

Landscaping and permeable surface

- Continuous strip between the street and the land use, and in between parking lots
 - Landscaping buffer zones (10 – 15m) between LFR site and surrounding zone edges (e.g. along rural boundary, along residential boundary, along industrial boundary)
- Landscaping areas should be permeable
- Input from storm-water engineers is required to assist with the definition of the required amount of permeable surface
- The capture and treatment of storm-water to achieve defined water qualities should be considered with the input from a hydrologist
- Due to their location in storm water sensitive areas, specific rules for site options B-1 and B-2 with regards to groundwater should be defined

Loading

- Loading should take place at the back of the building unless there is a residential interface, in which case it should be located on the side of the building

Access from SH/ Arterials

- Whether direct vehicle access is allowed should be defined
- The minimum distance between intersections and vehicle access points should be defined

Architectural quality

High quality architecture should be encouraged by:

- Making the activity a Restricted Discretionary Activity

GROWTH OPTIONS FOR BLENHEIM

6.14 Projected residential growth needs for Blenheim

Council's current projection is a total population of 29,410 in 2031. This means an increase of **6300** from 2006. This equates to **2,625** new households at a 2.4 occupancy rate. The area needed for this number of households ranges between:

- **263** hectares at 10 units per hectare; and
- **175** hectares at 15 units per hectare.

This amount of residential growth can be accommodated in a number of ways:

1. **Subdivide existing lots** (infill behind existing houses). There is potential to do this in an affordable way and cater for changing households, e.g. by way of granny flats and sleep-outs. However, in response to undesirable poor quality outcomes, better controls are required. This will impact on the realistic potential.
2. **Redevelop existing sites** (infill + replace old house). A maximum of 2 units max per 'parent' site is still the most likely to be deliverable. Cost issues reduce feasibility unless the existing house is in a very poor condition. Redeveloped units will likely to be sold for a high price, which impacts negatively on the objective to provide for affordable housing.
3. **'Brownfield' development / integrated residential development.** A minimum site size of 1,600m² can deliver 3 units per 800 m² original site. Densities up to 20 – 25 units / ha can be delivered.
4. **Greenfield development.**

Residential intensification is the most efficient and effective approach. However, this applies only if it is carried out well. Realistically there are limits to how much can be delivered. This means that new growth areas are then necessary. These should be located where they can be leveraged to deliver the most benefit to the existing community. Furthermore, they should be developed to the highest appropriate density from the outset rather than left to ad-hoc infill.

6.15 Greenfield vs. other uses considerations

When looking to accommodate greenfield growth in the right locations it is important to consider the implications for other uses:

Employment and industrial implications

- supporting the most efficient employment outcomes and safeguarding them; and
- providing for new local retail where appropriate.

Rural zone implications

- scarce and critical soil resource should be safeguarded;

- providing housing choice important, but when some private choices impose a more than is fair cost on the community it should be questioned; and
- reverse sensitivities with residential activities close to agricultural production.

6.16 Intensification and infill potential within Blenheim

Previous estimates (Source: Residential land availability in Blenheim and Renwick, December 2007, Environmental Management Services for MDC) range from 1,378 to 1,407 household capacity in all existing zones.

Current zoned areas (estimate):

Location	Number of lots
MDC land Taylor Pass Rd	350 lots
Murphy's Road Block	58 lots
Blenheim-East (application)	48 lots
Blenheim-East land (based on sketch design)	176 lots (14.3/ha)
TOTAL:	632 lots

Residential intensification within the existing town (subdivision of existing lots; redevelopment of existing sites; and 'brownfield' development/ integrated residential development) will slow if new rules to achieve higher quality outcomes are imposed. With 25 new dwellings net / year, an additional total of 500 lots could be assumed by 2031. **This brings the total intensification estimate to 1,132 dwellings.**

This leaves **1,493 households** to be accommodated in new zones, which equates to

Households	14 units/ ha	12 units/ ha	10 units/ ha
1493	106.6 ha	124.4 ha	149.3 ha

between **107** and **149** hectares:

6.17 Greenfield growth options

To help focus the preferences of different themes and to prioritise strategic thinking, a series of conceptual growth options were developed. These were based on 'growth pockets', areas identified on the basis of where logical urban growth could occur in a

manner that complemented existing patterns of development.

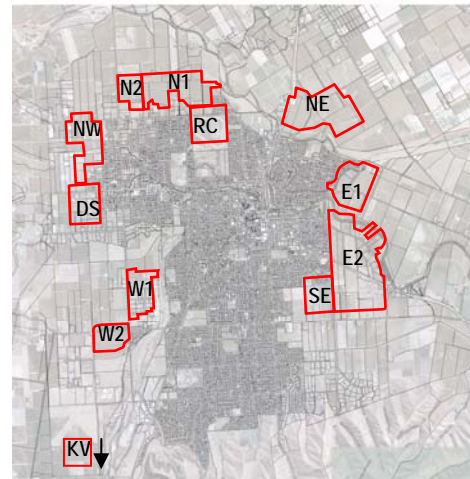
These areas are shown in Figure 6-20. Note that an additional area, (KV for Kapiti Views by Maxwell Hills), was included for consideration on the basis that an application for a large rural-residential development can be expected in the near future. This process assisted Council to form an opinion on this future proposal in an integrated manner and as part of the total growth picture for Blenheim.

6.18 Pocket suitability analysis

Each of the theme interests undertook an early assessment of the growth pockets, using a simple 'traffic light' ranking system of suitable (green) through to unsuitable (red) for growth from their position, conditional where appropriate on other pre-requisite factors that would need to also be available were growth to occur (Figure 6-26).

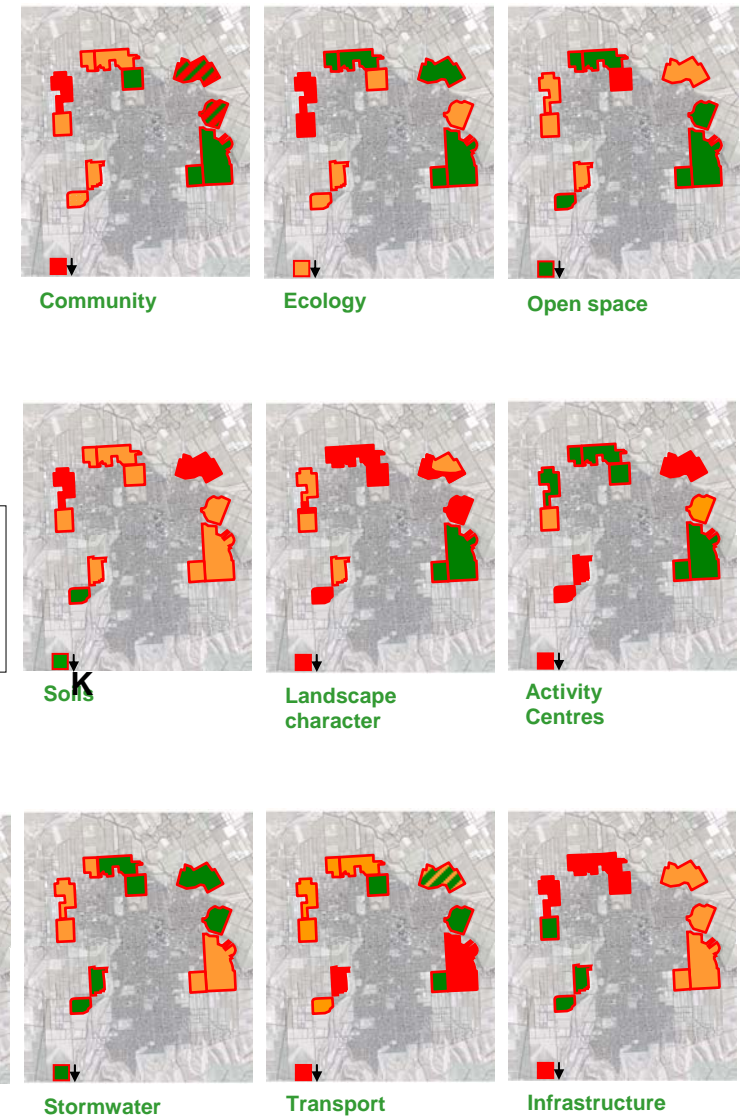
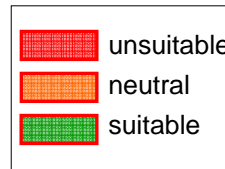
This led to a number of contrasts between groups that once highlighted, were able to be worked through.

The Assets and Services Group undertook pre-workshop 'desktop' examinations of the infrastructure needs associated with the growth pockets as a 'going in' position. This allowed more informed decisions to be made in instances where anticipated growth can be allocated between a number of pockets. Pockets that require less costs to enable development could be given favour provided other issues of efficient urban form and sustainability were also managed. The outcome of this analysis is shown in Figure 6-27 overleaf.

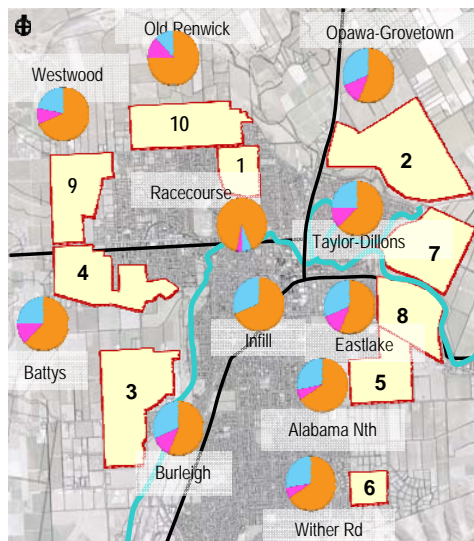


Growth pocket	Size (ha)
N 1	55.1
N 2	15.8
NW	39.3
W 1	27.8
W 2	21.7
E 1	38.6
E 2	92.5
SE	28.9
KV	
NE	64
RC	31
DS	29

ABOVE FIG. 6-25: Growth pockets and their sizes considered at the Inquiry by Design workshop, September 2009.



ABOVE FIG. 6-26: Growth pocket suitability assessments by different theme groups (not to scale), undertaken at the Inquiry by Design workshop, September 2009.



		W	S	S/W	COST
1	Racecourse	B	C	A	\$27,200
2	Opawa-Grovetown	C	A	B	\$27,800
3	Burleigh	A	A	A	\$29,500
4	Battys	B	A	C	\$30,400
5	Alabama Nth	C	C	C	\$31,200
6	Wither Rd	B	B	B	\$31,400
7	Taylor-Dillons	C	B	C	\$32,200
8	Eastlake	C	B	C	\$33,200
9	Westwood	B	C	C	\$40,400
10	Old Renwick Rd	B	C	C	\$45,000
	Infill	A	A	C	\$12,500

LEFT FIG. 6-27: Growth pockets considered and the cost implications calculated by the Assets and Services Group before the IBD-workshop, September

These figures are rough estimates and should not be considered to represent actual costs, or final agreed funding mechanisms.

6.19 Preferred growth pockets

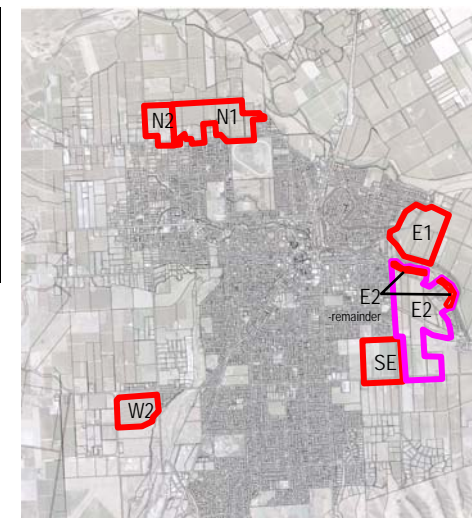
The above mentioned analysis identified preference for the following growth pockets:

Growth Area	Brief description	Size (ha)
N1	Rural area north of Race course and Old Renwick Road	55.1
N2	Rural area north of Old Renwick Road, west of N1	15.8
W2	Burleigh area: Colonial Vineyard south of New Renwick Road and between Richardson Avenue and Aerodrome Road	21.7
E1	Rural area on Dillons Point Road, bound by Taylor and Opawa Rivers and Rowberrys Road	38.6
E2 -remainder	St Andrews area: areas immediately south of the Taylor River*	7.5
SE	Area between Tavera Street and Alabama Road	28.9

*The majority of the E2 area was identified as a preferred location for employment land development. For this analysis, refer to the employment land section 6-11.

Growth Area	Size (ha)
N1	55.1
N2	15.8
W2	21.7
E1	38.6
E2 -remainder	7.5
SE	28.9

RIGHT FIG. 6-28: preferred growth pockets



Growth pockets **N1**, **N2**, **W2** and the **E2-remainder** scored best in the evaluation and/ or are the least constrained in their development potential for residential. They also represent a geographic spread, which has benefits from a housing choice point of view.

Growth pocket **SE** consists of low-lying flood-prone land. Development might be possible only at considerable (ongoing) costs for filling and storm water drainage. This also applies to the southern half of E2 for employment land development.

Development of growth pocket **E1** is only considered favourable if the adjacent areas could leverage off possible new facilities, such as commercial, retail, recreational and possibly educational. Dillons Point Road and two new road linkages are deemed crucial. Both of these involve bridges, across the Taylor and Opawa Rivers respectively. An early investigation into the feasibility and cost is required before any growth can occur in this area.

6.20 Preferred growth options

The total capacity of all of the previously mentioned growth pockets exceeds the required greenfield growth as projected up to 2031.

There is an opportunity for several growth pocket combinations, all of which consist of the pockets that are the most preferred, least constrained and most affordable from Council's point of view, which are N1, N2, W2, and E2-remainder. This 'core' group of pockets forms the constant with a number of more constrained pockets as the variables. Residential growth in the area north of Old Renwick Road - N1 and N2 - can only take place on up to approximately 35 hectares without an upgrade of existing sewerage infrastructure being necessary. Any growth beyond that requires a costly and intrusive upgrade. Instead of considering part of N1 as a first stage and the balance, including N2 as a later stage, the areas are combined and, based on a conceptual layout design, divided in a southern area of 35 hectares and a northern area with the balance. A possible development in that sequence ensures internal east-west connectivity, without posing unbalanced access pressures on Old Renwick Road. The southern area is referred to as **N-a** and the northern part is referred to as **N-b** in this report. As a result of these considerations, only pocket N-a forms part of the 'core' group and pocket N-b is one of the variable pockets.

The tables to the right hand of this page show two options for the sequence in which the different growth options should be considered:

Sequence 1:

1. It is assumed that W2 is relatively easy to develop and therefore the first area to accommodate growth. With current growth rates it takes approximately 3.5 years to be fully developed.
2. N-a is more difficult to develop. There appears to be the willingness among landowners, but the fragmented ownership will potentially delay the start somewhat. With current growth rates it takes approximately 6 years to be fully developed.
3. Even if growth in E1 is politically favoured and decided for in the short term, then it still takes time before the required investment in bridges and other infrastructure, as well as possible land acquisition are carried out. With current growth rates it takes approximately 6.5 years to be fully developed.
4. These three areas potentially accommodate 16 years of residential growth. For the fourth area to be ready for development, a decision needs to be made around 2020 as to which area is the fourth preferred and feasible growth area. Either:
 - Growth pocket SE, a preferred growth area, but low-lying and with limitations from a stormwater and flooding perspective. By the time this decision needs to be made further assessment would have provided more insight into the required ongoing commitments by Council and other parties also in the light of predicted sea level rise.

Decision Sequence 1			
Order	Growth area	Approximate population capacity	Years to develop (given 200 new greenfield residents per year)
1	W2	720	3.5
2	N-a	1200	6
3	E1	1300	6.5
Decision around 2020			
4	Either: → SE; → N-b; → Alternative area*		

Decision Sequence 2			
Order	Growth area	Population capacity	Years to develop (given 200 new greenfield residents per year)
1	W2	720	3.5
2	N-a	1200	6
Decision around 2014			
3	Either: → SE; or → E1		
4	Either: → E1; → SE; or → N-b → Alternative area*		

*Suggested alternatives are either to expand E1 further to the east or develop the area north of W2, west of Battys Road

- If SE is not feasible, the next preference would constitute N-b. Growth beyond N-a requires a costly and interfering sewer upgrade.
- If both of these options fail, alternative areas need to be considered.
- Possible alternatives include expanding the E1 growth pocket further to the east. This would increase the support for possible non-residential uses, such as educational, commercial, recreational and retail. This will benefit the existing Riversdale and Dillons Point Road community. More detailed investigation into the feasibility of this area is required.
- The second alternative would be an area north of growth pocket W2, west of Battys Rd (referred to as 'Battys-West'). This area was outside the growth pocket evaluation that formed part of this project, as it was seen as too peripheral. However, by the time this area could be developed, W2 will be fully developed. In the meantime, the owners of the land immediately east of Battys-West are proposing the development of large lot residential and industrial uses on their land, among other reasons in order to form a buffer to the sawmill. A site on the north-eastern corner of the Battys Road-New Renwick Road intersection is also indicated as an option for a possible Large Format Retail Development in this report (refer to . All the above factors cause the Battys-West area by the time it is up for development to be contiguous to the rest of the town. The area appears to be outside the flooding hazard area, but a more detailed investigation into the feasibility of this area is required.

Sequence 2:

The difference with Sequence 1 is to postpone the decision to develop E1 for several years. With current growth rates, it would take about 9.5 years to fill the preferred areas of W2 and N-a. A decision whether SE or E1 is preferred and feasible as the third area is then due for around 2014. For the fourth area a decision needs to be made between either E1, SE, N-b or alternatives as described above.

Repeated from previous page:

Decision Sequence 1			
Order	Growth area	Approximate population capacity	Years to develop (given 200 new greenfield residents per year)
1	W2	720	3.5
2	N-a	1200	6
3	E1	1300	6.5
Decision around 2020			
4	Either: → SE; → N-b; → Alternative area*		

Decision Sequence 2			
Order	Growth area	Population capacity	Years to develop (given 200 new greenfield residents per year)
1	W2	720	3.5
2	N-a	1200	6
Decision around 2014			
3	Either: → SE; or → E1		
4	Either: → E1; → SE; or → N-b → Alternative area*		

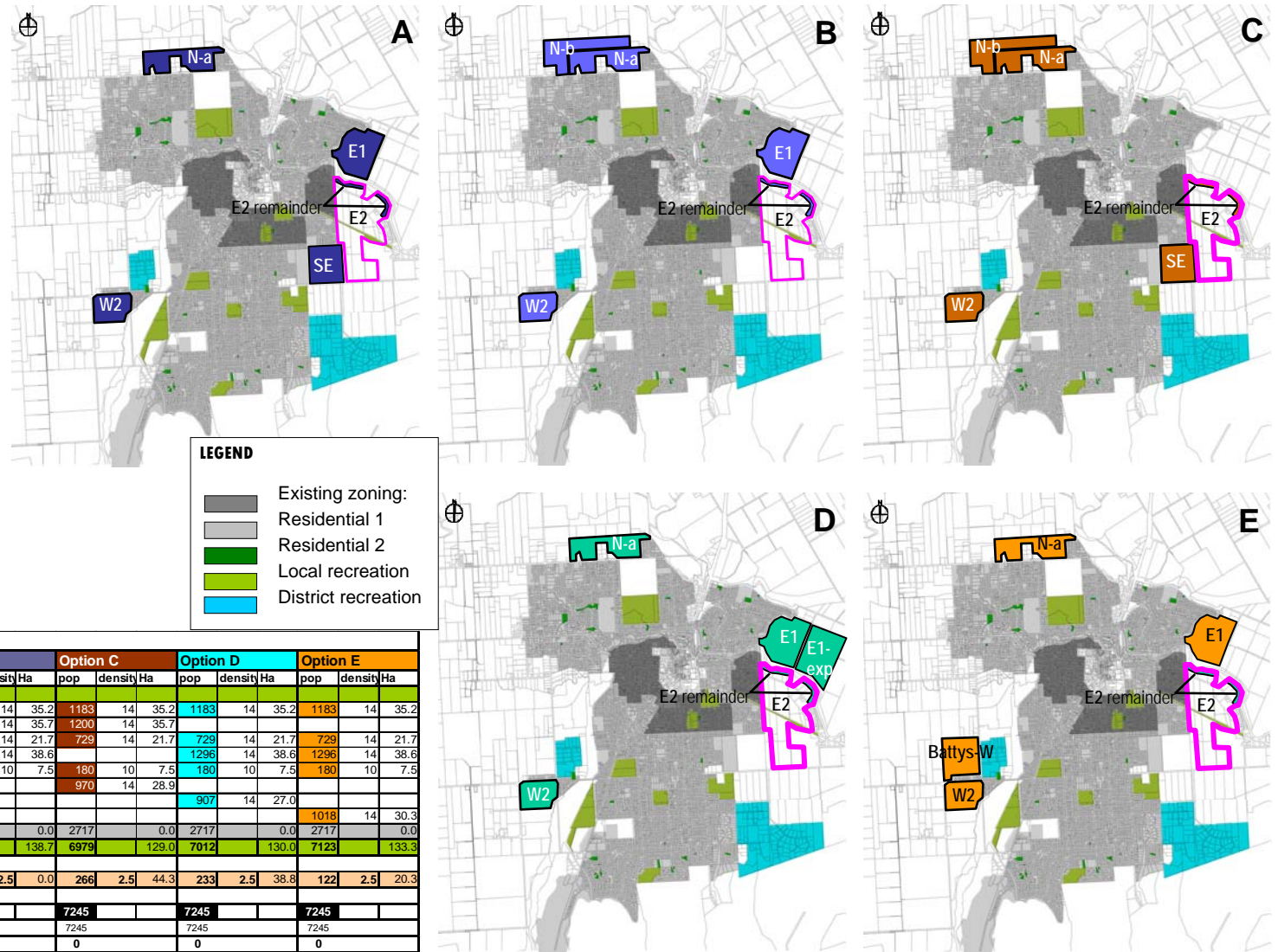
*Suggested alternatives are either to expand E1 further to the east or develop the area north of W2, west of Battys Road

6.21 Growth capacity per option

The decision sequences result in five possible growth pocket combinations A, B, C, D, E as depicted in figure 6-29.

The table below shows that each of the options has almost sufficient capacity to accommodate greenfield growth as projected up to 2031 including an efficiency margin of 15%. The balance of each option will have to be supplied by a small amount of large lot residential development (currently called Rural-Residential) and possibly in the remaining areas described on pages 134-137.

The assumed density, based on design tests, amounts to approximately 14 dwellings per hectare for most of the growth pockets. The average household size is assumed at 2.4 people per household.



Options	Demand	Allocation											
	projected to 2031 pop	Option A		Option B		Option C		Option D		Option E			
		pop	density	pop	density	pop	density	pop	density	pop	density		
Blenheim	6300												
N-a: Old Renwick Rd		1183	14	35.2	1183	14	35.2	1183	14	35.2	1183	14	35.2
N-b: Old Renwick Rd					1200	14	35.7	1200	14	35.7			
W2: Colonial Vineyard		729	14	21.7	729	14	21.7	729	14	21.7	729	14	21.7
E1: Dillons Point Rd		1296	14	38.6	1296	14	38.6	1296	14	38.6	1296	14	38.6
E2-remainder: St Andrews		180	10	7.5	180	10	7.5	180	10	7.5	180	10	7.5
SE: Alabama Rd		970	14	28.9				970	14	28.9			
E1-expansion to the east								907	14	27.0			
Battys-West intensification		2717		0.0	2717		0.0	2717		0.0	2717		0.0
Sub total	6300	7075		131.8	7305		138.7	6979		129.0	7012		130.0
Rural Res	0	170	2.5	28.3	0	2.5	0.0	266	2.5	44.3	233	2.5	38.8
TOTAL net	6300	7245			7305			7245			7245		
add 15% inefficiency	7245	7245			7245			7245			7245		
Difference		0			60			0			0		

ABOVE FIG. 6-29: Growth options A, B, C, D and E, based on all possible combinations of growth pockets when working through the two Decisions Sequences.

6.22 Infrastructure requirements for the growth options

Figure 6-30 indicates the required infrastructure extensions or upgrades per growth option. These infrastructure interventions consist of a combination of water supply extensions, sewer upgrades and sewer extensions.

All options

- N-a: a new sewer from Middle Renwick Road and diversion of existing flows into the western relief sewer, new water main from trunk main on the Taylor River bank and (possibly) new stormwater works.
- W2: connecting into existing infrastructure. Stormwater piped into the Taylor River.
- E2: sewer upgrade to accommodate industrial development.

Additional for option A

- E1: New bridges over the Taylor and Opawa Rivers, upgrade water main from Bomford St, upgrade main trunk sewer back to Main Outfall Pump Station.

Additional for option B

- This option requires the upgrade of the Northern Trunk sewer to allow N-b to develop.
- Additional stormwater improvements.

Additional for option C

- This option requires the upgrade of the Northern Trunk sewer to N-b.
- Stormwater improvements and major drainage works required for SE.

Additional for option D

- This option requires the major investment at the beginning but no additional major capital works.

Additional for option E

- This option requires additional sewer capacity to permit Battys Rd to develop. This can be accommodated by extending the northern trunk sewer upgrade to Nelson St pumpstation and diverting existing flows from Springlands area into it and releasing capacity in the western relief sewer.



ABOVE FIG. 6-30: Growth options A, B, C, D and E, with their respective implications for water supply and sewerage infrastructure.