Resource Management Act 1991

Proposed Plan Change 7 to the Selwyn District Plan

Technical Report on Servicing

To:	Hearings Panel
From:	Hugh Blake-Manson, Selwyn District Council
Date:	9 March 2011

Note: ***The recommendations contained within this report do not constitute Council decisions until accepted.***

This report has been prepared under Section 42A of the Resource Management Act 1991. The purpose of the report is to assist Selwyn District Council's Hearing Commissioners to evaluate and decide on submissions on provisions in Proposed Plan Change 7 to the partially operative Selwyn District Plan by providing expert advice on technical matters. The report does not make recommendations on submissions but the information and conclusions contained within it may be used by planning officers as a basis for making recommendations on submissions. This report should be read in conjunction with the planning officer's report and any other relevant reports identified.

1. Introduction

1.1 My name is Hugh Maxwell Blake-Manson. I am the Asset Manager Utilities for Selwyn District Council. I have held this position for approximately 6 years. I have been asked to prepare a report commenting on water servicing-related matters and associated submissions on Proposed Plan Change 7 (PC7) to the partially operative District Plan (District Plan).

1.2 I have a Bachelor of Engineering (Natural Resources) degree. I am a Chartered Professional Engineer (Civil and Environmental), an affiliate to the APEC Engineers - IntPE(NZ), a member of the Institution of Professional Engineers of New Zealand, a member of the Association of Local Government Engineers (Ingenium) and Board Member of WaterNZ (NZ Water and Waste Association).

1.3 I commenced my employment with Selwyn District Council as the Asset Manager Water in 2004 (now Asset Manager Utilities). My current role entails strategic asset management for Council's wastewater, water, water race, land drainage and stormwater assets. I will refer to these collectively as the "5Waters"

2. Report Content

2.1 The following topics are discussed in this report pertaining to the infrastructure servicing aspects of Lincoln and Rolleston Townships PC7 growth.

3. Background Information

3.1 The evidence provided is principally based on:

i. Information from the Urban Development Strategy (UDS) and the subsequent Regional Policy Statement (RPS) Change 1 process,

ii. Selwyn Community Plan "LTP":, 5Waters strategic goals and 5Waters Activity Management Planning "AcMP",
iii. Lincoln and Rolleston Structure Plans respectively,
iv. Previous servicing assessments pertaining to the implementation of privately requested plan changes and
v. Local knowledge and experience with the utilities network,
vi. Requirements in accordance with Councils engineering standards

Urban Development Strategy - Community Growth

3.2 Selwyn District Council "the Council" has consistently had the highest population growth rate in New Zealand since 2004.

3.3 The Council, along with its partners is part of the UDS. In Council's case, this UDS includes the communities of West Melton, Rolleston, Lincoln, Springston, Tai Tapu and Prebbleton. It is predicted that 90% of SDC population will reside in the UDS area, with 40,039 population equivalents "PE" expected to be connected to the reticulated sewerage schemes.

3.4 PE is a measure of equivalent people connected. It accounts for industry and dwellings, water and stormwater schemes.

3.5 Tai Tapu is serviced independently from other Selwyn townships, and there are no plans to connect its wastewater, water supply or other 5Waters utility with other UDS townships.

3.6 The major current physical constraints to growth from a Utilities perspective are the provision of consented wastewater and stormwater, land and treatment/disposal areas. These matters are discussed in detail later in my evidence.

Community Outcomes, Strategic and Activity Management

Selwyn Community Plan - LTP

3.7 Council has stated its 5Waters Community Outcomes via the LTP. The 5Waters activity contributes to the Community Outcome "Selwyn people have access to appropriate health, social and community services" via:

"providing water, wastewater and drainage services necessary to support community and public health services"

3.8 As stated in the LTP, council intends to ensure wastewater treatment and disposal for all communities proceeds in a manner that does not impede development within the district. This will include:

"Development of a centralised Eastern Selwyn treatment and disposal area at the Pines site, Rolleston, to meet the Greater Christchurch Urban Development agreement"

Strategic and Activity Management

3.9 Council is also responsible for the Strategic and Activity Management activities including:

- Strategic planning – 60 year view identified via the adopted 5Waters Strategy.
- Sustainable delivery of utilties services in line with the purpose of the Local Government Act 2002 – identified via 5Waters Principles of Sustainability.
- Delivery of 20 Year Activity Management Plans which cover all scheme components, including risks, costs, and improvements.
- Confirmation of the level of Asset Management dependant on the 5Waters service requirements e.g. for Lincoln and Rolleston "core plus" Asset Management practices are required given the relatively significant importance to the District of these communities.

3.10 I have undertaken a significant level of community consultation to determine both the priorities of, and appropriate Levels of Service the 5Waters customers expect. This consultation recognised i) customer desires, ii) environmental constraints and iii) affordability.

3.11 The 5Waters Customers confirmed that they highly value a cost effective service which protects their health and property. This directly aligns with efficient an effective provision of 5Waters infrastructure.

5Waters Strategic Goals

3.12 Council adopted a 5Waters Strategy in August 2009, which includes 7 sustainability principles for the management of water. The 5Waters are wastewater, reticulated water supply, waterraces, stormwater and land drainage.

3.13 The 5Waters Strategy is the guiding document for the 5Waters, and while written under a Local Government Act framework (sustainable development based) overlaps with the PC7 – Resource Management Act objectives.

3.14 There are a number of initiatives within the 5Waters Strategy, and I have included a relevant example below. The method and manner in which 5Waters infrastructure is managed is directed by this Strategy.

e.g. Our Community Outcomes Initiatives(s):

SDC will *ensure Council Five Waters policies and practices comply with statutory and best practice requirements*

***SDC will** adopt a policy on the appropriate level of Asset Management and develop practices that deliver this policy*

3.15 Council has adopted an Asset Management Policy. This prescribes the standard to which Council will manager i.e. operate, maintain, review, construct and document significant infrastructure.

3.16 In relation to this police the term 'core plus' identifies that the asset will be managed etc to the highest level. Both Lincoln and Rolleston's' wastewater, water and stormwater services are required to meet the core plus standards.

Engineering Code of Practice

3.17 In 2010 Council updated and adopted engineering standards. These clearly state that is the responsibility of those constructing infrastructure intend for community use e.g. water and wastewater pipes to ensure the materials, installation techniques and commissioning meet prescribed standards.

3.18 Particular attention is now required to investigating the damaging effects of earthquakes on vested infrastructure including utilities e.g. particularly liquefaction, seismic constraints and material selection. It will be the PC7 developers responsibly to provide sufficient information where they intend the vest utilities to Council.

3.19 The Geotechnical Requirements include:

i. Responsibilities of the geotechnical engineer
ii. Design reports
iii. Geotechnical completion report
iv. Foundation stability
v. Local Conditions – Liquefaction

3.20 It should be noted that liquefaction is not always visible. It may occur several layers 'ground horizons' below the ground surface and can have the same damaging effects on surface and below ground infrastructure

Subdivision Design Guide

3.21 The Design Guide for Residential Subdivision in the Urban Living Zones was adopted by Council on 23 September 2009. It outlines ways to design attractive subdivisions which make the best use of their surroundings and context. It provides guidance for developers on how the Council will use its discretion in the assessment of applications.

3.22 The Design Guide identifies the 5Waters Strategy of the Council and recognises that the ideal time to ensure the opportunities presented by the site are capitalised upon is when

planning the subdivision design. In particular, the opportunity should be taken to reduce water wastage through re-use by such means as :

- Holding stormwater collectively in retention ponds or tanks to be used for irrigation of public areas.
- Supplying collective water systems to public areas via a 'third pipe' (recycled water).
- Installing rainwater storage tanks on individual sections.
- Considering the use of wastewater for irrigation. This can be easiest on individual lots where a simple greywater reuse system can be used without the need for treatment.

Selwyn District Community Wastewater Schemes

3.23 I will now cover the district wide and PC7 specific attributes relating to wastewater schemes.

3.24 The Council is responsible for 12 reticulated wastewater systems that service 5,700 properties in the district. In addition, lateral pipes have been laid as part of normal construction practices to 1,150 properties, the majority of which have no dwellings at present. Overall, Council provides a reticulated wastewater service to 51% of the district's dwellings, the remainder are located outside serviced areas, maintaining their own treatment and disposal systems.

3.25 The wastewater schemes have a replacement value of approximately $41.4m (excluding land value). Overall there are 26 pump stations and 7 wastewater treatment and disposal plants. The total length of the reticulation is 140km, varying in diameter from 50mm to 400mm. The normal council wastewater main size is 150mm.

3.26 The five systems that are in the Pines I and Pines II collection area are detailed in Table 1 – below, noting:

i. The Helpet and Pines collectively are referred to as "Pines I" plants.
ii. Pines II would consist of a new treatment system including major modifications to the Pines I bioreactor on the Burnham School Road.
iii. The equivalent of 700 PE in connections are expected from Rural Residential lots 2041. Locations for these are expected to be confirmed via the Plan Change 1 (Regional Council) and Plan Change 17 (Selwyn District Council) processes within the next 2 years.

Table 1 – Eastern Selwyn Wastewater Schemes

Community	Treatment and Disposal		Population Equivalent PE (Year)	
	Existing	**Future**	**2010**	**2041**
Lincoln	Aeration and oxidation pond at Lincoln then wastewater pumped to Christchurch	Pump to Pines II via Selwyn Road intermediary pumpstation	5,703	28,850 (includes Springston)
Prebbleton	Wastewater pumped to Christchurch City	Pump to Pines II via Lincoln	2,000	
Rolleston	Helpet WWTP - Extended aeration with nitrogen removal with spray irrigation Pines I WWTP - Activated sludge plant with nitrogen removal with spray irrigation	Pines II - Activated sludge plant with nitrogen removal and spray irrigation	8,300	26,224 (includes West Melton)
Springston	Wastewater pumped to Christchurch City	Pump to Pines II via Selwyn Road intermediary pumpstation	550	See Lincoln / Prebbleton
West Melton	Wastewater Pumped to Pines WWTP	Pump to Pines II Via Dunns Crossing	See Rolleston	See Rolleston

3.27 All rural-residential lots provided under PC17 will be required to connect to water and wastewater services within PC7 metropolitan urban limits.

3.28 Council proposes to construct a new pipe line connecting Lincoln, Prebbleton and Springston's wastewater to Rolleston, via a southern pressure main.

3.29 The costs for this work have been identified in the 2006-2016, but have recently undergone substantial revision to align them with current contract prices, changes in design and consent conditions.

3.30 The budget cost for provision of offsite Easter Selwyn sewerage scheme between 2012/11 – 2013-14 are:

- Land - $6.7m

- Pumpstations - $2.4m
- Rising Mains - $15.21m
- Pines II treatment - $26.9m
- Pines II area water supply and planting - $0.55m

3.31 Beyond this, Council forecasts that $16m will be required up to 2026/2027 to meet the conveyance, treatment and disposal costs in line with growth demands. In total this equates to an uninflated cost of $68m exclusive GST.

3.32 I will cover the differences between offsite onsite works, and most efficient and effective methods of infrastructure provision later in my evidence.

Lincoln and Rolleston Wastewater Networks

3.33 **Lincoln's** sewerage network was first constructed in 1964, with expansion including the current oxidation pond in 1986. In 1997, Council signed an agreement with the Christchurch City Council 'the City" which allow for partially treated wastewater to be discharged to their network. Pumping stations and pipe lines were commissioned in 1998. This agreement allows for additional discharge to occur once the city has upgraded its Western Interceptor line, but currently growth has reached the redirected discharge rates set until that time. Prior to the 22 February Lyttleton centred earthquake, this was estimated at 2013/14.

3.34 In any case, the agreement with the City has limits on annual and daily discharges, with an effective halt now occurring to township growth. The Council has previously requested that additional capacity be made available above the agreement levels, but this has been rejected by the City. The City has made it clear that it will only service the Council to previously agreed rates and volumes. In response, council confirmed in 2007that it would take a long-term view of wastewater management. This is being realised via the Eastern Selwyn Sewage Scheme.

3.35 **Rolleston** is currently serviced by two biological wastewater treatment plants "WWTP". Wastewater from them is disposed of to land. Land disposal is essential for the wastewater system to operate and hence to support maintenance of community health. The first biological plant at known as the "Helpet" plant, is consented to 4,400 population equivalents "PE". The second plant is located at the "Pines" – Pines I. This has been operational for 4 years, with a consented treatment and disposal capacity of 22,000 PE. The current design treatment capacity is 6,000 PE.

3.36 The Helpet and Pines I plants are consented and provide sufficient capacity to accommodate only the Rolleston and environs predicted growth. The current environs extend to West Melton, Rolleston Prison and the Rolleston Industrial Zone land.

3.37 Following the earthquakes of 4 September 2010 and 22 February 2011, further review of pipe routes and treatment and disposal facility infrastructure has been undertaken. Council urban communities were fortunate that areas where earthquake induced liquefaction or shear/slip planes occurred were generally rural i.e. privately serviced. Given the epicentres of the earthquakes (Greendale and Lyttleton) and low level of acute damage recorded by the Council in its utilities infrastructure, it may be reasonable to conclude that robust, resilient infrastructure has been installed. Council still have inspection work to complete e.g. pipe camera inspections (condition) and flow rate reviews which will enable it to monitor and address any changes in wastewater and in water schemes in particular.

Consents – Wastewater Discharge and Designation

3.38 Selwyn District Council (Asset Delivery) have been provided with a decision on discharge and a recommendation on the Notice of Requirement for an expanded, Rolleston based wastewater treatment operation - the Eastern Selwyn Sewerage Scheme "ESSS". The discharge consents, have been granted, however the appeal period for the Notice of Requirement has yet to expire.

3.39 Selwyn District Council has purchased the 402 ha required for the ESSS treatment and discharge to occur over, and is in the process of:

i. pipeline construction

ii. detailed design for the elements of an expanded wastewater treatment plant.

3.40 402ha has the capacity to treat 80-90000PE in wastewater. Council is currently planning to provide for 30000PE in treatment, noting that this include closure of the Helpet treatment and disposal site.

3.41 As noted earlier, the Tai Tapu scheme will remain connected to Christchurch City network, and is not considered further in the ESSS project.

Selwyn District Community Water Schemes

3.42 I will now cover the general district and PC7 specific attributes of relating to water servicing.

3.43 The Council is responsible for 29 reticulated water systems that service 71 % of the

district's people, with the remainder of domestic and stockwater needs being provided outside serviced areas.

3.44 The two schemes in PC7 are identified in Table 2 below.

Table 2 – UDS Development Phasing for Greater Christchurch 2007-2041

Community	Take and Use		Household Growth (Year)	
	Existing	**Future**	**2007-2020**	**2021-2041**
Lincoln	3 wells	Additional wells and headworks	1,740	2,160
Rolleston	5 wells with a consented well field up to 300 l/s at Izone (145 l/s current take)	Additional wells and headworks	2,052	3,323

Note: i) 700 PE connections are expected from Rural Residential connections by 2041. Locations for these are expected to be confirmed via the Plan Change 1 (Regional Council) and Plan Change 17 (Selwyn District Council) processes within the next 2 years.

ii) Lincoln University manages its own water supply, but discharges its wastewater to the township scheme.

iii) Rolleston water supply is designed to provide for industrial use facilities "wet industry" in the Industrial Zone area to the north of State Highway. There maybe significant increases in PE use as a result of wet industries need.

Lincoln and Rolleston Water Networks

Lincoln

3.45 The township was originally served by individual wells on each property. Individual water supplies were installed to service the Murray Place and Cole Street (now Millstream Drive) subdivisions in 1975/76.

3.46 The scheme was upgraded in 1988 with the replacement of surface mounted pumps in Kildare Terrace pump station by a single submersible pump. This was required due to lowering groundwater levels being experienced in the peak summer period. A new pump station located in West Belt was commissioned in 1998 to service an increasing population and to act as standby in case of failure at Kildare Terrace.

3.47 Based on UDS growth rates it is forecast that a fourth well will be required by 2013/2014.

Rolleston

3.48 Over the period late 1968 to 1971 the Council carried out reticulation improvements to a network of pipes it had purchased from the Sale Yards Co, and drilled a new well at George Street (1971) and installed a new pump, tower and storage reservoir (this tower and reservoir were subsequently removed in 1998). The improvement gave, within the design parameters, increased volume and pressure and was a vast improvement on the previous supply. Further wells were drilled in 1982 and 1988.

3.49 In 1996 the town water supply reticulation was extended to serve the Change 10 scheme area (designed for 4,200 people). The extension included a total revamp of the low level pumping system with the inclusion of a deep well in Kairangi Apple Orchard, decommissioning of the reservoir at George Street and increasing the network operating pressure to 35m (50psi). The new scheme came into operation in June 1997.

3.50 In 2003 a long term plan for servicing the water supply needs of the Rolleston community was approved by Council. The plan included the installation of:

- A major pump station in Izone Drive (installed 2003) that was to be the control centre for water supply in Rolleston; and
- Wells to be installed as demand increased and a major reservoir (installed 2003).

3.51 Following the installation of a well at Izone Drive in early 2004 and installation of the trunk main in late 2005 / early 2006, the Izone Drive pump station became the main control centre for Rolleston water supply.

3.52 Peak daily demand is predicted to increase from 9,000 to 30,000m³/d by 2041 based on the projected household growth. In addition to the consented 300 L/s at Izone, a further 300L/s is required to service the estimated demand through a number of new well sites within the ODP growth areas.

3.53 The Izone industrial estate requires onsite storage to be provided as part of the NZFS Firefighting Water Supplies code of practice requirements, including a 840m^3 reservoir (installed). A fire classification map is to be developed for future infrastructure planning requirements.

Water – Consents and Growth

3.54 Consenting of water - the take and use of groundwater water for community drinking water supply purposes is not considered to be a significant issue in the PC7 area. While there are constraints e.g. demand management requirements including conservation of water, effects on neighbouring wells, this type of water use has been recognised by the

Canterbury Regional Council – "ECan" as having a high priority in the Canterbury Water Management Strategy. Community water supply consents obtained recently support my opinion that this high priority is reflected in granting of water.

Planning for Growth

3.55 The Council's approach to planning for growth is similar for both water and wastewater, undertaken on a number of levels. These include:

- Source and treatment capacity,
- Network distribution capacity,
- Distribution capacity to service specific growth areas

3.56 Planning for source and treatment capacity involves predicting the growth in the scheme, and identifying what physical works, in the form of new sources, treatment facilities and delivery mains will be required to meet the entire schemes needs. I have identified the wastewater needs in some detail above.

3.57 In the case of water supply, planning to ensure there is adequate network capacity involves predicting how the distribution of piped water will change and increase across a scheme over time, and ensuring that the necessary pumping facilities and trunk mains are upgraded to accommodate that growth. This effectively involves upgrading the reticulation across the township over time to ensure sufficient water can be delivered to the growth areas. Ungrading of pipes normally means providing new mains to supplement existing ones

3.58 For the PC7 area this will include construction of new headworks (new wells, pumps and associated electrical services). Upgrades of council pipes in existing areas will not necessarily occur immediately if they are marginally under capacity e.g. within 5%, otherwise their upgrade will be timed with the renewal of the pipe at some future time. This is generally referred to as "off-site" work.

3.59 The final level of planning for growth involves identifying specific growth areas and assessing the pipe sizes that are required to service both the proposed development and any foreseeable growth beyond the development. This is generally referred to as "onsite work". Council has an interest in ensuring and contributing to onsite works over and above the developers particular needs e.g. larger pumps, pipes and deeper wet wells, noting that there are financial risks to the community in contributing to these works.

3.60 The process of planning for growth occurs as part of the preparation of the Council's

AcMP's, which are normally updated every three years. Amongst other matters, AcMP's identify the required forward works programme cost, location and the reason e.g. growth and replacement.

3.61 The process of identifying the upgrade requirements for the scheme is generally as follows:

- The projected growth across the entire scheme is assessed;
- Other factors, such as changes in water use patterns are combined with the growth projections to predict the peak and average water and wastewater use/discharge for the scheme. This is usually in 10 year increments;
- A hydraulic model is then used to assess new pipe requirements, and upgrades to existing pipes which have insufficient flows e.g. below acceptable fire fighting code of practice levels. Given the complexity of the network, this can be a time consuming and iterative process. Account needs to be taken of disaster resilience, cost of new infrastructure (and who pays), reliability of the supply and expected remaining life of mains;
- A plan is then produced that identifies the water main upgrades predicted, in this case over the UDS timeframe;
- These plans are subsequently used to prepare servicing plans for specific development areas.

3.62 The key challenges with this process are principally associated with providing robust predictions of growth on the scheme and the location of that growth. These two factors have a very significant effect on the size of the new mains, pump stations and treatment and disposal plants, when they are required and the associated cost to the developer and ratepayer.

3.63 Coordination with road upgrades is also very important. While Mr Mazey covers the Land Transport elements, it should be noted that relevant new mains and pumpstation installations will need to be timed with road works, ensuring damage to the carriageway is minimised.

3.64 The consequences of over predicting growth which is not realised, is that upgrades could be undertaken too early and remain underutilised for a longer period that expected. The cost of installing these mains could then become a burden on the ratepayer instead of development. This burden is realised in the cost of debt servicing, maintenance and renewals. This applies to both offsite and onsite works.

3.65 Alternatively the consequences of under predicting growth are that the water, wastewater and stormwater services reach their full capacity earlier than planned and will subsequently require upgrading. This work is considerably more expensive than providing for a larger service e.g. watermain, treatment plant than it would have been if installed appropriately in the first instance. Under predicting growth results in a loss of servicing efficiency which places additional financial burden on the wider community. This is not an equitable or fair approach in my opinion.

3.66 One of the principal benefits of sequencing is that it identifies the most reliable, planned growth patterns we have. Council is basing its Pines II wastewater treatment plant capital works, at a value of $67M, on the growth occurring in accordance with sequencing. It is building pipes and treatment plant modules to meet this sequence growth, allowing limited time for further modules to be provided.

Funding for growth

3.67 Growth related works are funded through three principal mechanisms, these are:

- Development contributions (DC's)
- Financial contributions
- Works undertaken directly by developers "onsite works"

3.68 The majority of growth related works are undertaken by Council and are funded through the raising of loans or cash reserves. In the case of the Pines II, funding is via raising a loan, which is repaid through development contributions.

3.69 Development contributions – DC's are calculated and set to recover the principal and interest cost of the works from developers as they connect to the utilties. The development contribution covers upgrade costs to source, treatment and network distribution infrastructure, and also to provide capacity in ODP areas e.g. new trunk mains.

3.70 When works are undertaken and growth occurs at a slower rate than was predicted, the interest costs accumulates with the DC account, and the DC increases accordingly. The Council's DC policy makes provision to write off some of the interest cost if the DC escalates to a point where it may suppress growth in the area. In this instance, the burden of cost is born by the ratepayer.

3.71 When a development is proposed and the works are required to make provision for the associated growth, which had not been previously identified and planned for, then those

works would typically be undertaken by the developer. This may involve upgrading sewer or water mains to the development to ensure it can connect to the existing services with adequate capcity and without adversely affecting the required level of service to the existing scheme members.

3.72 When a developer constructs a subdivision the water and sewer mains are installed and funded by them and these assets are vested in the Council. Vesting occurs at the time of issue of a section (224 certificate – RMA).

3.73 There are occasions where water, sewer and stormwater mains and associated infrastructure within a development are increased in size to service future growth over and above that required for the specific development. I have previously referred to this as 'onsite' work. Council funds the marginal cost difference between the infrastructure required to service the underlying development and that for the greater area e.g. the upgradient area yet to be developed.

The Advantages of Plan-Led Rather Than Developer Led Growth

3.74 There are an number of disadvantages with the historial approach of developer led growth:

- There is greater uncertainty regarding where and when development will occur, which makes planning for growth more reactive, complex, time consuming and expensive.
- Simultaneous and competing development can occur at multiple locations, leading to higher than optimum levels of investment being required from the council, with the risk that the general ratepayer may have to share the financial burden with no benefit.
- Growth will occur in unanticipated locations and this will require that existing infrastructure be replaced or upgraded well before the end of its economic life i.e. it is underperforming rather than in poor condition.
- It is more expensive and time consuming to assess the impact of multiple separate developments, as they are conceived, than it is to assess the impacts on the infrastructure of a coordinated development programme.

3.75 By contrast, plan led growth offers a number of advantages over develop led growth, from a servicing perspective. These include:

- The council having a greater degree of confidence over where and when growth will occur, resulting in more efficient and cost effective infrastructure planning.
- The council being able to plan for and manage the development in the agreed

locations, therefore optimising its investment in growth related works to reduce the overall cost to the community.

- Having a higher degree of certainty over when and where growth will occur, reducing the risk that infrastructure will need to be upgraded before the end of its economic life.

3.76 The staging identified in PC7 and via ODP's is of considerable benefit to developers and existing scheme members in that it is the most reliable indicator of likely growth and the location this growth will occur in.

Lincoln and Rolleston Structure Plans

Consents - Stormwater

3.77 Council's current position regarding stormwater schemes with respect to PC7 are:

i. Rolleston - there is no requirement for an integrated stormwater management plan given the free draining characteristics of the area;
ii. Lincoln – global consent is necessary given the lowland characteristics of the area.

3.78 I am leading a project team to obtain a Lincoln stormwater consent. This includes the areas identified in all Lincoln ODP's. The global stormwater consent application (CRC092812) to discharge stormwater into surface water and onto land for the Lincoln Integrated Stormwater Management Plan (ISMP) area is expected to be notified by April 2011, with the process taking until December 2011.

3.79 Classified Land Drainage systems are located in Lincoln, and are relevant to this matter as they receive stormwater discharges as part of their secondary purpose. The primary purpose of land drainage is to remove groundwater, making the adjoining land arable. Growth in Lincoln will result in a change in the extent of these systems given that urban land use will replace the current rural uses. As development occurs, stormwater systems will replace the land drainage system. It is reasonable to expect that this will result in an improvement to the receiving waters quality and offsetting and reduction of peak discharge rates received by the Land Drainage scheme network.

3.80 It is also relevant to note that a Cultural Impact Assessment (CIA) has been undertaken by Mahaanui Kurataiao Ltd (MKT) as part of the global stormwater consent application. The CIA identified a number of Ngāi Tahu values associated with the Lincoln ISMP area that will be affected by the proposed integrated stormwater management system, including Wāhi Tapu/Wāhi Taonga, Mauri, Mahinga Kai and Kaitiakitanga. Of particular importance is the extensive waipuna (spring systems) within the ISMP area that hold special value to the iwi and hāpu (Te Taumutu Runanga). The Council is currently liaising

with MKT to address their concerns through the ISMP/global consent process, which will include the separation of spring water from stormwater within the Lincoln ODP Area 2. Further collaboration is anticipated to address issues raised with respect to the treatment of waterway margins and plantings and reserve management. It is recognised that there is a crossover between the ISMP and PC7 in addressing cultural values, however it is expected that the outcomes of the ISMP will provide greater certainty to MKT than that which can be achieved through PC7.

Lincoln Structure Plan

3.81 The Lincoln Structure Plan (LSP) and associated Integrated Stormwater Management Plan (ISMP) were adopted by Council in May 2008. The purpose of the LSP is to outline an integrated urban design framework for the future development of Lincoln Township. A range of 'networks' (movement, open space, waterways, social and land use) were mapped and assessed to identify opportunities and constraints. The resulting land use pattern provides for a range of housing densities, sufficient land for the community and business activities needed in a Key Activity Centre and reinforces the primacy of the town centre supported by neighbourhood centres.

3.82 It is recognised that the three-tier staging regime in the LSP has been replaced by a two-tier regime in PC7 to align with PC1 to the RPS. While the following discussion reflects the three stages of the LSP, the same rationale applies to the resultant two stages contained in PC7.

Lincoln ODP's – Lincoln Servicing

Water Supply – Efficiency and Effectiveness in Provision

3.83 The staging pattern in the LSP, which sees development progressing outwards from the existing township boundaries, is suited to the logical expansion of the water supply network. The system consists of a series of wells, pumping untreated artesian water into an interconnected pipe reticulation system. While additional wells and pumps can be installed to service growth beyond the current capacity of the water supply system, there is an opportunity to optimise the level of investment in infrastructure while also taking account of future operating costs, in particular energy used for pumping, demand management and efficient use. As the township grows, the level of pipeline "interconnectedness" should also be increased, avoiding lines which are served from only one direction e.g. hanging or dead-end lines which can result in poor quality drinking water quality.

3.84 In terms of the staging pattern the Dairy Block, being a “single” development, can be planned for in a comprehensive manner, with multiple linkage points to existing infrastructure and the installation of new well(s). Stage 1 development (2007-2020) to the east of the township can be serviced by extension from the existing network. Future trunk mains can be planned for, to link through Stage 2 (2012-2041) to the north and on to Birchs Road and to the west and east of Birchs Road to proceed.

3.85 Ideally, Stage 2 development should be connected to existing mains reticulation on Birchs Road to provide connectivity, as well as enabling development to the west and east of Birchs Road to proceed.

3.86 Development to the north and south of Edward St follows the extension of trunk mains along Edward St to the east. Again, additional well and pumping capacity is likely to be required, and this can be configured in general terms at an early stage. Connectivity should be planned for with Stage 2 development where there are roading connections.

3.87 At current per capita demand, a further well is projected to be required in 2013. Council will coordinate the installation and connection of this well to the network. The location of this well has not yet been confirmed, but could be in the following general locations:

i) The Dairy Block
ii) James Street / Birchs Road
iii) Edwards Street

3.88 In summary, the staging pattern is logical and efficient from a water supply perspective. The Council will however need to undertake network modelling and analysis of the proposed long term network in order to ensure that infrastructure provision and operational costs are optimised.

3.89 Where infrastructure needs to be provided in advance of proposed development, council will need to include such works in its capital programme. Irrespective of this, council will recover the growth related costs through development contributions. The modelling proposed above will provide this information.

Wastewater

3.90 Wastewater servicing for new development is based on a combination of gravity mains and new pumping stations, centralising the collection of wastewater at the existing wastewater treatment plant. Once the Eastern Selwyn Sewerage Scheme (ESSS) proposal for expansion of the Pines WWTP at Rolleston, together with any necessary change to reticulation, pumping and storage infrastructure in Lincoln has been completed, all of the Lincoln wastewater will be pumped to the Pines II

3.91 From thereon, the provision of wastewater infrastructure to service all future development in Lincoln can proceed as planned. As noted previously, the key issue for council is obtaining the necessary resource consents and designation for an expanded Pines treatment and disposal facility, completing the Lincoln to Rolleston pipeline connection and constructing additional wastewater treatment facilities.

3.92 The remaining primary physical and operational constraint affecting future development is the ability to service lower lying areas to the south of the Lincoln township, beyond existing zonings. This relates to the need for additional pumping stations to convey wastewater to the existing treatment plant site. Council has previously confirmed (2004) that it places a higly priority on efficient, effective solutions which account for long term costs.

3.93 With respect to areas on the periphery of a notional PC7 “servicing limit” line, these could be serviced, but would be better suited to rural-residential land use to minimise pumping effort. Alternatively, selected lower lying areas could be filled to enable gravity drainage to a mains pumping station, however I recognise this comes with substantial costs including detailed geotechnical assessment.

3.94 In terms of the staging pattern, the Dairy Block can be serviced in a comprehensive manner, with wastewater being reticulated via a single pumpstation, to the existing wastewater treatment plant site for pumping to Rolleston. I have clearly stated to the Dairy Block developers that a single pumpstation on the site should be provided which they have progressed. Detailed design will need to be undertaken to confirm the optimal mains layout and sizing. As with the water supply, operational and renewal cost considerations should also be included. This information will guide council on the optimal solution for the communities longer term benefit.

3.95 For example a small, shallow pumpstation may be cost effective to install but not be adequate to collect wastewater from a wide catchment, resulting in the need for more pumpstations. Ultimately this will increase the operations, maintenance and renewals costs future customers will have to carry.

3.96 Preliminary network planning for wastewater catchments north of Edward St shows that some development will be serviced from the existing Southfield Drive main, while eastward parts will largely be serviced from the new pumping station in the Stage 1 area to the south of Edward Street.

3.97 The stage 1 development area north of Edward Street will be serviced from Southfield Drive. The route is initially along the proposed new “Northfield” Drive before turning west

within Stage 1, and eventually connecting to Birchs Road, allowing Stage 2 development to proceed incrementally.

3.98 One of the key components for providing a wastewater service further to the east is a new pumping station based near the headwaters of the L2 River. This will initially service Stage 1 development to the south of Edward St, as well as providing a stub connection to service the balance of Stage 2 development on the north side of Edward Street. The reticulation configuration should tie in with and be undertaken in conjunction with roading patterns.

3.99 Thus, as with the water supply network, wastewater infrastructure will be installed progressively in a south to north direction from Edward St.

3.100 It is not possible to service further development on Birchs Road other than via this means. Recently completed developments are serviced by reticulation that crosses Birchs Road towards the east, a similar pattern to that proposed. Existing reticulation has no further capacity available to service future development on Birchs Road. If it were permitted the line would reach surcharge conditions with a high risk of wastewater overflows. Hence, the staging pattern is also logical and efficient for wastewater, with the northernmost land on Birchs Road being connected to the wastewater network as part of Stage 2.

3.101 In parallel with this, Stage 2 development can also proceed eastward to Ellesmere Road. On the north side of Edward Street, reticulation will connect via Edward Street and hence to the pumping station. On the south side reticulation within the development will be gravity directed to the pumping station. This will require a crossing of the upper L2 River headwaters and the creation of appropriate easements or corridors within both developments.

3.102 In summary, the staging pattern is logical and efficient from a wastewater servicing perspective with stages being serviced in an incremental manner. Because the method of disposal is via gravity reticulation, it relies on regular flows to remain clear and open. Therefore direct tie-in with planned existing connections is required eg Southfield Drive or new pumping stations which will be constructed at low points relative to development.

3.103 While Council has undertaken a wastewater master plan for Lincoln (updated in 2008), more work will be needed to finalise the layout of the trunk reticulation based on future roading layouts, development areas and zonings in order to configure reticulation and pumping capacity requirements. Pipe sizing through Stage 2 developments in particular be required to accommodate all planned upstream growth. Council will need to fund some capital works, in particular pumping station(s) in these onsite areas, where they

have benefit to more than one ODP. It will recover these costs via development contributions, noting that this will account for holding costs incurred between construction and receiving the contribution.

Stormwater

3.104 The provision of stormwater drainage infrastructure is more fully described in the Integrated Stormwater Management Plan (ISMP) document. The concept supports the staged development proposal, with each wetland system serving different development areas, thus enabling construction of the wetlands to also be sequenced.

3.105 Development of the Dairy Block requires the construction of wetland areas, contained either within the block or land owned by Council, or land adjoining the wastewater treatment plant site that will need to be acquired. Council has a preference for working with LLD on a system utilising part of the wastewater treatment plant land but has yet to progress this in any detail.

3.106 Stormwater runoff from Lincoln University will need to be managed within the site's own boundaries with an attenuated flow across Springs Road continuing to be conveyed through the Dairy Block and into either of the wetland areas. Alternated flow means that stormwater from an area will not be discharged at a time and rate which adversely effects the Land Drainage networks. This will require detailed design configuration at the development stage.

3.107 Remaining Stage 1 development, to the southeast and northeast of the existing township, will be accommodated in the wetland, between the Upper L2 River and L1 Creek. In the medium term, it will also treat stormwater from all of Stage 2 north of Edward Street and in the vicinity of Birchs Road. Conveyance infrastructure will need to be progressively installed in a south to north direction, for areas where ground soakage is not a suitable means of treatment and disposal.

3.108 The balance of Stage 2 development to the east will be connected to the wetland, located on the eastern side of the Upper L2 River. Logically, development on the south side of Edward Street would proceed first, accompanied by the construction of the wetland and the conveyance system to Edward Street, into which Stage 2 development on the north side would be connected.

3.109 In the event that the sequencing of development does not match the provision of stormwater wetland pond areas, temporary storage and treatment areas would need to be provided by developers, at a matching performance to that expected of the wetlands

system. These would then need to be decommissioned once the necessary wetland system stage is provided.

3.110 Capital investment by the Council will be required, which will be recovered through development contributions.

Rolleston Structure Plan

3.111 The Rolleston Structure Plan (RSP) was adopted by Council in September 2009. The purpose of the RSP is to outline an integrated urban design framework for the future development of Rolleston Township. A number of 'layers' (town centre strategy, land use and community facilities, movement and infrastructure) were mapped and assessed to identify opportunities and constraints. The resulting land use pattern provides for a range of housing densities, sufficient land for the community and business activities needed in a Key Activity Centre and reinforces the primacy of the town centre supported by neighbourhood centres.

Water supply

3.112 Water supply for Rolleston is sourced from five deep groundwater wells. Water quality is high and treatment is not provided. Households are connected to this on-demand metered supply, and are billed on a volumetric basis with an element of fixed charge also set.

3.113 To meet increasing demand in Rolleston, new wells connecting to the confined aquifer will be required. These will be subject to obtaining well installation resource consents when the current consented take and use rates/volumes are taken up by development.

3.114 Water demand in Rolleston is high, particularly in summer. Competition for water resources across the Canterbury Plains is high, and the needs of various users need to be balanced to ensure continuity of service. To meet the Structure Plan principles of a 'drought ready' Rolleston and ensure adequate resources for future generations demand management measures in Rolleston and across the District are required. Council has developed a water demand management strategy (2006) that alongside water loss reduction programmes and consumption studies will help to manage demand. The demand management strategy establishes a target to reduce demand in Rolleston to 85 litres/person/hr. Currently the usage is 110 litres/person/hour.

3.115 Recent resource consents gained for Rolleston have required Council to take all reasonable steps to avoid leakage from pipes and structures. The demand reduction targets will be carried forward into future consents.

3.116 As development occurs, opportunities for increasing network interconnectedness will be sought to further improve the management of peak demands and increase resilience of the network. Developers will be responsible for reticulation within their developments, and for providing reticulation linkages to adjoining developments as required by Council.

3.117 Being able to distribute water from a number of wells across the town will ensure continuity of supply and maintain system turn over. Some pipelines may require capacity upgrades in time and this will be determined through hydraulic modelling of the system. Growth related upgrades and network expansions will be funded through development contributions.

Wastewater

3.118 Wastewater from Rolleston is currently treated at 'The Pines I' activated sludge plant located west of Rolleston on Burnham School Road. Effluent is collected through a reticulated network and pumped directly to the treatment plant where treated effluent is discharged to ground by spray irrigation.

3.119 The Pines I treatment plant is located on an 84 ha site and expansion is planned in three stages, to cater for growth in Rolleston and environs and redirection of wastewater from Lincoln, Springston and Prebbleton. The first phase of expansion is planned for completion in 2011/12-2012/2013, which includes:

i. redirection of Prebbleton wastewater,
ii. the installation of the new Lincoln-Rolleston pipeline,
iii. southern Rolleston pumping station and,
iv. new treatment facilities being Pines II. Until this first phase of expansion is operational, further development in Rolleston is restricted.

3.120 Izone has an independent reticulation and pumping station for transferring wastewater flows to The Pines. Further development of the network in Izone being lead by the Izone development group with the support of Council.

3.121 The layout of the wastewater reticulation is set out in a master plan for the Eastern Selwyn district.

3.122 A large proportion of wastewater in Rolleston will in future be conveyed by gravity mains to the new Southern Rolleston pumping station, located at the intersection of Springston-Rolleston and Selwyn Roads "Southern Pumpstation". Gravity mains running east/west will collect wastewater from new subdivisions and convey it via a trunk main which will run from Lowes Road along Springston-Rolleston Road to the Southern Pump Station. From there it will be pumped via a pressurised (rising) main along Selwyn and Dunns Crossing Roads to the treatment plant.

3.123 To enable development of the greenfield areas in Rolleston, sequencing of wastewater network extensions, following good engineering practice and complement residential staging as been followed. The area known as SR3 fronting Levi Road and the 'CDL' area on Brookside Road are the first areas identified for development, to 2016. These areas, if they develop before the new infrastructure is constructed, will as an interim measure be serviced using the existing sewer network, and are expected will utilise all remaining system capacity in the pipe network.

3.124 The installation of the rising main along Selwyn and Dunns Crossing Road, connecting to the Southern pumping station, is essential to enable reticulation servicing other growth pocket areas connecting into it to be installed in conjunction with sequenced subdivisional development. It will also enable permanent service connections to be provided to SR3, SR4 etc.

3.125 The areas known as SR6 'Foster Block' is also part of the first stage of development and will be linked to the primary trunk main via new west to east mains. As, identified in my submission response Dynes Road is a secondary option to direct reticulation to Springston-Rolleston Road. Because SR6 is some distance from Springston-Rolleston Road, reticulation from that road to the boundary of each development area will need to be funded and provided. The mains route following the CRETS road will depend on the final location of the new road, final survey and may require a designation in existing zoned land to the west of Springston-Rolleston Road.

3.126 The capital costs of the trunk wastewater network development undertaken by Council will be recovered via development contributions e.g. the Southern pumping station, rising mains to the Pines treatment plant.

3.127 , Township trunk mains eg. along Springston-Rolleston Road, and any connecting mains to development boundaries that are needed to service growth pockets (such as to SR3, SR4, Dynes Road and the CRETS road routes, and others tabulated above) will be funded through direct charges on the developments benefiting. This is usually done through the developments resource consent process, were charges reflect their contribution to a mix of offsite and onsite works

3.128 In addition to the capital works planned, Council are developing a long term plan to manage wastewater flows and losses in the network as part of the 5Waters demand management policy. The policy seeks to manage demand based on changes to the network/systems and consumer behaviour. Successful implementation of this strategy is expected to result in delayed investment and support sustainable use of resources e.g. pipes, water.

Stormwater

3.129 The Council's 5Waters Strategy seeks to identify opportunities and work towards integrated stormwater planning outcomes, assisted by appropriate design standards. There is an opportunity to adopt low impact urban design methods as Rolleston develops. Low impact urban design measures include the minimisation of eearthworks and land form change, creating natural areas to manage stormwater quantity and quality whilst adding amenity and the use of water sensitive urban design.

3.130 Stormwater runoff in Rolleston is currently disposed of to ground via the free draining soils underlying the township. There are no surface watercourses within the town for stormwater to discharge into, and the few piped stormwater systems in the township are short and end in local discharge soakage points.

3.131 Each residential subdivision in Rolleston has its own stormwater treatment and disposal system with individual discharge consents granted by Environment Canterbury. This makes compliance with resource consent conditions a challenge for the Council adding additional costs for operation, monitoring and consents administration.

3.132 The Council will manage future development of the stormwater system in Rolleston by establishing principles for stormwater management and providing guidance and standards for developers. This is intended to avoid the proliferation of different management methods, some of which are considered inappropriate in an urban setting.

3.133 Stormwater will continue to be treated and disposal of at a local, rather than "township" level, potentially supported by discharge consents. Local developers within each ODP area will establish the amount of land required for stormwater treatment, flow paths and any retention ponds using the principles and standards established by Council, and obtain the necessary consents. It is expected that some efficiencies will be able to be obtained by considering cross boundary solutions with respect to adjoining subdivisions and developments in each ODP area.

4. Outline Development Plans

4.1 PC7 introduces the requirement to prepare an Outline Development Plan (ODP) for new urban growth areas. The criteria for preparing ODPs will help to ensure the establishment of efficient and effective utility infrastructure within and through ODP areas and with the existing townships.

4.2 A number of ODPs are proposed to be inserted into the District Plan via PC7, where agreement was largely reached between the landowners and the Council. Specifically, these are for ODP Areas 1, 2, 3, 4 & 6 in Lincoln and ODP Areas 1,3 & 6 in Rolleston. Additional ODPs have been promoted by way of submission on PC7 for ODP Area 5 in Lincoln and ODP Areas 2 & 5 in Rolleston.

4.3 The following comments relate to submissions lodged with respect to those ODPs included within PC7 and those sought to be introduced via submission.

General

New Zealand Fire Service	**S86**	**D1**	Not stated	Given the large area involved in this plan change, the impacts on the NZFS are significant in terms of increased need for NZFS's activities, response times, staffing and operational requirements, access for fire appliances to new developments, and the provision of adequate and accessible water supply for fire fighting purposes. Therefore, the NZFS seeks assurances that development within any of the ODP areas will be serviced by a reticulated supply which meets the Code of Practice.

4.4 Council has adopted an Engineering Code of Practice. This identifies the standard at which water supplies shall be installed. The code of practice is amended as necessary to reflect appropriate materials and construction techniques. ODP areas will be expected to provide reticulation which can convey fire flows, whether this is undertaken directly by the developers or Council. However, this does not guarantee fire flow supply will be available to the PC7 growth areas immediately, as existing "upstream" infrastructure may not be able to convey this fire flow i.e. pipes, pumps, storage and well capacity may be limited. Council has also stated that as part of its renewal programme and where the pressure and flow do not meet the fire code of practice, replacement or upgrade of this infrastructure will be completed. The timing of this work will be carefully considered, and done at the optimum time e.g. if renewal pipe work or larger contracts are scheduled for a following year, then the fire flow performance upgrade work may be delayed until then.

Lincoln

Lincoln Land Development (L)	S85	D1	Oppose in part	Unless the following amendments are made
		D14	Oppose in part	Amend the final bullet point to provide flexibility and to clarify that if the sewerage treatment plant changes use the buffer will be uplifted/modified accordingly.
		F89 - McIntosh		*Support*

		F49 - Broadfield Developments Limited		*Support*
		D27	Support	That ODP Area 1: Blue Network and Services Plan be retained

4.5 Refer Submission 85 D14. The 150 metre buffer zone must remain in place for the Lincoln Wastewater Treatment Plant – WwTP area. The WwTp is, and will remain an essential component in the operation of the wider Eastern Selwyn Sewage Scheme.

4.6 I note that the Ministry of Works Manual "Guidelines for Construction and Maintenance of Oxidation Ponds" recommends that:

i) a built up area may not be sited less than 300 metres from an oxidation pond

ii) An isolated dwelling house may not be sited at less than 150 metres from an oxidation pond

4.7 Built up areas should be considered as urban areas, and isolated dwellings as rural residential land areas respectively.

4.8 The Lincoln WwTP is an operational site, and there is the potential at any time for sewerage odours and aerosol discharges to occur. Allowing housing to move into a zone immediately adjacent to wastewater treatment provides the expectation to the adjoining residents that there will be no adverse effects. That is not the case.

4.9 While the oxidation pond system by itself will not be required as part of the day-to-day operation of the ESSS, it will be needed in the event of critical network and treatment outages. The oxidation pond is a critical element for treatment and storage of wastewater in both the 7 September 2010 and 22 February 2011 earthquakes.

4.9.1 It should also be recognised that the WwTP performance remains dependant on natural influences as much as mechanical ones. A range of factors outside Councils control including wind direction, sunlight and ambient temperature effect wastewater quality and can have an effect on neighbouring properties at any time.

4.10 Refer Submission 85 D16. Lincoln Land Developments have stated via their consultant (Mr Rob Kerr) that amendment to future stages of stormwater treatment and disposal will be coordinated with Council, to be informed by the Lincoln Integrated Stormwater Management Plan. Council has also advised Lincoln Land Developments of the need for a centralised wastewater treatment pump station in their property and identified that it will have a cost share role in this.

Joint submission from Mahaanui Kurataiao Ltd, Te Runanga o Ngai Tahu, Te Waihora Management Board & Te Taumutu Runanga	S87	D1	Supports in principle	Supports in principle the strategic, community approach of Plan Change 7 to better manage urban development, rather than leaving it to the market.
		D4	Amend	ODP Area 1 (Lincoln) - Ngai Tahu seek that riparian margin and appropriately planted buffer at least 20 metres in width is provided along the L1 to buffer the river, better provide for water quality in the river and through this provide for restoration and enhancement of tangata whenua values.
		D5	Amend	ODP Area 1 (Lincoln) - Ngai Tahu recommends the creation of a 'spring reserve' to protect the existing springs that are located on the southern boundary.
		D6	Oppose	ODP Area 2 (Lincoln) - Ngai Tahu strongly oppose the location of the stormwater treatment in this area. Ngai Tahu request that the Council redesign the location of the proposed wetland stormwater treatment area to a site which does not contain existing springs.
		F15 - Lincoln Estates Ltd		*Oppose*
		D7	Support	ODP Area 2 (Lincoln) - Ngai Tahu support the creation of esplanade reserves along L1 and Ararira / L2 to protect the rivers. However, they recommend that there be an explicit requirement for the width of the esplanade reserves along these rivers to be at least 20m
		F15 - Lincoln Estates Ltd		*Oppose*
		D8	Oppose	ODP Area 2 (Lincoln) - The lack of protection of the existing drain/race that runs from Ellesmere Road to Ararira / L2 is also opposed and is recommended as requiring riparian planting.
		F15 - Lincoln Estates Ltd		*Oppose*
		D9	Oppose	ODP Area 2 (Lincoln) - Oppose the location of the "swale routes" and possibly the "potential alternative stormwater treatment and storage facility" along Ellesmere Rd where there is a significant remnant bush/wetland area (cabbage trees & associated vegetation). Ngai Tahu request (as stated above) that Selwyn District Council redesigns the location of the proposed stormwater system in the ODP Area 2.
		F15 - Lincoln Estates Ltd		*Oppose*
		D10	Amend	ODP Area 3 (Lincoln) - Ngai Tahu wish to see the establishment of a 'springs reserve' as discussed in ODP Area 2, and seek that the area be given specific plantings to support customary use by the local whanau and hapu. Ngai Tahu also considers there is a lack of

				protection given to the existing drain/race that runs off Birchs Rd, and Ngai Tahu seek that the Council includes riparian planting as a buffer along this drain/race
		F29 - Plant and Food Research		*Oppose*
		D11	Support	ODP Area 3 (Lincoln) - The planting of streets and reserves with special trees and landscaping in ODP Area 3 is supported but Ngai Tahu request that specific reference is made to planting locally sourced indigenous species in particular especially where streets are adjacent to springs and waterways.
		D12	Support	ODP Area 4 (Lincoln) - Ngai Tahu support the protection of races through the incorporation of the races within the reserves, however Ngai Tahu seek that all races are explicitly identified as requiring protection with riparian planting within the reserves and that the planting criteria refer to locally sourced indigenous species
		D13	Amend	ODP Area 4 (Lincoln) - Ngai Tahu request that Council specifically include provision for establishment of a 'spring reserve' as an acknowledge of the significance of waipuna (springs) to tangata whenua and to this area.
		D14	Amend	ODP Area 6 (Lincoln) - The lack of protection of Liffey Stream with riparian planting is a concern to Ngai Tahu. To address this a 20 metre planted buffer and riparian margin is requested to be incorporated for the L1. This buffer should include appropriate indigenous plantings
		D24	Amend	Ngai Tahu seek that the Council ensure that rules for subdivision, landuse and earthworks reflect the protection and restoration matters described in the ODP and policy sections of this submission.
		F15 - Lincoln Estates Ltd		*Oppose*

4.11 Submission 87 D1. I acknowledge this support.

4.12 Submission 87 D4. I agree in principle with the need for improved riparian management and Council is developing a management plan, including landscape and planting requirements, to enable that through the ISMP/global discharge consent process. Ngai Tahu will be invited to comment on this plan. Council has taken expert advice specific to Lincoln from an ecologist, (Dr Vaughan Keesing of Boffa Miskell) who stated in his November 2010 report, *"The cultural impact assessment noted that riparian planting of at least 20m width with locally sourced endemic species be under taken to create a naturalise area. The planting was to increase biodiversity, suppress weeds, provide shading, decrease temperature and increase bank stability. These are general and proper goals, but there are several caveats to these general goals.*

The first is that a 20m width is not necessarily required (there is no ecological evidence for this figure; it is an often quoted "guesstimate" (BML 2001), especially on a landform with low to no slope. In many cases a 5m wide buffer is sufficient to provide all of the benefits attributed to a riparian vegetation cover and the width should be assessed for every site".

4.13 Submission D87 D5. This land is owned by a joint venture between Ngai Tahu and Lincoln University (Lincoln Land Developments) and I suggest Ngai Tahu deal with the matter accordingly. Any springs located outside ODP Area 1 are beyond the Urban Limit and the area covered by the global discharge consent application.

4.14 Submission D87 D6. The location requirements have been discussed with Ngai Tahu on a number of occasions on site and at hui. Council has chosen to use a best practice stormwater "train" approach comprising swales leading to ponds and to wetlands for stormwater flow and quality management. This logically places wetlands at the downstream end of the relevant ISMP catchment areas, rather than within those areas. The existing springs will be protected as far as possible. Some spring flow will be required in extended drought conditions to keep wetland plants alive

4.15 Submission D87 D7 The riparian management plan and ecologist's expert advice noted above should be referred to. The specific width required should be determined at the time of subdivision.

4.16 Submission D87 D8. SDC has developed a "spring waterway" concept' plan in consultation with Ngai Tahu, which involves the separation of spring water from stormwater on the western side of Ellesmere Road. This will be achieved by piping the spring water from within ODP Area 2 and part of ODP 3 to the proposed open spring waterway across the top of the wetland, which is then discharged directly into the L2/Ararira confluence. It is estimated that $300,000 of works will be necessary for the proposed spring water way across the Adams Block site – a meandering channel to protect existing springs and collect their flows, with riparian plantings and a walkway, and to provide discharge of the present flows to the present L2 confluence

4.17 The details of this concept are included within the global discharge consent application and will be dealt with through this consent process.

4.18 Submission D87 D9. Council will not consider works on eastern (Tai Tapu) side of Ellesmere Road.

4.19 The reasons for swale and wetland locations are discussed above. Heavily modified remnant bush has been identified as valued to iwi in the "Lincoln Estates Ltd" parcels. This will be identified in the ISMP, but is not a priority for Council to enhance. Maintenance of the remnant bush would be the responsibility of the property owner, therefore is not a priority of council

4.20 Stormwater created through subdivision is expected to be treated through swales and infiltration, with peak flows reticulated to the larger Adams block wetland system (lower end of ODP2).

4.21 The proposed wetland, as with wetlands and swamps that existed before occupation, will require base flows to keep it healthy during drought conditions. Base spring flows would allow for a variety of flora and fauna to thrive in the area. This is expected to include tuna and harakeke. Existing spring flows and groundwater in the southern part of the block should provide for that health. Unavoidably there will be a small amount of spring water being mixed with stormwater and directed through the wetland to the L2, which should be recognised as unavoidable even with the significant capital works proposed

4.22 I am comfortable working with iwi on selecting plant types, and setting planting and maintenance plans. I consider that undertaking any construction and operation works is solely Council's responsibility given the costs and responsibility fall to Council. As a result, a minimum level involvement from iwi will be appropriate.

4.23 Submission D87 D10. **Halswell River.** Council is focused on ensuring that no stormwater in addition to the current discharges to the Halswell catchment occur. The Canterbury Regional Council have made it clear that at peak flow the Halswell River catchment is at capacity. Council does not intend to discharge additional stormwater to this catchment. A dry pond and dry planting design is expect to be used in this area. Council will work with iwi on a developing a planting plan.

4.24 As noted in the hui response from Mahaanui Kurataiao (25 August 2010), infiltration will be used where possible. A secondary flow path will be via the west side of Ellesmere Road, into the system identified in the "Lincoln Estates Ltd parcel" section.

4.25 Submission D87 D10 **Ephemeral Channel.** The ephemeral channel is located in a highly modified area. Although it is identified in regional plan maps as a stream and appears to be a remnant river channel, flow now only occurs during prolonged rainfall. Council is not aware of any evidence of a spring at the head of this channel. Monitoring of groundwater levels in the vicinity shows they are usually well below ground surface. The extent of

planting and type of improvement works will be controlled by the riparian management plan and confirmed during any subdivision consent process and onsite works.

4.26 The Canterbury Regional Council has made it clear that the Halswell River catchment is at capacity. Council does not intend to discharge additional stormwater to this catchment. Flow from the ephemeral channel has been passing southwards down the western side of Ellesmere Road for many years and we expect that to continue under the ISMP.

4.27 Council will ensure that via discussion with the land owner and as part of the subdivision process, cultural requirements are integrated into any final design. The next opportunities for discussion on this to occur are via these hearings and during the ISMP consent submission process.

4.28 Submission D87 D11. As noted above, SDC has engaged Dr Vaughan Keesing to provide expert ecological advice. His advice, quoted from his November 2010 report for Council, is that:

*"...*an increased use of appropriate native species is recommended and will assist the longer term revival of water quality and biotic quality. The species do not however, need to be "endemic" but rather indigenous and appropriate riparian species for the locality."Endemic" means that a species if found only in a specific place and restricts choice – it is unlikely that any native plants are truly "endemic" to these waterways. It is likely that the cultural impact assessment is seeking the use of plants that would have been found naturally in the area prior to European settlement, in which case a range of locally appropriate native species would be available for use."

4.29 Smarts Drain is managed by the Canterbury Regional Council - CRC. A large number of potential rural residential sections will be created as a result of PC7. Selwyn District Council will work with the CRC to ensure that any secondary flow path stormwater resulting from development disposed to Todds drain is treated to consent standards. Plantings and swale treatment will form a vital part of this process. We expect to develop a planting plan with the input of iwi and this will be pursued through the global discharge consent process.

4.30 Submission D87 D12. This is to be included in the proposed riparian management plan which is to be developed through the global discharge consent process.

4.31 Submission D87 D13. Council are not aware of any springs in this area. Neither does ECan's mapping show any.

4.32 Submission D87 D14. Please refer to the ecologist's recommendations and riparian

management planning comments above.

Plant and Food (L)	S29	D1	Oppose in part	Unless the following amendments are made
		D3	Amend	That the ODP for Area 3 (Lincoln) be approved subject to the amendments proposed in Attachment 2
		F27 - Ministry of Education		*Oppose*

4.33 Submission s29 D1. With respect to amendment 1 – "Introduction" I accept that this is reasonable with respect to water, sewer and stormwater servicing, with the provision that it does not reduce the Level of Service adopted by Council to any lot or the wider schemes. A reduction in level of service includes reduced pressure, flow, pipe grades and installation outside appropriate Engineering Code of Practice and non-compliance with Council consents.

4.34 With respect to amendments 7 and 8, I accept that inclusion of the word "indicative" before the notations for "sewer main routes", "stormwater pond" and "pump station" is reasonable on the basis that it does not compromise the appropriate Level of Service and Engineering Design standards. I also accept that the amendment to "Sewer Network" through the addition provided is appropriate noting the constraints above.

Denwood Trustees Ltd (L)	S90	D1	Oppose	Oppose all of Plan Change 7 except for the provisions relating to Rolleston and for medium density housing
		F15 - Lincoln Estates Ltd		*Oppose*
		D2	Support in part	The Trust supports the provision in PC7 for the Lincoln B2 Zone being zoned Business 2, but opposes the Deferred status of the zoning. It seeks that this be removed, and the land be zoned Business 2. It seeks amendments to the B2 Zone rules as they affect the Lincoln B2 Zone as set out in Appendix B and, if ODPs are to retained as part of PC7, inclusion of the Area 5 ODPs for the proposed B2 and LZ Zones as setout in Appendix C of our submission.
		F28 - Lincoln University		*Oppose*
		D3	Oppose	The Trust opposes the balance of its land (70ha) being zoned Rural Outer Plains under PC7. In terms of PC7, the Trust seeks that its balance 70ha be either (in order of preference):- * Rezoned Living Z and included as a greenfield development area able to be developed immediately; or * Rezoned partially Living Z and partially Business 2 and included as a greenfield development area able to be developed immediately; or * Rezoned Living 2 (average allotment size 3000m2) and included as

				a greenfield development area able to be developed immediately; or If ODPs are retained as part of PC7, the Trust seeks that its balance land be included as part of the ODP Area 5.
		F28 - Lincoln University		*Oppose*
		F31 - New Zealand Transport Agency		*Oppose*
		D4	Oppose	The Trusts seeks removal from PC7 of the provisions for phasing of development. If phasing is retained in PC7, the Trust seeks that all of its land (80ha) be zoned for immediate development (ie not deferred). If phasing is retained in PC7, then the Trust seeks more flexibility for amending phasing where sustainable management of physical and natural resources will still be achieved, by way of a restricted discretionary resource consent application (or similar).
		F15 - Lincoln Estates Ltd		*Support*
		D5	Amend	Policy B4.3.7 as follows: "Each Outline Development Plan shall include: "(vi) Set out the staging and coordination of subdivision and development in line with the staging shown on the Planning Maps, except where it can be demonstrated that the rate and location of development can be integrated with the provision of infrastructure and associated funding mechanisms by a different method to that which forms the basis for the applicable development staging provisions in the District Plan and Plan Change 1 to the Canterbury Regional Policy Statement"
		F15 - Lincoln Estates Ltd		*Support*
		D6	Amend	Policy B4.3.8 as follows: "Except as provided for in Policy B4.3.9, ensure that the staging of any Greenfield urban growth area shown on the Planning Maps occurs as follows:"
		F15 - Lincoln Estates Ltd		*Support*
		D7	Amend	New Policy B4.3.9 as follows: "Enable development to proceed ahead of the phasing requirements set out in Policy B4.3.8 and as shown on the Planning Maps and appendices in circumstances where it can be demonstrated that the rate and location of development can be integrated with the provision of infrastructure and associated funding mechanisms by a different method to that which forms the basis for the applicable development phasing provisions in the District Plan and Change 1 to the Canterbury Regional Policy Statement.

				This policy is intended to provide for some flexibility in the staging of development, in accordance with the enabling provisions of the Resource Management Act 1991. It recognises that there may be a number of ways of providing for and funding infrastructure requirements, including developer-funding upgrades (to be subsequently recovered from the Council where the upgrades have wider public benefits), and temporary solutions which generate capital contributions to the Council upgrades programmed for a later date. Such flexibility will help ensure a continuous supply of residential sections in accordance with market demand, and avoid the potential for a few landowners allocated to 'early stages' 'monopolising' the development process"
		F15 - Lincoln Estates Ltd		*Support*
		D8	Amend	Explanation and Reasons of Policy 4.3.9 (renumbered 4.3.10) to read as follows: "… It is nonetheless recognised that through the detailed preparation of subdivision consent applications or asset design processes there is the potential for alternative solutions or routes to be developed that still achieve the outcomes sought in the ODPs than the broad land use pattern shown on the ODP. When assessing applications for development that is not in accordance with an ODP, it is anticipated that such applications will only be granted where they are able to demonstrate that the proposed development still achieves the key principles and outcomes sought in the ODP than the layout shown in the ODP.
		F15 - Lincoln Estates Ltd		*Support*
		D9	Amend	Policy B4.3.50 as follows: "Except as provided for in Policy B4.3.9, ensure that new Greenfield urban growth only occurs within the Outline Development Plan areas identified on the Planning Maps and in accordance with the staging set out in Policy B4.3.8
		F15 - Lincoln Estates Ltd		*Support*
		D10	Amend	Subdivision Rule 12.1.6.5 as follows: Restricted Discretionary Activities - Subdivision - General. The following activity shall be a restricted discretionary activity:- Any subdivision in a Living Z Zone covered by an operative Outline Development Plan within the District Plan that is not in general accordance with the Outline Development Plan and/or the Planning Maps including in relation to phasing. The exercise of discretion shall be restricted to the matters set out below: * With regard to the matters listed in Policy B4.3.7, whether the proposed amendments (e.g. alternative routes, staging, infrastructure methods) will enable development to proceed without compromising the long term outcomes sought in the ODPs; and/or where it can be shown that the proposed amendments better achieve the overall purpose of the ODPs of achieving integrated high quality urban development based on best practice urban design

				principles. * Appropriate mechanisms (funding, covenants, consent notices on titles etc) to assist with achieving the above outcomes.
		F15 - Lincoln Estates Ltd		*Support*
		D11	Oppose	The requirements of Policy B4.3.56 for the form of ODPs for each ODP area are too restrictive and should be deleted or amended.
		F15 - Lincoln Estates Ltd		*Oppose*
		D12	Amend	ODP Area 5 - B2 Zone: The Trust seeks that the Deferred status be removed from the Lincoln proposed B2 Zone at Springs Road; and that the ODP Area 5 - Lincoln B2 Zone as attached as Appendix C be included as part of PC7; and the amended B2 rules as they apply to the B2 Zone at Lincoln as attached as Appendix B be included as part of PC7. Two alternative ODPs are included in Appendix C, with the preference for Option 1 which does not show the potential Southern Bypass. The amended B2 Zone rules for Lincoln are considered appropriate in terms of the requirements of Part 2 of the Act, in particular to avoid or mitigate any potential environmental effects on adjoining zones. Also attached as Appendix D is a s32 assessment in support of the removal of deferred status, the Area 5 ODP and the amended B2 rules for the Lincoln B2 Zone. This includes a noise report from Marshall Day Acoustics explaining the reasoning for the proposed noise rules
		D13	Amend	ODP Area 5 - LZ Zone: The Trust further seeks that the balance of the Trust land be rezoned LZ; and the ODP Area 5 - Lincoln LZ Zone as attached as Appendix C be included as part of PC7. Two alternative ODPs are included, with the preference for Option 1 which does not shown the potential Southern Bypass. As an alternative to the above, the above Area 5 ODPs could be amended to provide for a larger B2 Zone south of the proposed B2 Zone, as shown on the plan attached as Appendix F. The Trustees seek this alternative in the event that it is preferred by the Council

4.35 Submission s90 D2. As identified earlier in my evidence, provision of utilities infrastructure in a coordinated and efficient manner should occur. Development and therefore connection of the proposed Denwood development to the Council's water and sewer networks would be inefficient compared to other locations because:

- It provides for a “orphan” sewer and water services line, which will result in unduly increased costs of operation, maintenance and renewal over the asset life
- There are other locations in the PC7 Limits where development would be more efficient and effective e.g. adjacent to existing infrastructure
- Development in this area may result in neighbouring properties requesting access, potentially resulting in the need for upgrades, further exacerbating demand on orphan services.

4.36 It should be noted as part of the ESSS major wastewater rising main is proposed for installation in Springs Road, to Gerald Street intersection and thereon to Rolleston. No access is available to that rising main from development as it has the potential to compromise the operation of this mains operation.

4.37 On a smaller scale council has previously experienced this in the Tai Tapu - Christchurch City rising main. In this case the individual connection have been allowed, but caused severe difficulties in operation. In hindsight had I been part of the design than I would not have supported these connections.

McIntosh, Jung and Lee (L)	S89	D1	Oppose	We oppose Plan Change 7 provisions except for those relating to medium density housing and Rolleston.
		F103 - Hopkins		*Oppose*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		D2	Amend	We consider that our land and the rural residential blocks to the north legally described as Lot1-6 DP371976 should be included within the PC7 Living Z Zone and, if staging is retained (which we oppose), staged for immediate development
		F31 - New Zealand Transport Agency		*Oppose*
		F98 - Belcher		*Oppose*
		F99 - A Belcher		*Oppose*
		F103 - Hopkins		*Oppose*
		F102 - McKeich		*Support*
		F101 - Jacques		*Oppose*
		F100 - Pringle		*Support*
		D3	Oppose	We seek deletion of all of the phasing provisions in PC7. If phasing is retained in PC7, then we seek more flexibility for amending phasing where sustainable management of physical and natural resources will still be achieved, by way of a restricted discretionary resource consent application (or similar)
		F85 - LLD		*Support*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		F15 - Lincoln Estates Ltd		*Support*
		D4	Amend	Policy B4.3.7 as follows: "Each Outline Development Plan shall include: "(vi) Set out the phasing and coordination of subdivision and development in line with the staging shown on the Planning Maps and Appendices, except where it can be demonstrated that the rate and location of development can be integrated with the provision of infrastructure and associated funding mechanisms by a different method to that which forms the basis for the applicable development staging provisions in the District Plan and Change 1 to

				the Canterbury Regional Policy Statement"
		F99 - A Belcher		*Oppose*
		F85 - LLD		*Support*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		F15 - Lincoln Estates Ltd		*Oppose*
		D5	Amend	Policy B4.3.8 as follows: "Except as provided for in Policy B4.3.9, the phasing of any living Z shown on the Planning Maps and Appendices occurs as follows:"
		F99 - A Belcher		*Oppose*
		F85 - LLD		*Support*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		F15 - Lincoln Estates Ltd		*Support*
		D6	Amend	New Policy B4.3.9 as follows: "Enable development to proceed ahead of the phasing requirements set out in Policy B4.3.8 and as shown on the Planning Maps and appendices in circumstances where it can be demonstrated that the rate and location of development can be integrated with the provision of infrastructure and associated funding mechanisms by a different method to that which forms the basis for the applicable development staging provisions in the District Plan and Change 1 to the Canterbury Regional Policy Statement.
				This policy is intended to provide for some flexibility in the phasing of development, in accordance with the enabling provisions of the Resource Management Act 1991. It recognises that there may be a number of ways of providing for and funding infrastructure requirements, including developer-funding upgrades (to be subsequently recovered from the Council where the upgrades have wider public benefits), and temporary solutions which generate capital contributions to the Council upgrades programmed for a later date. Such flexibility will help ensure a continuous supply of residential sections in accordance with market demand, and avoid the potential for a few landowners allocated to 'early stages' 'monopolising' the development process"

		F99 - A Belcher		*Oppose*
		F85 - LLD		*Support*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		F15 - Lincoln Estates Ltd		*Support*
		D7	Amend	Explanation and Reasons of Policy 4.3.9 (renumbered 4.3.10) to read as follows: "… It is nonetheless recognised that through the detailed preparation of subdivision consent applications or asset design processes there is the potential for alternative solutions or routes to be developed that still achieve the outcomes sought in the ODPs than the broad land use pattern shown on the ODP. When assessing applications for development that is not in accordance with an ODP, it is anticipated that such applications will only be granted where they are able to demonstrate that the proposed development still achieves the key principles and outcomes sought in the ODP than the layout shown in the ODP.
		F85 - LLD		*Support*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		F15 - Lincoln Estates Ltd		*Support*
		D8	Amend	Policy B4.3.50 as follows: "Except as provided for in Policy B4.3.9, ensure that new Greenfield urban growth only occurs within the Outline Development Plan areas identified on the Planning Maps and Appendices and in accordance with the phasing set out in Policy B4.3.8 once adequate infrastructure and servicing is available
		F85 - LLD		*Support*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		F15 - Lincoln Estates Ltd		*Support*
		D9	Amend	Subdivision Rule 12.1.6.5 as follows: Restricted Discretionary Activities - Subdivision - General. "The following activity shall be a restricted discretionary activity:- Any subdivision in a Living Z Zone covered by an operative Outline Development Plan within the District Plan that is not in general accordance with the Outline Development Plan and/or the Planning Maps and Appendices including in relation to phasing

				The exercise of discretion shall be restricted to the matters set out below:- * With regard to the matters listed in Policy B4.3.7, whether the proposed amendments (eg alternative routes, phasing, infrastructure methods) will enable development to proceed without compromising the long term outcomes sought in the ODPs; and/or where it can be shown that the proposed amendments better achieve the overall purpose of the ODPs of achieving integrated high quality urban development based on best practice urban design principles. * Appropriate mechanisms (funding, covenants, consent notices on titles etc) to assist with achieving the above outcomes"
		F99 - A Belcher		*Oppose*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		F15 - Lincoln Estates Ltd		*Support*
		D10	Oppose	The requirements of Policy B4.3.56 for the form of ODPs for each ODP area are too restrictive and should be deleted or amended.
		F99 - A Belcher		*Oppose*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		D11	Support in part	We seek that if ODP requirements in Policy B4.3.56 are to be retained, the following amendments are made to the ODP Area 1 matters:
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		D12	Amend	Delete the notation 'potential stormwater management area' over our land and amend the area of ODP 1 to include our land.
		F99 - A Belcher		*Oppose*
		F85 - LLD		*Support*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		D13	Amend	Delete 'Maintenance of the buffer zone (150m) around the perimeter of the sewerage treatment plant'. This is to be decommissioned so is unnecessary and should be removed

		F99 - A Belcher		*Oppose*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		D14	Amend	Amend bullet point 5 to read "Provision of a comprehensive stormwater/wetland system, including stormwater wetland areas where required to accommodate necessary flows, in accordance with approved stormwater discharge consents, and based on mitigation of stormwater effects within the ODP 1 Area".
		F85 - LLD		*Support*
		F102 - McKeich		*Support*
		F100 - Pringle		*Support*
		D15	Amend	Amend ODP 1 to show a roading link to the boundary of our land, or as a less preferred alternative, to the boundary of the existing rural lifestyle blocks to the north of our land (as per amended ODP Area 1 attached as Appendix D)
		F31 - New Zealand Transport Agency		*Oppose*
		F98 - Belcher		*Oppose*
		F99 - A Belcher		*Oppose*
		F103 - Hopkins		*Oppose*
		F102 - McKeich		*Support*
		F101 - Jacques		*Oppose*
		F100 - Pringle		*Support*
		D16	Amend	We seek that if the provisions for ODPs in PC7 is retained, an additional ODP Area 7 is included, as attached as Appendix E of our submission. ODP Area 7 covers our land and Lots 1-6 DP371976 sited immediately to the north. We seek that all the land within ODP Area 7 be zoned Living Z.
		F31 - New Zealand Transport Agency		*Oppose*
		F98 - Belcher		*Oppose*
		F99 - A Belcher		*Oppose*
		F103 - Hopkins		*Oppose*
		F102 - McKeich		*Support*

		F101 - Jacques		*Oppose*
		F100 - Pringle		*Support*
		D17	Amend	We seek that if the provisions for ODPs in PC7 is retained the following is added to the Policy B4.3.56: "Outline Development Plan Area 7 *ODP Area 7 align with ODP Area 1. * Provision for changing the status of the existing right of way at the end of Allendale Lane, in the adjoining Ryelands subdivision, to local road, with a minimum legal width of 10m and minimum formed width of 6m; * Provision for a possible road linkage to the adjoining ODP Area 1; * Provision for a stormwater management system; *Provision for wells and water pumping facilities to provide sufficient capacity for all future growth in this area; * Provision for a reticulated wastewater system and pumping stations with capacity to accommodate necessary flows; *Provision for a 10m esplanade reserve along the western side of the Liffey (L1) waterway, consistent with the width of the existing esplanade reserve on the west side of the Liffey through the adjoining Ryelands subdivision; * Provision for pedestrian and cycle links along the western side of the Liffey (L1) waterway; * Provision of a minimum net density of 10 households per hectare averaged over the ODP area.
		F93 - Jens Christensen		*Oppose*
		F98 - Belcher		*Oppose*
		F103 - Hopkins		*Oppose*
		F102 - McKeich		*Support*
		F101 - Jacques		*Oppose*
		F100 - Pringle		*Support*

4.38 Submission s89 – D3 & D4. I have explained, with reasoning in my evidence that plan led growth is preferred to development lead growth. I do not consider that removal of the PC7 growth sequencing is appropriate for the reasons already provided.

4.39 Submission s89 – D12. Council has previously identified that the submitters' land would be required for stormwater management, but that this relied on further stormwater modelling information. That modelling has confirmed that there is no longer a need for the submitters' land as a stormwater treatment area. Submission s89 – D13. I have noted in submission s85 – D14 that the 150m buffer for the wastewater treatment area will remain unchanged.

4.40 Submission s89 D14 – It is unclear what the submitters seek to achieve by these amendments, therefore I do not recommend in favour of any changes to the stormwater provisions for ODP Area 1.

4.41 Submission s89 D17. I have addressed the Utilities issues previously in my evidence relating to s89. If the land were rezoned to Living 2, then sewer connection could be made available, howev3er each property would be required to provide and maintain its own pumping station and directly fund wastewater main works.

4.42 Water could also be provided on a metered basis – as these larger lots would be expected to have considerably higher water demand than higher density areas. Unrestricted access to these meters would need to be provided to council.

4.43 Stormwater would be managed onsite, with the expectation that treated secondary flows would go the L1/ L2 rivers.

Rolleston

Sia Choo Leng (R)	S2	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Mei Hong Hua (R)	S3	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*

		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Wen Bin Lin (R)	S4	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Worthwhile (Ltd) (R)	S5	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*

Hoo Ting Yen (R)	S6	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Christine Siew Ing Yek (R)	S7	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		Oppose
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Ming Shong Chen and Xin Ling Lin (R)	S8	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location

				indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Jason Hoo (R)	S10	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Song Yu Rong (R)	S14	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Ming Xing Wang (R)	S35	D1	Support in part	Subject to following amendments:

		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Jin Ping Huang (R)	S36	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
Chen Jian Wang (R)	S37	D1	Support in part	Subject to following amendments:
		D2	Amend	Include the triangular area - Pt Res 1759 (indicated in the attached drawing No300/B as part of the plan change and extend the "Low Density" designated area to included this triangular area
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	Introduce another neighbourhood centre at the location indicated in the attached drawing No300/B
		F82 - Rolleston Square Ltd		*Oppose*

		F83 - Rolleston Retail Ltd	*Oppose*
		F84 - RollTen Investments Ltd	*Oppose*

4.44 There is no additional effect of including this parcel of land to Utilities infratructure. Capacity in the wastewater and water supplies is available to this area at the density shown by the submitters.

CDL Land (NZ) Ltd (R)	S32	D1	Support in part	Subject to the following amendments
		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
		D2	Amend	Policy B4.3.68 - ODP Area 1 (Rolleston) - the reference to the provision of wells should be removed

4.45 Water will be made available from Council's network to ODP Area 1. There is no requirement for water wells to be made available within the ODP area.

Selwyn District Council (R)	S43	D1	Support in part	Subject to the following amendments
		D2	Amend	Amend PC 7 to include an Outline Development Plan for Area 2 in Rolleston within Appendix 36. As an ODP has been submitted for this area, Council seeks that the zoning for this area be changed from Living Z deferred to Living Z.
		F22 - SCCB		*Oppose*

4.46 Utilities services will be made available to the site, in accordance with the staged provision of utilities.

Foster Holdings Limited (R)	S91	D5	Supports in part	ODP Area 6 subject to the following amendments
		D6	Amend	That the ODP and accompanying report at Appendix C of the submission be included within an Appendix to the District Plan, subject to any modifications as necessary and appropriate.

		F82 - Rolleston Square Ltd		*Oppose*
		F83 - Rolleston Retail Ltd		*Oppose*
		F84 - RollTen Investments Ltd		*Oppose*
		D7	Amend	That all of the land shown on Appendix C of the submission is immediately rezoned Living Z to enable residential development in accordance with the ODP.
		F22 - SCCB		*Oppose*
		F31 - New Zealand Transport Agency		*Oppose*
		D8	Amend	All consequential, additional or other amendments to the provisions of the Plan Change necessary to give effect to the intent of this submission and/or support the decision sought.

General

4.47 The ODP assessment should include a life cycle assessment of the applicable "5Waters" infrastructure related capital, operations and renewal matters. This is traditionally deferred to the subdivision level stage. However the ability to obtain lifecycle costs strongly directs the decisions for efficient and effective provision of infrastructure.

4.48 I refer to ODP document provided to Council on 18 February 2011 by Foster Holding Ltd.

Waterraces

4.49 The term "stock waterrace" is used in the Green network document. The reference should be amended to "waterrace". The waterrace has multiple functions including stock and human drinking water, fire and amenity, recreation and flora/fauna habitat.

4.50 Waterraces have been identified for use in the ODP as an amenity feature in the green space corridors and reserves. No reliance should be placed on the long term (+5 year) availability of waterraces. A process is currently underway to review the waterrace schemes strategic relevance to the community and Council.

4.51 The waterrace located on the route of (Goulds Rd (560m N of Dynes Road)-"proposed high school site"-local centre-soak hole), should be considered for closure at the Goulds Road dividing point.

4.52 In its place, emphasis should be placed on the integrated use of stormwater and waterrace water for reserve and green corridor use. This system should not be hidden behind housing and local centre structures. For integrated stormwater and waterrace use to successfully occur, stormwater quality cannot exceed specific thresholds e.g. heavy metals, bacteria and organic compounds.

Sewage Scheme

4.53 There are several options for servicing the ODP, but they must be considered in relation to the whole catchment lifecycle needs. The two main options differ by approx 50% pipe length (1.6km vs. 3.1 km) and a rough order cost of $200,000. The critical infrastructure point is the intersection of Selwyn and Springston-Rolleston Road. The ODP sewage scheme should be focused on delivering sewerage as directly as possible to that Southern pump station. That will require the assistance of Council, as other persons own the land between this OPD and Springston Rolleston Road. In addition, the landowners in the ODP will expect to pay a significant cost towards providing the “off-site” Springston-Rolleston sewage main.

4.54 On the basis that the landowner between Foster and S-R road will agree to a sewage scheme across their property, I accept that the line identified in the Blue network route is appropriate.

4.55 A temporary pump station(s) is very undesirable, both from an ongoing operations perspective and capital cost efficiency ($150,000/ per pump station).

Stormwater

4.56 Note the earlier waterrace comments. I am concerned that the stormwater facilities will not be appropriately integrated into the reserves area.

Water Supply

4.57 The ODP identifies densities of 20 hh/ha, which will require a new well to be provided. Modeling is currently underway to identify the most efficient site for these wells. While the status-quo is for more wells at IZONE, PC7 has meant that this requires review. I therefore request a well site be provided within the property, adjacent to the intersection of Dynes and Goulds Road. A site of 10m x 10m would be sufficient.

Marilyn Mc Clure & Graeme Hubbard (R)	S17	D1	Support	Subject to the following amendments
		D2	Amend	We ask that our land zoning - Living 2A be returned to that of all our surrounding neighbours - Living 1B
		F31 - New Zealand Transport Agency		*Oppose*
		F107 - Kevin Williams (Late)		*Support*
Phillip Russell (R)	S18	D1	Support	Subject to the following amendments
		D2	Amend	We ask that our land zoning - Living 2A be returned to that of our neighbours - Living 1B which was the zoning we shared with them prior to the airport sound contour zoning being imposed on us by Plan Change 60.
		F31 - New Zealand Transport Agency		*Oppose*
		F22 - SCCB		*Support*
		F107 - Kevin Williams (Late)		*Support*
		D3	Amend	Alternatively we ask that our land zoning be joined with the new Living Z area
Annmaree & Hendrickus Hofmeester (R)	S19	D1	Support	Subject to the following amendments
		D2	Amend	We ask that our land zoning (Living 2A) be returned to that of other residents in the Sheralea Estate subdivision (Living 1B) which was the zoning shared with them prior to the airport sound contour zoning being imposed by Plan Change 60.
		F31 - New Zealand Transport Agency		*Oppose*
		F22 - SCCB		*Support*
		F107 - Kevin Williams (Late)		*Support*
		D3	Amend	Alternatively we ask that our land zoning be joined with the new Living Z area
Margit Muller & David Watson	S77	D1	Support in part	Subject to the following amendments

(R)		D2	Amend	We would like the SDC to rezone our land (Living 2A) to the same as our neighbours (Living 1B). We were zoned the same as our neighbours prior to the airport noise contour being imposed on us by PC60.
		F31 - New Zealand Transport Agency		*Oppose*
		F22 - SCCB		*Support*
		F107 - Kevin Williams (Late)		*Support*

Clive Horn (R)	S21	D1	Support	Subject to the following amendments
		D2	Amend	To sub-divide in First Stage (within 10 years) - 620 East Maddisons Road
		F31 - New Zealand Transport Agency		*Oppose*
		F107 - Kevin Williams (Late)		*Support*

4.58 Utilities main could be made available to these lots at a higher density. The timing and contributions necessary by property owners has been discussed earlier.

Angelene Holton (R)	S25	D1	Oppose	Unless the following amendments are made
		F46 - Environment Canterbury		*Oppose*
		D2	Amend	That the section of East Maddisons Road currently zoned as Inner plains be rezoned as Living Z deferred
		F31 - New Zealand Transport Agency		*Oppose*
		D3	Amend	That an allocation of 200-300 houses proposed in Plan Change 7 for ODP6 be reallocated along East Maddisons Road
		F91 - Foster Holdings Limited		*Oppose*
		F31 - New Zealand Transport Agency		*Oppose*

		D4	Amend	That the Council includes the inner section of East Maddisons Road (both sides) in Living Z zoning for ODP6, providing landowners in that area with an opportunity to subdivide or provide land for recreational and community development purposes
		F31 - New Zealand Transport Agency		*Oppose*
		D5	Amend	That the Council considers options for adequate development of the larger sized section running along the inside of East Maddisons and Goulds Road to prevent reverse sensitivities arising from new landowners investing in residential land in ODP6
		F91 - Foster Holdings Limited		*Oppose*
		F31 - New Zealand Transport Agency		*Oppose*
		D6	Amend	That the Council reconsiders Plan Change 7 in light of the principles of the District Plan, and reconsiders the development of large areas proposed for rezoning in Outline Development Plan Area 5 and Outline Development Plan Area 6 along Goulds Road
		F91 - Foster Holdings Limited		*Oppose*
		F31 - New Zealand Transport Agency		*Oppose*

4.59 Provision of trunk utilities services in this area are not proposed till 2021 onwards

Klaus Detlef Prusas (R)	S33	D1	Not stated	Re-evaluate the policies involving land identified as part of the SDC Structure Plan warranting residential intensification
		D2	Not stated	Rezone Living Zone 2 (Rolleston) To average allotment sizes to not less than 2000m2 with deferral to a minimum lot area 1000m2 at a later date.
		F31 - New Zealand Transport Agency		*Oppose*
		F106 - Michael Wilson		*Support*
		F105 - Dene Christensen		*Support*
		F104 - Shona Christensen		*Support*

William McGill (R)	S64	D1	Oppose	Unless the following amendments are made
		D2	Amend	To rezone the land known as Helpet Park that is the area of land between Lowes Road, Lincoln Rolleston Road, Springston Rolleston Road and the Helpet Sewerage Plant Living 1.
		F31 - New Zealand Transport Agency		*Oppose*
		F22 - SCCB		*Oppose (would support rezoning to Living Z)*
		F108 - David and Donna Butts		*Support*
		F105 - Dene Christensen		*Support*
		F104 - Shona Christensen		*Support*
		D3	Amend	As an alternative remove the Living 2A zoning for replacement to a Living 2 zone

4.60 Water services are available, but wastewater council services on Lincoln- Rolleston Road are not proposed until after 2021. Access to the sewerage rising main in Lincoln-Rolleston Road is not available.

Dianne Perry (R)	S42	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Oppose	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots
		F31 - New Zealand Transport Agency		*Oppose*
Trevor and Mary Ford (R)	S56	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive

				block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots
		F31 - New Zealand Transport Agency		*Oppose*
Keith Ian & Karen Jean Wills (R)	S57	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots
		F31 - New Zealand Transport Agency		*Oppose*
T B Mander (R)	S58	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots
		F31 - New Zealand Transport Agency		*Oppose*
Robin Savage (R)	S59	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which

				properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots.
		F31 - New Zealand Transport Agency		*Oppose*
Sarah Kirk (R)	S60	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots.
		F31 - New Zealand Transport Agency		*Oppose*
Alan Blair & Kathleen Joy Haylock (R)	S61	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots.
		F31 - New Zealand Transport Agency		*Oppose*
John Henning Hansen (R)	S62	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which

				properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots.
		F31 - New Zealand Transport Agency		*Oppose*
Trevor Allan Smillie (R)	S63	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots.
		F31 - New Zealand Transport Agency		*Oppose*
Elizabeth Lockhead (R)	S65	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots.
		F31 - New Zealand Transport Agency		*Oppose*
Jacqueline and Warren Tindall (R)	S66	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which

				properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots.
		F31 - New Zealand Transport Agency		*Oppose*
Howard Oscar & Sharyn Judith Bailey (R)	S67	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots
		F31 - New Zealand Transport Agency		*Oppose*
Kevin & Maureen Henry (R)	S68	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots.
		F31 - New Zealand Transport Agency		*Oppose*

Vincent Hsu & Daphne Chao (R)	S69	D1	Oppose	The adoption of Plan Change 7 would see our ability to utilise our property for residential subdivision deferred until at least 2041. This comment applies to several properties in the area bounded by Lincoln Rolleston Road and Branthwaite Drive. We ask Council to rethink the time frame within which properties in the Lincoln Rolleston Road / Branthwaite Drive block might be developed.
		F31 - New Zealand Transport Agency		*Oppose*
		D2	Amend	If Council is not prepared to move in the manner suggested, it may be appropriate for all land designated Stage 3 to be removed from the Urban Limits and accorded a zoning which could see it developed in the like of 1 - 2 hectare lots
		F31 - New Zealand Transport Agency		*Oppose*

Submissions S42, S56-S63, S65-S69

4.61 Provision of sewerage mains in an efficient and effective manner is in my opinion the most significant utilities constraint for Rolleston.

4.62 The ESSS, as detailed in this evidence requires that a major pumpstation be constructed on the route from Lincoln WwTP to Pines II. This route prudently follows existing road reserves and the lower perimeter of the Rolleston metropolitan Urban Limit.

4.63 That pumpstation position is determined by the headloss demands brought about by the pushing sewerage upgradient. Pipe constraints (from Lincoln) dictate e.g. diameter, internal wall roughness and operational costs e.g. electricity have dictated that the most prudent location for a pumpstation is at the intersection of Selwyn/Springston-Rolleston Road.

4.64 The location of this critical pumpstation is also supported by extension and connection of a sewerage main down the length of Springston – Rolleston Road in the long term. This township sewage line will allow for the proposed development lead growth to be undertaken in the most efficient manner. While it is acknowledged that temporary pumpstation may be required – refer submission 591 that only facilitates the longer term solution of gravity discharge direct to Selwyn/Springston – Rolleston Road intersection pumpstation.

4.65 It is not as efficient or effective to provide sewerage pipe along Lincoln-Rolleston Road. The number of additional connections expected in this local area is lower, the

comparatively higher cost to install the pipe due to depth (gravity) requirements and greater length collectively assist in my opinion on this matter.

4.66 Water pipe installation logically provided installed with sewerage pipes while water pipes installation is comparatively cheaper than sewerage pipes, a key and common issue is efficient utilisation of the service.

4.67 In summary I do consider that provision of water and sewerage pipes on Lincoln-Rolleston Road is substantially less efficient and effective than provision on Springston Rolleston Road.

6 Conclusions

6.1 In conclusion it is my opinion that:

i. There are significant advantages, from a water and wastewater servicing perspective, associated with the planned approach to growth.
ii. These advantages principally relate to greater efficiency of infrastructure planning, construction and cost recovery.
iii. Plan Change 7 would enable the council to better achieve efficiencies and avoid unnecessary costs in the servicing of growth.
iv. There is greater efficiency and lower risk associated with consolidated development over that of disjointed growth.
v. It is important for council to ensure growth is enabled, as it is through development that the investment made by council in growth related infrastructure is recovered.
vi. I am satisfied that Selwyn District Council will be able to manage the growth allocated through PC7.

H M Blake-Manson
ASSET MANAGER UTILITIES

Appendix 1 – Eastern Selwyn Growth Projections (BERL Rebased 2008)

Population	Year			
Community	2011	2016	2026	2041
Lincoln	3,735	4,726	6,027	11,897
Prebbleton	2,492	3,173	4,066	4,962
Springston	450	443	441	462
Rolleston	7,850	9,771	15,219	18,368
West Melton	164	163	172	840
Rural Residential	62	280	560	700
Uni + science	2,810	2,810	2,810	2,810
TOTAL	**17,563**	**21,366**	**29,295**	**40,039**

Appendix 2 – TDS Table 2: Development Phasing For Greater Christchurch 2007-2041

Selwyn District	Properties		
	2007-2020	**2021-2041**	**2007-2041**
Lincoln	1,740	2,160	3,900
Rolleston	2,052	3,323	5,375
West Melton (zoned)	570	0	570
Prebbleton	998	297	1,295
SDC Total	**5,360**	**5,780**	**11,140**