E – Rural Edge - Southwest Belfast

Area E is located to the south west of Belfast, bordering the northern edge of the greater Christchurch urban area. As a result of this close proximity, this area may be subject to future pressure for urban expansion, particularly along the western edge of the Belfast / Northwood urban area.

The Styx Mill Reserve accounts for 45ha of the land area in Area E. This reserve area provides a distinct boundary between the northern edge of Christchurch and the southern edge of Northwood.

The majority of the remaining land is used for rural uses, including market gardening and some livestock related activities. The soil is versatile and the land has good drainage.

There are two significant constraints which are likely to result in this area being unsuitable for more intensive activities, these include:

- that the area is located within the aquifer protection zone identified in the NRRP's Christchurch Groundwater Recharge Zone 2 and 3, noting that urban development is prohibited within the Zone 3 area; and
- the imposition of the 50 dBA Ldn airport noise contours to the area, as a consequence of Variation 4 to the RPS Change 1 document essentially renders the area unable to be developed for a range of noise sensitive activities, including residential dwellings.

The stopbank and floodplain forming terraces located along the Otukaikino Stream creates a strong physical and natural barrier to growth west of Area E. Further the development of Area E would connect the development of the Living 1E zone around Gardiners Road to the western edge of Northwood. However, this would place additional pressure on the land between Sawyers Arms Road and Styx Mill Road for further urban expansion.

Further, any future development would need to overcome some significant constraints, including:

- Lack of capacity in the current transport infrastructure, that is, development would need to await the development of the Northern Arterial;
- Availability of, access to, and capacity of network services (especially water supply and waste water);
- A setback of 10m from the Styx River and the need to create a habitat protection zone along the north bank of Styx River;
- Contamination associated with the previous Gun Club and Timber Treatment Plant would need to be rehabilitated or remediated in situ prior to the development of any sensitive or intensive land uses for this area, should the amended 50 dBA Ldn airport noise contours not apply to the area; and
- Substantial areas would need to be provided for stormwater detention to facilitate increased intensification in response to the low lying nature of the area and its role as a stormwater detention area.

9.6 Area F – Rural Edge - Southeast Belfast

Area F is located to the south east of Belfast. This area is not adjacent to existing urban areas. It borders Area A and B to the west and north.

The predominant land use pattern is market gardens and lifestyle blocks. The soils are of a high quality and much of the land is well drained.

Area F will be affected by the eventual alignment of the Northern Arterial. The outcomes of the Urban Development Strategy will assist in the finalisation of the Northern Arterial, although budget constraints will determine when it is built.

The development of this area would not meet the City Plan policies for consolidated urban development as it is completely detached from the existing urban areas.

Further, any future development would need to overcome some significant constraints, including:

- Lack of capacity in the current transport infrastructure, that is, development would need to await, and be dependent on an interchange being provided in conjunction with the development of the Northern Arterial;
- Availability of, access to, and capacity of network services (especially water supply and waste water);
- A setback of 30m from the Styx River and the need to create a habitat protection zone along the north bank of Styx River;
- To a lesser extent, the alignment of the Northern Arterial currently shown on the western edge of Area F would also require buffering and acoustic screening.

9.7 Area G – Northern Gateway – North East Belfast

The Northern Gateway area in North East Belfast borders Area C of this study. Area G is detached from the existing urban environment of Belfast. It borders Area C to the west.

The land in Area G is zoned Rural 3. The predominant land use pattern is market gardens and lifestyle blocks. Reserve land, Ouruhia Domain, accounts for the remaining land in the area. The soils are of a high quality and much of the land is well drained.

The development of this area would not meet the City Plan policies for consolidated urban development as it is completely detached from the existing urban areas, unless it was developed as a second stage after the development of Area C.

Further, any future development would need to overcome some significant constraints, including:

- Lack of capacity in the current transport infrastructure, that is, development would need to await the development of the Northern Arterial;
- Availability of, access to, and capacity of network services (especially water supply and waste water); and
- It is separated from the urban area of Belfast by the railway line which would create the potential to divide the community, and would require buffering and acoustic screening.

10. RECOMMENDED OUTCOMES FOR RURAL LAND

Based on the discussion and analysis above, the following **Table 5** and **Figure 7** summarise the opportunities, constraints and potential for development, and the anticipated timing for when development may occur.

In general terms:

- the edge of the Waimakariri River and the Groyne are recognised as significant recreation areas;
- Clearwater Resort provides a significant private recreation asset within the area.
- The Styx River is a recognised conservation, recreation and transition area to the main urban area of Christchurch;
- The existing and potential alignments of the Northern Arterial and Western bypass create uncertainty for development in adjacent areas, specifically in terms of alleviating congestion and allowing staged development; and finally;
- the South Island Main Trunk railway severs any potential community to the east.

Table 5: Overview of Belfast Rural Areas Recommended Preferences and Timing for Development

Area	Opportunities for Development	Constraints to Development	Type and phasing of development, based on existing Rural values.
A	<ul style="list-style-type: none"> • More than half of the area is in single ownership, potentially able to attract earlier interest for development • Relatively good road access main transportation linkages • Contiguous to residential development to south and business development (Supa Centa) to north • Good soil structure 	<ul style="list-style-type: none"> • Versatile soils • Northern Arterial alignment uncertain. Would require buffering & acoustic screening. • Bisected by railway line, which could potentially dislocate area from Belfast. • Availability & access to network services (especially water supply & waste water) • 30m setback required from Styx River for waterway protection. • Low lying, floodplain, more stormwater detention required if development intensified. • Reduction of the urban-rural interface and loss of Belfast as a distinctly separate entity from the City, although a more substantial reserve margin (50m) would maintain some separation. 	<p>Sub Area A1 Conservation</p> <p>Phasing: Short term (2007 – 2017)</p> <p>Sub Area A2 Commercial to the north fronting Radcliffe Road, higher density Residential / Conservation fronting the Styx River corridor.</p> <p>Phasing: Short to medium term (2007 – 2027)</p> <p>Sub Area A3 / F1 Higher density Residential fronting Radcliffe Road and a substantial conservation / open space reserve fronting the Styx Corridor (30m – 50m in width)</p> <p>Phasing: Medium term (2017 – 2027)</p>
B	<ul style="list-style-type: none"> • Adjoins existing urban area. 	<ul style="list-style-type: none"> • Versatile soils • Northern Arterial alignment uncertain. Would require buffering & acoustic screening. • Bisected by railway line, which could potentially dislocate area from Belfast. • Development likely to be affected by flooding, surface water and high groundwater 	<p>Sub Area B1 Higher density residential fronting Radcliffe Road and a substantial esplanade reserve on the margins of the Kaputone.</p> <p>Sub Area B2 Moderate density residential to the south, with business activities reutilising and rehabilitating existing business infrastructure where possible on the PPCS site. The</p>

Area	Opportunities for Development	Constraints to Development	Type and phasing of development, based on existing Rural values.
		<ul style="list-style-type: none"> • Meat processing plants would be an impediment to development, as would residual associated land contamination which would require rehabilitation / restoration. • Reverse sensitivity effects for residential activities from redeveloped industrial development to the north would require a design solution. • Land locked between railway and proposed Northern Arterial 	<p>expansion of Sheldon Reserve east of the Rail corridor would also be considered, as would a substantial esplanade reserve of the Kaputone through this area. Creating linkages to the east should be encouraged in any redevelopment of this area.</p> <p>Phasing: Medium term (2017 – 2027)</p> <p>Sub Area B3 Moderate density residential to the south, with business activities reutilising and rehabilitating existing business infrastructure where possible on the PPCS site. Buffering of residential activity from the effects of the Northern Bypass would require a design solution. Substantial esplanade reserve of the Kaputone through this area should become a design feature of any subdivision.</p> <p>Phasing: Medium term (2017 – 2027)</p> <p>Sub Area B4 Area suitable for light industrial activities where they would assist in consolidating industrial activity to the north east of Belfast settlement. Treatment and reserve margins associated with the Kaputone would be a requirement of any rezoning.</p> <p>Phasing: Medium term (2017 – 2027)</p>
C	<ul style="list-style-type: none"> • Area mostly pasture with little rural-residential development. • Part of area accessible from Main North Road and Tyrone Street. • Adjoins existing built up area. • Potential for gateway to Christchurch at rural-urban boundary 	<ul style="list-style-type: none"> • Versatile soils • Northern Arterial alignment uncertain. Would require buffering & acoustic screening. • Bisected by railway line, which could potentially dislocate area from Belfast. • Located in aquifer protection zone identified in NRRP. • Lack of access to adequate sewage disposal, water supply. • High groundwater may be limitation to highly intensified development. • Low lying, floodplain, more stormwater detention required if development intensified. • Meat processing plants may be an impediment to development • Unaffected by Northern Arterial alignment 	<p>Sub Area C1 Area suitable for light industrial activities where they would assist in consolidating industrial activity to the north east of Belfast settlement. Treatment and reserve margins associated with the Kaputone would be a requirement of any rezoning.</p> <p>Phasing: Medium term (2017 – 2027)</p> <p>Sub Area C2 Area suitable for light industrial activities where they would assist in consolidating industrial activity to the north east of Belfast settlement. Careful connection into the road network, especially interchanges with the Northern Bypass would be necessary. A substantial area may well need to be set aside for stormwater management in this area.</p> <p>Phasing: Medium term (2017 – 2027)</p> <p>Sub Area C3 Area provides substantial potential to improve ecological and stormwater management features to the north of Belfast settlements in association with the Otukaikino Reserve.</p>

Area	Opportunities for Development	Constraints to Development	Type and phasing of development, based on existing Rural values.
			Phasing: Medium term (2017 – 2027)
D	<ul style="list-style-type: none"> • Adjoins existing urban area. • Most of area in two large ownerships, potentially able to attract earlier interest for development. • Market gardens /orchards and rural residential blocks around Johns Road may provide suitable opportunity for higher density residential close to city and existing configuration of urban blocks. • Stopbanks & floodplain terraces along Otukaikino Stream create a strong physical & natural barrier to growth to west. • A unique rural-residential subdivision standard may be required to maintain urban-rural transition and edge to city. • Nominal (2006) valuation identifies area has some expectation / transition value for urban development. 	<ul style="list-style-type: none"> • Versatile soils • Existing recreation and conservation values • Subject to Environment Court proceedings • Development on lifestyle blocks may not facilitate more intensive subdivision because of building placement and layout of property. 	<p>Sub Area D1 Subject to comprehensive ODP and planned moderate density residential and supporting business activities. The ability to foster green linkages to the north west (Groyne and Clearwater) would have some significance in the redevelopment of this area.</p> <p>Phasing: Short term (2007 – 2016)</p> <p>Sub Area D2 Rezoned for Living 1 (low suburban) density development.</p>
E	<ul style="list-style-type: none"> • Adjoins existing urban area. • Nominal (2006) valuation identifies area has some expectation / transition value for urban development. 	<ul style="list-style-type: none"> • Lower levels of versatile soils • Large reserve area • Located in aquifer protection zone identified in NRRP. • 10m setback required from Styx River for waterway protection. • Area subject to 50dBA Ldn airport noise contours which restrict the development of 'noise sensitive' activities. 	<p>Sub Area E1 To retain Rural zoning, as subject to air noise contours and aquifer protection zone.</p> <p>Phasing: N/A</p> <p>Sub Area E2 To retain Rural zoning, as subject to air noise contours and aquifer protection zone.</p> <p>Phasing: N/A</p> <p>Sub Area E3 To retain Rural zoning, as subject to air noise contours and aquifer protection zone. Ability to expand the Sytx Mill conservation estate, Smacks Creek esplanade reserve margins where possible and appropriate.</p> <p>Phasing: N/A</p>
F		<ul style="list-style-type: none"> • Versatile soils • Not adjoining existing urban areas • Location of Northern Arterial alignment will separate this area from Belfast settlement. • Bisected by railway line-/dislocates part of area from established part of 	<p>Sub Area F1 To retain Rural zoning, as subject to being physically separated from Belfast by Northern Bypass. Ability to expand the Styx River corridor esplanade reserve margins where possible and appropriate.</p> <p>Phasing: N/A</p>

Area	Opportunities for Development	Constraints to Development	Type and phasing of development, based on existing Rural values.
		Belfast. <ul style="list-style-type: none"> • Access to infrastructure and services • 30m setback required from Styx River for waterway protection. 	
G		<ul style="list-style-type: none"> • Versatile soils • Not adjoining existing urban areas • Location of Northern Arterial will segregate this area from Belfast settlement. • Bisected by railway line/- dislocates part of area from established part of Belfast. • Present unavailability to adequate infrastructure and service capacity. 	Bubble 11 To retain Rural / Open Space zoning, as subject to being physically separated from Belfast by Northern Bypass. Ability to expand the Styx River corridor esplanade reserve margins where possible and appropriate. Phasing: N/A

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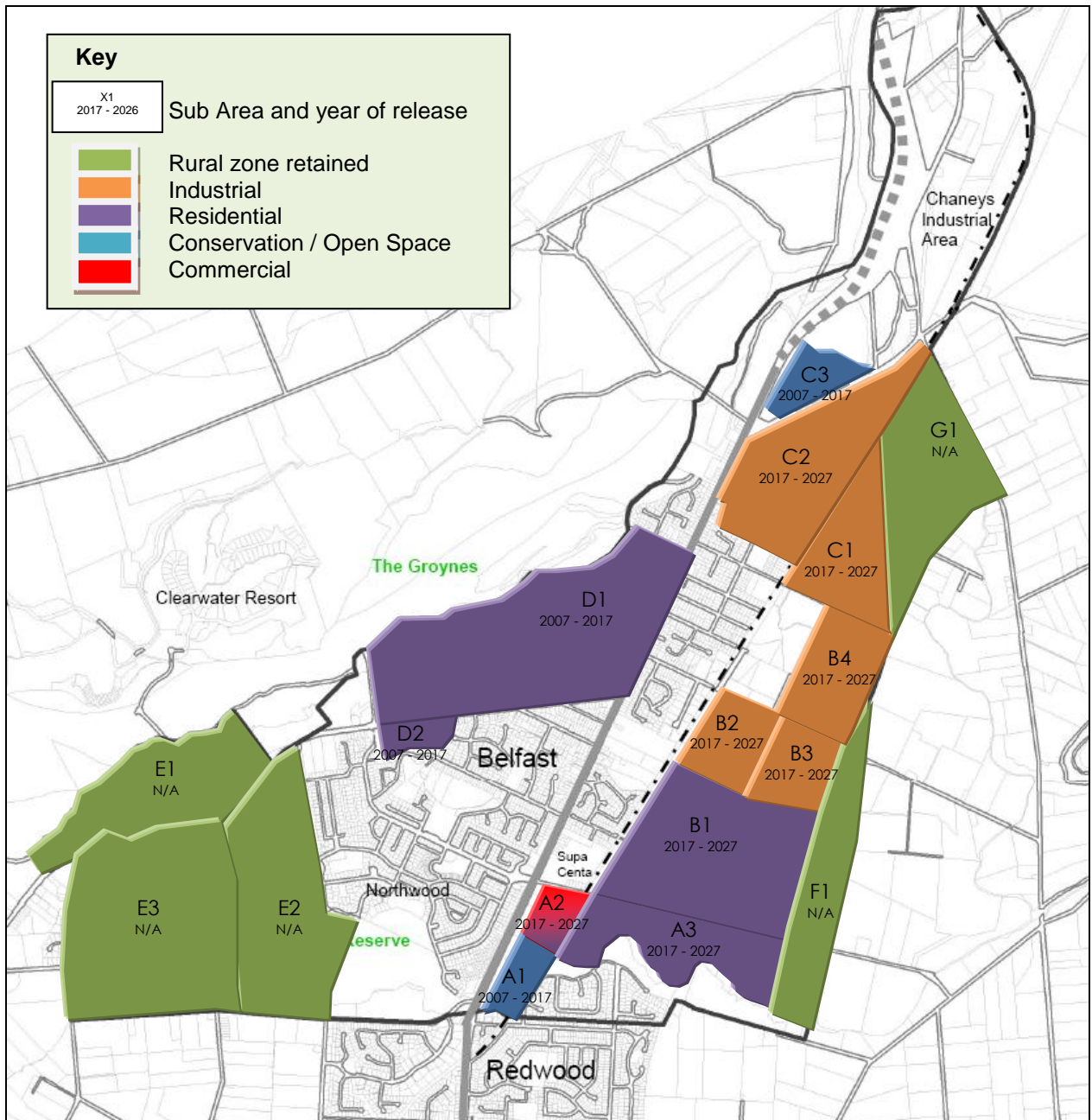


Figure 7: Rural land use transition and phasing

11. CONCLUSION

Many factors play a role in determining the outcome for rural land around Belfast. While there is a strong regional emphasis on protecting or maintaining versatile soils, these need to be carefully considered alongside the need for the City to grow to accommodate increasing population growth and allowing lifestyle choice through the provision of a variety of living densities.

Traditionally the outer edges of the City have had suburban residential development of low densities, and, beyond this, residential activity largely supporting or associated with rural production. However, greater pressure is being applied to have rural densities increased through rural residential sized allotments of some 1 – 3 ha, which has the potential to cause the gradual fragmentation of productive rural lots, and also a corresponding difficulty in terms of retrofitting a more intensified urban development into such fragmented areas. Pressure to provide for a more intensified use of current Rural land surrounding the Belfast area appears to be driven by changing lifestyle choices, and the relatively low yields of rural production and associated land holdings.

In response to these changes the UDS has sought to provide some guidance for future growth in the rural environment. The UDS process, and its implementation through Change 1 to the RPS has identified Belfast as a growth node in terms of achieving its overall settlement pattern for Christchurch.

Although rural land around Belfast has the potential to provide residential and business land for future population growth, this needs to be balanced and co-ordinated with infrastructure development. While servicing is possible, other factors such as visual amenity, maintaining the floodplain, providing stormwater management and enhancement of waterway margins also need to be taken into account.

Any eventual rezoning to provide for urban growth in the rural area should only be permitted if water and sewage services are reticulated, and an appropriate level of service for arterial roads and associated intersections can be maintained. Uncertainty around the location and timing of the Northern Arterial and the Western bypass suggest limiting further growth in the Belfast area until they are resolved. While congestion already exists on the transportation network, these capacity constraints act as the most significant policy deterrent to further growth.

Soils along the upper reaches and mid section of the Styx River are less suitable for urban use without substantial modification because of a high water table. The modification to allow for residential development would require substantial drainage and associated storm-water detention.

Whilst major constraints related to the provision of infrastructure exist, some residential and lifestyle demand could be taken up around Belfast on lots under 4 ha in area, although it is noted that there is not a Policy approach identified in either the City Plan, UDS or RPS that enables such. However it is considered that some variation in subdivision standards around Belfast would provide for that lifestyle choice and promote urban containment, as can currently be seen by the 'Devondale Estates' developments as located to the north east of Area D (to the south west of the Groyne).

Existing constraints, and or sequencing limitations, will provide the greatest limitations to, or deferrals of, redevelopment. Table 5 suggests preferred areas of development, timing and potential for development based on the opportunities and constraints for each of the Areas A to G. On the basis of this report, Areas A, B and D have the

greatest potential for eventual intensification of development, whilst Areas E, F and G are considered more appropriate to retain their existing Rural 3 zoning due to either fragmentation issues or constraints limiting intensification.

Area A is located within close proximity of the City and existing residential development in Belfast, and it is accessible to the Main North Road and future Northern Arterial. These factors provide Area A with the potential for eventual intensification. However, a sufficient margin alongside the Styx River needs to be left undeveloped for wildlife and habitat enhancement and protection, and to provide for stormwater management, natural character and recreational values.

The open space alongside the Styx River and its margins in Areas A and E could serve to create some separation and a 'gateway' between the Belfast settlement and greater Christchurch. Rural land visible from Main North Road east of Main North Road, and a small part of Styx Mill Reserve visible from Main North Road to the west of Main North Road would add to that gateway effect. (Refer to Landscape Assessment and Urban design study).

It would be difficult to see any significant land use change in Area B until the Northern Bypass has been commissioned, although industrial redevelopment of the PPCS freezing works and a small area of associated residential development may be possible subject to capacity issues being resolved on the local transport network.

Area D contains a good opportunity to create a consolidated urban environment, by connecting the northern and southern parts of Belfast. The stopbank and floodplain formed terraces create a strong barrier to further growth to the west. This area is subject to a landform pattern and staging of development as imposed by the Environment Court.

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