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Lockyer Valley Regional Council

Extrinsic Material to the Local Government Infrastructure Plan

Revision 1.2

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1.0	*17/10/17*	*Final Report*	SJB	SAB
1.1	*12/03/18*	*SIC Amendments (minor)*	SJB	SAB
1.2	*4/09/23*	*Inclusion of SW network*	SJB	SAB

Preface

This Local Government Infrastructure Plan (LGIP) has been developed to address infrastructure planning for the Lockyer Valley Regional Council under its forthcoming Lockyer Valley Planning Scheme, while also addressing the region's two existing planning schemes:

- Gatton Shire Planning Scheme, 2007
- Laidley Shire Planning Scheme, 2003.

These planning schemes were all developed under the repealed *Integrated Planning Act 1997,* prior to the introduction of the Queensland Planning Provisions which provided uniform use and zoning definitions. The planning assumptions have been developed based on the assumptions prepared for the draft Lockyer Valley Planning Scheme and adapted for use under the existing schemes. This ensures the planning assumptions reflect development which has occurred since the current Planning Schemes were adopted.

The LGIP document provides more detail on the breakdown of planning assumptions between the planning schemes across the projection areas.

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1.0 Planning Assumptions

Underpinning the Planning Assumptions of the Local Government Infrastructure Plan (LGIP) is the Lockyer Valley Regional Council (LVRC) Population and Demand Model. These Geographic Information System (GIS) models have been developed using a "bottom up" approach, allowing for the spatial allocation of population and demands (residential & non-residential) across all land parcels within the Council area, from the base date of 2016 through to a realistic ultimate capacity determined for the draft Planning Scheme, being developed concurrently with the LGIP. The base assumptions and methodologies employed to develop these models and other key inputs into the Planning assumptions are detailed below.

1.1 *Population*

Lockyer Valley Regional Council has chosen to undertake population and demand modelling based on the most recent available projections published by the Queensland Government Statistician's Office (QGSO, 2015ed, medium series), which are available through to 2036. The totals for 2041 and beyond have been extrapolated from the totals provided in the previous periods.

For the purposes of the LGIP and AICR, the ultimate scenario of the Gatton and Laidley Shire Planning Schemes is considered to occur in around 2063. **Table 1** below identifies the Population and Tourist Figures used as a basis for creating the Population Spatial Model.

***Table 1:* Resident and Non-resident Projections (2016 to Ultimate)**

	2016	2021	2026	2031	2036	Ultimate
Former Gatton Shire	20,095	22,392	24,712	27,288	30,300	55,730
Former Laidley Shire	19,716	21,443	23,505	25,445	26,925	34,337
Total Population Projections	***39,811***	***43,835***	***48,218***	***52,732***	***57,225***	***90,068***

Sources: Queensland Government Statisticians Office (Population projections, 2015ed)
LVRC model 2017

1.1.1 Current Population

Existing population has been allocated on a lot by lot basis to all residential landuses (obtained from Council's rates database) based on dwelling types and expected household sizes. For example, a property identified as containing a house is assigned a 2016 population of 2.73. This allocation has been aligned with the 2015 QGSO Projections and refined through comparison with the ABS 2016 Census Data. Projected average household sizes are shown in **Table 2**.

Following initial allocation of population, adjustments were made as necessary within urban and regional reporting areas to align with population totals provided in the Economic and Population review, resulting in existing household sizes which vary regionally.

***Table 2*: Average Household Size**

Dwelling Type	2016	2021	2026	2031	2036	LVRC Model 2041 to Ultimate
Separate House	2.73	2.72	2.71	2.70	2.69	2.69
Semi, Detached, Flats	2.11	2.10	2.10	2.09	2.08	2.08
Other	2.14	2.14	2.13	2.12	2.11	2.11
All	**2.69**	**2.68**	**2.67**	**2.66**	**2.65**	**2.65**

Source: LVRC Model 2017 & ABS 2016 PEP
Note: Measured as persons/occupied dwelling

1.1.2 Ultimate Population

The ultimate development potential of the Lockyer Valley Regional Council Planning Scheme was determined through analysis of the Planning Scheme Intents (Constraints and Densities), consideration of approved development applications and understanding of the realistic development trends throughout the region. The constraints considered as part of this assessment included:

- Biodiversity and conservation;
- Bushfire hazards;
- Steep slopes;
- Key resource and mining areas;
- Flood hazards;
- Land use buffers.

These constraints have been applied as a mixture of absolute constraints (no development possible) and partial constraints (reduced development yields). Given this approach, attempting to visually depict the developable areas on a map may be misleading, and could not be used to reliably depict the actual development potential for any specific site. An accurate assessment of this can only be undertaken on a site-by-site basis as part of a development application, and therefore it is noted that the ***developable area***, as described within the MGR, is represented by the planning scheme zonings as depicted on the PIA Mapping.

Planning Scheme density assumptions have been developed for each zone, with consideration given to the following:

- Residential density provisions within the planning scheme for each zone type, including assumptions about dwelling composition (**Table 3**)
- Household size calculations and projections, changing over time in accordance with Table 2;
- Discussions with Council Officers and understanding the realistic development trends throughout the LGA;
- Assumptions about land requirements for roads, parks and other services, depending on the planning scheme provisions for different zones (i.e. considerations/requirements in urban vs rural zones); and
- Existing planning approvals.

Table 3: Ultimate Residential Density Assumptions

Planning Scheme Zone	Precinct/Area	Excluded Land - Services, Roads, etc.	Lot Size (m²) – Attached*	Lot Size (m²) – Detached*	Planned Density - Gross (Dwellings/Ha)*
Gatton Planning Scheme					
Homestead Residential	Water service	10%		8,000	2.67
Homestead Residential	No water service	10%		12,000	1.13
Investigation Area		*Varies depending on assumed underlying intent*			
Park Residential		20%		3,000	3.33
Rural Residential	Water service	10%		6,000	1.67
Rural Residential	No water service	10%		8,000	1.25
Rural Residential	Outside UF/RLA	10%		1,000,000	0.01
Rural Residential	1. Adare	10%		15,000	0.67
Rural Residential	2. Woodlands	10%		20,000	0.50
Rural Residential	3. Placid Hills	10%		20,000	0.50
Rural Residential	4. Winwill	10%		20,000	0.50
Rural Residential	5. Veradilla	10%		30,000	0.33
Rural Residential	6. Helidon	10%		20,000	0.50
Rural Residential	7. Helendale Drive	10%		10,000	1.00
Rural Residential	8. Postmans Ridge	10%		35,000	0.29
Rural Residential	9. Blanchview	10%		40,000	0.25
Rural Residential	10. Diana Crescent	10%		10,000	1.00
Rural Residential	11. Park Ridge Drive	10%		6,000	1.67
Rural Residential	12. Table Top	10%		5,000	2.00
Rural Residential	13. Withcott West	10%		25,000	0.40
Rural Residential	14. Murphys Creek	10%		20,000	0.50
Urban Residential		20% - 30%**	130	700	12.58
Urban Residential	Unsewered	20%		3,000	2.67
Village		20%		3,000	2.67
Rural		10%		1,000,000	0.01
Laidley Planning Scheme					
Rural Residential		10%		6,000	1.67
Urban Residential		20% - 30%**	130	700	12.58
Village		20%	130	3,000	2.67
Rural		10%		600,000	0.02

** Lot Size represents a realistic ultimate average size, based on an assessment of planning scheme provisions, market trends and preferences, and matters affecting propensity to develop.*
*** Varies depending on dwelling type*

1.1.3 Interim Population Allocation

Growth between 2016 (base year) and ultimate populations have been allocated to each 5-year cohort using a 'gravity model' approach, with populations within each projection area set to align with the QGSO projections. Within each projection area, consideration was given to factors affecting propensity to develop, including:

- The properties location with respect to the Priority Infrastructure Area (i.e. accommodates 10-15 years of growth);
    - Within the 10-15 year PIA period, 50% of population growth was assumed to be satisfied outside the PIA boundary. This was considered a reasonable assumption given the high volume of rural residential development currently being experienced. This assumption was reviewed against, and is consistent with, QGSO projections outside Lockyer Valley urban boundaries
- Availability and proximity to infrastructure services;
- The likely staging of development for particular areas based on direction from Council's planning department;
- Realistic assumptions around propensity of infill development within the PIA period:

  - This was assumed to range from 20%-75% with varying values applied depending on zone type characteristics and individual areas within the LGA;
- Existence of Planning Approvals.

Table 4 below provides a summary of the population found in each Planning District for the periods 2016 to Ultimate. This information has been used in the development of the spatial model.

***Table 4:* Population Projections 2016 to Ultimate**

Planning District	Planning Scheme	2016	2021	2026	2031	2036	Ultimate
Gatton Town	Gatton	7,647	9,422	11,193	13,256	15,361	36,444
Helidon Hills and Grantham	Gatton	3,992	4,264	4,502	4,714	5,061	6,779
Helidon Village	Gatton	882	973	1,050	1,103	1,371	1,991
Lawes University	Gatton	349	347	347	345	343	343
Murphys Creek and Surrounds	Gatton	1,523	1,553	1,581	1,611	1,648	1,913
Rural South	Gatton	1,030	1,001	983	964	939	806
Rural West	Gatton	2,753	2,701	2,698	2,695	2,691	2,726
Withcott	Gatton	1,919	2,130	2,358	2,599	2,885	4,728
Forest Hill	Laidley	477	490	500	506	526	577
Laidley North	Laidley	2,826	3,159	3,512	3,901	4,169	5,743
Laidley Town	Laidley	5,741	6,253	7,188	8,078	8,978	12,723
Lawes University	Laidley	183	182	181	180	180	179
Morton Vale	Laidley	1,741	1,737	1,732	1,727	1,723	1,733
Plainland	Laidley	6,956	7,820	8,585	9,240	9,533	11,493
Rural South	Laidley	1,794	1,802	1,807	1,812	1,817	1,890
TOTAL		**39,811**	**43,835**	**48,218**	**52,732**	**57,225**	**90,068**

Source: LVRC Model 2017

1.2 *Infrastructure Demand*

LVRC's spatial demand models express residential and non-residential demand in varying demand units. These are:

- Water Supply network - Equivalent persons (EP)
- Sewerage network - Equivalent persons (EP)
- Stormwater network – Impervious Area (Ha)
- Transport network - Trips per day (Trips)
- Parks and land for community facilities network - Persons

These units of measure have been selected as they are commonly used and easily understood by a reader of the LGIP.

1.2.1 Residential Demand

The Residential Demands have been calculated for each network in the following manner:

- Stormwater network
  - For existing development (as at the base year), assumed impervious area has been applied to the total site area of existing development based on the relevant zone, landuse, and site area, in accordance with the existing demand generation table in Appendix 1

  - For ultimate development, where no dwelling or population growth is identified, the existing demand is carried forward. In all other cases, assumed impervious area has been applied to the developable site area in accordance with the future demand generation table in Appendix 1
  - For growth between base year and ultimate, population at each cohort is divided by the applicable detached household size (Table 2) to determine equivalent detached dwellings. Growth in impervious area is assigned proportionally on each site, consistent with the growth in equivalent detached dwellings at that time.
- Transport network
  - Population at each cohort divided by applicable detached household size (Table 2) to determine equivalent detached dwellings
  - Demand generation of 10 trips per equivalent detached dwelling
- Parks and land for community facilities network
  - Population at each cohort

1.2.2 Non-Residential Demand

Non-Residential demand for the Stormwater network is based on the following

- For existing development (as at the base year), assumed impervious area has been applied to the total site area of existing development based on the relevant zone, landuse, and site area, in accordance with the existing demand generation table in Appendix 1
- For ultimate development, where no dwelling or population growth is identified, the existing demand is carried forward. In all other cases, assumed impervious area has been applied to the developable site area in accordance with the future demand generation table in Appendix 1
- For growth between base year and ultimate, growth in impervious area is assigned proportionally on each site, consistent with the growth in Equivalent Dwellings (both residential and non-residential, determined as part of the transport demand model) at that time.

Non-Residential Demands for the Transport network has been calculated by applying equivalent dwelling rates per hectare respectively to the developable areas available for non-residential development, derived from the population modelling process. The number of Equivalent dwellings was converted to the relevant demand units using equivalent dwellings multiplied by the trip rate per detached dwelling identified in section 1.2.1 (10 trips per equivalent detached dwelling)

The process for determining the existing demand utilised the landuse information developed through the population modelling process and applied the generation rates presented in **Table 5** to the area of the parcel with existing demand.

***Table 5:* Non-Residential Demands by Zone - Transport (Roads) – Expressed as EDUs per Hectare**

PLANNING SCHEME ZONE	PLANNING SCHEME PRECINCT	TRANSPORT EDUs / HA
Commercial		25
Community Facility		15
Homestead Residential		0
Industrial		15
Local Centre		7.5
Low Impact Industry		7.5
Open Space		0
Park Residential		0

PLANNING SCHEME ZONE	PLANNING SCHEME PRECINCT	TRANSPORT EDUs / HA
Rural		0
Rural Residential		0
Urban Residential		0
Village		5

To ensure the existing non-residential demand was not overestimated (i.e. the area of the parcel does not necessarily reflect the demand that the existing land use generates), the demand model takes into account the realistic existing demands based on the size of the parcel and whether or not the existing landuse is consistent with the underlying land use intent (e.g. where an industrial use is occurring on a Rural zoned land parcel, and is unlikely to be placing demand over the entire site).

Ultimate future demands are based on demand generation rates per hectare for all land in each non-residential zone presented in **Table 5**.

Allocation of non-residential demand through the interim periods has been trended over the 5-year cohorts through until Ultimate, based on the population growth found over the same period, within an applicable local 'trending district', depending on the typical non-residential uses accommodated there. This assumes that the growth in non-residential demand is directly proportional to the rate of growth of residential demand within each of these regions.

1.3 *Employment*

The Lockyer Valley Regional Council Employment Model has been developed to provide important inputs into the LGIP, most notably the existing and future employees and future floor space requirements. The methodology for the employment modelling is detailed below.

1.3.1 Current Employment

Australian Bureau of Statistics (ABS) Census data was used to determine an existing employment profile within the Council area by employment sector for the following regions:

- Lockyer Valley Regional Council; and
- Regions aligning with the LGIP Projection Areas.

The employment profile is based on:

- Total population;
- Total current workforce;
- Total potential workforce (residents aged 15 and older);
- Residents who both live and work locally;
- Industry of employment by occupation;
    - For the purposes of the LGIP employment modelling, ABS industry of occupation has been re-categorised into 'employment sectors' in order to align with categories in the LGIP tables. Assumptions made to assign ABS employment industry into LGIP Employment Sector are detailed in **Table 6** below.

Table 6: **Employment Industry Assumptions**

ABS Employment Industry Category	LGIP Employment Sector	ABS Employment Industry Category	LGIP Employment Sector
Agriculture, forestry & fishing	Other	Financial & insurance services	Commercial
Mining	Other	Rental, hiring & real estate services	Commercial

Manufacturing	Industry	Professional, scientific & technical services	Commercial
Electricity, gas, water & waste services	Industry	Administrative & support services	Commercial
Construction	Industry	Public administration & safety	Community Purposes
Wholesale trade	Industry	Education & training	Community Purposes
Retail trade	Retail	Health care & social assistance	Commercial
Accommodation & food services	Commercial	Arts & recreation services	Commercial
Transport, postal & warehousing	Industry	Other services	Other
Information media & telecommunications	Commercial	Inadequately described/Not stated	Other

The following key inputs into Employment Modelling have been produced for each modelled region, using the available ABS data:

- Labour retention rate (Residents working locally ÷ total work force); and
- Job containment rate (Residents working locally ÷ local jobs available)

These attributes are identified in order to assess the employment increase as a result of growth occurring within the LGA.

1.3.2 Future Employment

The employment model assumes that labour retention, job containment, and unemployment levels are maintained throughout all projection periods.

The ratio of work force to population is used to determine employment projections in each LGIP projection area for each cohort, in each employment sector. This is applied to the population projections derived from the LVRC population model. The outputs of the employment model used to inform the LGIP include:

- Total current jobs within each LGIP projection area for each employment sector; and
- Additional job requirements for growth within the LGA for each projection period, distributed amongst employment sectors in accordance with the current trends

1.3.3 Floor Space Requirements

Floor space requirements are calculated based on assumptions about floor space per employee for each employment sector. The assumed floor space requirements are detailed in **Table 7**, and have been identified based on industry knowledge and confirmed by LVRC officers as both reasonable and appropriate for use in the LGIP. As with the employment figures, floor space outputs used in the LGIP assumption tables include:

- Total existing floor space requirements within each LGIP projection area for each employment sector; and
- Additional floor space requirements for growth within the LGA for each cohort, distributed mathematically amongst employment sectors within LGIP projection areas.

Table 7: **Floor space assumptions by LGIP Employment Sector**

LGIP Employment Sector	Floorspace (m^2/employee)
Retail	30
Commercial	30
Industry	150
Community Services	25
Other (incl. Home based business)	20

1.4 *Priority Infrastructure Area Capacity*

LVRC's growth allocation model considers a range of factors for the distribution and take-up of available capacities across the Planning Scheme, in particular the propensity for areas to develop over time. Based on the assumptions, the modelling indicates that a population of approximately 26,000 people are realistically able to be accommodated within the PIA up until 2031 (the "PIA Period").

The PIA boundary is identified on Local Government Infrastructure Plan Map LGIP Priority Infrastructure Area PIA: 1 – 7. The extent of LGIP projection areas are represented by the mapped PIA boundary, with projection area names labelled consistent with the Planning Assumption Tables in the LGIP document.

The extent of urban population growth allocated within the PIA boundary (approx. 6,700) results in a total remaining capacity for approximately 950 dwellings identified at the end of the PIA period. In assessing the PIA capacity, it is important to note the following:

- The population residing in urban areas throughout the region is heavily dispersed, with varying growth profiles and outstanding capacities remaining for each locality at the end of the PIA Period;
- The available PIA capacity is predominantly comprised of infill development, which is considered unlikely to be realised within 10-15 years. These areas cannot be removed from the PIA on the basis that they are existing urban development.

On this basis, the remaining capacity at the end of the 15 year PIA period is considered appropriate.

2.0 Cost Assumptions

The LGIP has used a variety of costing methodologies where available to inform the development of costs to be used within the Schedule of Works (SoW) model, using the information deemed most accurate and appropriate, which was available at the time the LGIP was being prepared. For asset costing purposes within the SoW model, all unit rates for all assets and networks have been indexed to the base year of the model, 2016 using relevant Producer Price Indices (PPI) data from the ABS unless otherwise noted. The transport network uses the Road and Bridge Construction (RBC) PPI index for Queensland, while the Parks and Land for Community Facilities network uses the Non-residential Building and Construction (NRBC) PPI index for Queensland.

2.1 *Baseline Valuation*

Existing asset valuations within the SoW model provide an additional level of detail when compared to the standard SoW models 'baseline valuation'. The 'Base Estimate' within the LVRC SoW model provides the equivalent valuation figure, however this has been built using a raw unit rate cost in addition to project owners costs (on-costs).

On costs are considered to be an essential element of the 'current replacement cost' identified within Statutory Guideline 03/14, relating to design/redesign, environmental considerations, traffic management and project management among other things, all necessary components of the cost to replace an asset. The Evans and Peck report referenced within the SoW model user manual identifies that many Councils already include on costs within their unit rates. Lockyer Valley Regional Council has chosen to separate these costs in order to provide additional transparency and ease of understanding within their LGIP documentation.

2.2 *Stormwater Network*

2.2.1 Stormwater Asset Costs

Stormwater asset costs were determined by Council through application of a combination of:

- Typical unit rates for standard infrastructure types, sizes, and construction methods,
- opinion of cost information from stormwater reporting and Council stormwater officers, and
- existing asset costs from Council's asset register.

Land values per m² of infrastructure area are shown in **Table 8**.

Table 8: **Stormwater land valuation**

Location	Land valuation ($/m²)
Constrained land	$2.50/m²

All unit rates for stormwater land and works infrastructure are located within the 'Unit Rates' tab of the LGIP Schedule of Works Model.

2.2.2 Cost Modifiers

In addition to the asset costs above, the cost modifiers in **Table 9** have also been applied as necessary, to assets across the stormwater network.

Table 9: **Stormwater Asset Cost Adjustments**

Modifier	Valuation Component	Applies To	Adjustment Factor
On-Cost Allowance	Works	All existing assets*	15%
Contingency	Works	All future assets	10-20% - Time based

** All future works identified as project costs, which have been prepared inclusive of on-cost allowance*

2.3 *Transport Network*

2.3.1 Transport Asset Costs

Transport network unit rates for roads and intersections were determined by Council through application of typical contract rates to standard road hierarchy cross sections, and intersection designs. A nominal figure has been assumed for future structure requirements, with important design aspects (e.g. size) not yet known.

Land values per m² of road area are shown in **Table 10**.

Table 10: **Transport land valuation**

Location	Land valuation ($/m²)
Land for Road Corridors	$20/m²

All unit rates for transport land and works infrastructure are located within the 'Unit Rates' tab of the LGIP Schedule of Works Model.

2.3.2 Cost Modifiers

In addition to the unit rates identified above, the cost modifiers in **Table 11** have also been applied as necessary, to assets across the transport network.

Table 11: **Transport Asset Cost Adjustments**

Modifier	Valuation Component	Applies To	Adjustment Factor
On-Cost Allowance	Works	All existing & future assets	23%
Contingency	Works	All other future assets	10-20%

2.4 *Parks and Land for Community Facilities Network*

2.4.1 Parks Asset Costs

Existing park values have been sourced from Council's asset register.

Future park costs have been applied based on hierarchy, using standard costs identified in the public parks strategy prepared by ROSS planning (2012). The embellishments included in these costings are aligned with Council's desired standard of service.

Land values per m² of site area are shown in **Table 12**.

Table 12: **Parks land valuation**

Location	Land valuation ($/m²)
Urban Residential Land	$20.00
Urban Investigation Land	$20.00
Rural Residential Land	$10.00
Constrained land	$2.50
Rural Land	$2.50
Open Space land	$2.50

2.4.2 Cost Modifiers

In addition to the unit rates identified above, the cost modifiers in **Table 13** have also been applied as necessary to assets across the parks and land for community facilities network.

Table 13: **Asset Cost Adjustments**

Modifier	Valuation Component	Applies To	Adjustment Factor
On-Cost Allowance	Works	All existing & future assets	7.5%
Contingency	Works	All future assets	10-20%

3.0 Network Planning

Network planning has been undertaken over a 47 year planning horizon from the base date of the LGIP (2016). This horizon aligns with the projected 'ultimate' development, which is currently anticipated to be achieved at or around 2063.

Network planning has been prepared at a high level, based on the Desired Standards of Service, and ultimate land use under the Gatton and Laidley Planning Schemes. Due to time and resource limitations it was not possible to undertake new modelling for all trunk networks, however existing modelling and reports were utilised where available.

The network planning horizon has been selected on the basis that it provides the ultimate alignment between the infrastructure planning and landuse outcomes envisaged under the Gatton and Laidley Planning Schemes. The considerations given to the planning of each network within the LGIP are as follows.

3.1 *Network Planning in General*

An assessment of the future growth characteristics and trends over each network's planning horizon has been performed by Council engineers and planners together with a review into existing network servicing capacity / adequacy through application of the Desired Standards of Service (DSS) identified within the LGIP. The population and demand models completed as a part of the LGIP project have been considered against Council's previously completed network planning in order to reassess its appropriateness and assist in determining where planning 'gaps' may exist that need to be addressed, or where previous planning work is no longer appropriate.

3.2 *Stormwater Network*

The stormwater network planning was performed collaboratively through discussions between LVRC planners and engineers in order to determine a suitable trunk stormwater network for the LGIP that will support the existing and future needs of the regions, and that will meet the community outcomes envisaged by the DSS prepared and agreed to by Council.

Several stormwater planning and flood mitigation studies have been reviewed and considered in establishing the trunk stormwater network, including:

- Laidley Town Flood Protection Scheme - Phase 1 (19/12/2014)
- Gatton Flood Disaster Resilience Study (28/11/2014)

Stormwater network planning has been undertaken to a 47 year planning horizon at a level of service that aligns with the required DSS.

Identification of infrastructure within the LGIP was based on:

- Identification of stormwater quality and flood mitigation infrastructure along critical stormwater flow paths that service substantial upstream catchments
- Identification of stormwater quantity infrastructure associated with the following criteria cross-section capacities:
    - All structures on watercourses with a stream order of 4 or greater;
    - Structures on watercourses with a stream order of 3, and
        - With capacity equal to or greater than a 1050mm diameter pipe, for RCP culvert infrastructure, or
        - With capacity equal to or greater than a 1200x600 culvert, for RCBC culvert infrastructure
    - Structures within the urban area, and
        - With capacity equal to or greater than a 1050mm diameter pipe, for RCP culvert infrastructure, or
        - With capacity equal to or greater than a 1200x600 culvert, for RCBC culvert infrastructure
- Identification of stormwater quantity infrastructure that does not meet the criteria above, but provides a critical linking function between two other sections of trunk infrastructure (i.e. necessary for trunk network continuity)

Table 14 identifies calculated capacity for drainage infrastructure with multiple cells.

Table 14. Culvert Capacities

Size *mm*	Cross-Section Capacity *m²*	Min. No. of Cells to meet capacity criteria
1050	0.866	1
900	0.636	2
925	0.672	2
750	0.442	2
600	0.283	4
525	0.216	4
450	0.159	6
375	0.110	8
225	0.040	22
1200x600	0.720	1
1200x450	0.540	2
1200x300	0.360	2
900x600	0.540	2
900x450	0.405	2
900x375	0.338	3
900x300	0.270	3
750x450	0.338	3
750x300	0.225	4
600x450	0.270	3
600x225	0.135	6
450x225	0.101	8
450x150	0.068	11

3.3 *Transport Network*

The transport network planning was performed collaboratively through discussions between LVRC planners and engineers in order to determine a suitable road network for the LGIP that will support the existing and future needs of the region, and that will meet the community outcomes envisaged by the DSS prepared and agreed to by Council.

Transport network planning has been undertaken to a 47 year planning horizon at a level of service that aligns with the required DSS.

3.4 *Parks and Land for Community Facilities Network*

The Parks and Land for Community Facilities network planning was performed collaboratively through discussions between LVRC planners and engineers in order to determine a suitable parks and land for community facilities network for the LGIP, taking into account both land and embellishments. This will support the existing and future needs of the region and that will meet the community outcomes envisaged by the DSS prepared and agreed to by Council up to the 47 year network planning horizon.

4.0 Financial Modelling Assumptions

Financial modelling inputs for the LVRC LGIP SoW model are outlined in **Table 15** below, including brief comments and justifications around the appropriateness of the inputs used.

Table 15: **Financial Modelling Assumptions within the LVRC LGIP SoW model.**

Financial Modelling Assumptions		Inputs	Comments/Justification
Model Setup	Base Year of Model	2016	To align with the Infrastructure Planning and Demand Modelling that has been prepared for the LGIP project
	Infrastructure Planning Horizon	47	47 years for all infrastructure networks. This represents the extent to which each network has been planned and alignment of infrastructure and landuse outcomes is reached.
	Demand Unit (Unit of Measure)	Trips/ Persons	Trips - Transport network Persons - Parks and Land for Community Facilities network
Financial Inputs	**Discount Rates**		
	Post-tax Nominal WACC to be applied to Expenses (WACC)	6.00%	Comprised of: • 2.5% - Typical 10-year bond rate over the past 3 years; and • 3.5% - Margin
	Real Post-tax Nominal WACC to be applied to Revenues (RWACC)	3.99%	The WACC Adjusted for inflation using the Fisher Equation.
	Escalations		
	Works Escalation Rate (for discounting purposes)	2.05% 1.04%	The current annual 10-yearly moving average of the applicable QLD PPI indices (RBC - Transport, NRBC - Parks), calculated using the same methodology as the State's 3-year PPI averages.
	Land Escalation Rate (for discounting purposes)	1.93%	The current annual 10-yearly moving average of the Brisbane CPI index, calculated using the same methodology as the State's 3-year PPI averages.
	Modelled Charge Inflation Rate	1.93%	The current annual 10-yearly moving average of the Brisbane CPI index, calculated using the same methodology as the State's 3-year PPI averages.

The LGIP SoW model has adopted a "User Pays" approach for the apportionment of infrastructure costs between the users. In addition, this calculation method also employs a discounted cashflow methodology to appropriately model the time value of money over the modelling horizon and to understand the true cost of infrastructure delivery and funding. The SoW model therefore applies the following formula in order to determine a cost per demand unit.

$$\frac{\textit{Existing Infrastructure Value (\$)} + \textit{NPV (Nominal) of Future Infrastructure Expenditure (\$)}}{\textit{Current Demand (D)} + \textit{NPV (Real) of Future Demand (D)}}$$

The Net Present Value (NPV) of future infrastructure expenditure is determined using the *Nominal WACC* (6.00%) and *Escalation Rates* (1.04% & 2.05%), to take into account the escalation of the capital spend in the years forward of the base year. These rates are aligned with assumptions used in Council's Long Term Financial Forecast (LTFF).

The NPV of future demand is a proxy, used to represent future revenue from infrastructure charges. This is determined using a *Real WACC* (3.99%), which is adjusted to account for inflationary effects.

The use of these equations determines an escalating price path which is driven by the inflation rate. In this way, the contribution rate grows over time in line with other cost growth in works, land, sales and wages. The final cost schedules are presented in the LGIP SoW Model.

4.1 *SoW Model Cashflow Projections and Anticipated Revenue Assessment*

As part of the Schedule of Works Modelling requirements, Lockyer Valley Regional Council has performed an Assessment of the expected revenues to be received through Infrastructure Charges levied upon development. This assessment involved reviewing data relating to Council's Infrastructure Charges receipted over the previous 4 years and has identified a significant discrepancy (shortfall) between the historical data versus the revenues projected within the SoW model.

By simply applying the LGIP dwelling and floor space projections against the relevant charge rate (as required by the State Government's SoW model template) is overestimating the charge revenues by not accounting for the following:

- where charges have been pre-paid and are currently being held as credits by Council;
- where credits remain from previous development;
- where Council provides exemptions to infrastructure charges based on the proposed use (e.g. non-resident workers accommodation (farm harvesting);
- where commercial agreements and other subsidies are applicable; and
- where development does not attract an infrastructure charge – for example a dwelling is being constructed on existing vacant lot, or other minor uses that contribute to floor space but are not assessable development.

On this basis, a revenue adjustment factor (reduction) of 40% has been applied for the first 5 years in order to reduce the projected revenues within the SoW model to appropriately reflect the matters described above.

The adopted charge rates used within the SoW model are based on the Lockyer Valley Adopted Infrastructure Charges Resolution (No. 6) 2022. In order to appropriately align the charge rates with the SoW model base year, these have been adjusted backwards to a 2016 value, using the 3 year rolling average PPI index, calculated consistently with the 'PPI index calculator' spreadsheet published by the state government.

Appendix 1 – Existing and Future Demand Generation Rates

Existing Demand Generation (within draft planning scheme zones)

Identified Landuse	Min Size	Max Size	Imp. Fraction
Community Facilities Zone			
Cemeteries Including Crematoria	0	Max	0.2
Child Care, Ex K'Garten	0	Max	0.4
Community Protection Centre	0	Max	0.4
Educational inc K'garten	0	Max	0.4
Hospitals, Conv. Homes (Medical Care)	0	Max	0.4
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.9
Low Value (Assume Vacant)	0	Max	0
Multi Unit Dwelling (Flats)	0	Max	0.6
Other Clubs (Non Business)	0	Max	0.4
Outbuildings	0	Max	0.1
Parks, Gardens	0	Max	0
Poultry	0	Max	0
Professional Offices	0	Max	0.5
Public Hospital	0	Max	0.4
Religious	0	Max	0.4
Res Institutions (Non-Medical Care)	0	Max	0.4
Reservoir, Dams, Bores	0	Max	0
Single Unit Dwelling (House)	0	Max	0.5
Small Crops and Fodder Irrigated	0	Max	0
Special Tourist Attraction (Commercial)	0	Max	0.4
Theatres & Cinemas	0	Max	0.9
Transformers	0	Max	0.1
Vacant	0	Max	0
Vacant Urban Land	0	Max	0
Warehouses & Bulk Stores	0	Max	0.9
Welfare Homes, Institutions	0	Max	0.4
Unidentified	0	Max	0.4
Conservation Zone			
Cattle Breeding and Fattening	0	Max	0
Forestry & Logs	0	Max	0
Large Homesite Vacant	0	Max	0
Low Value (Assume Vacant)	0	Max	0
Parks, Gardens	0	Max	0
Small Crops and Fodder Irrigated	0	Max	0
Vacant	0	Max	0
Unidentified	0	Max	0
Emerging Community Zone			
Building Units	0	Max	0.6
Cattle Breeding and Fattening	0	Max	0
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Low Value (Assume Vacant)	0	Max	0
Parks, Gardens	0	Max	0
Reservoir, Dams, Bores	0	Max	0
Section 25 Valn	0	Max	0
Single Unit Dwelling (House)	0	Max	0.5
Small Crops and Fodder Irrigated	0	Max	0
Vacant	0	Max	0
Vacant Urban Land	0	Max	0

Identified Landuse	Min Size	Max Size	Imp. Fraction
Unidentified	0	Max	0.5
Extractive Industry Zone			
Breeding	0	Max	0
Cattle Breeding and Fattening	0	Max	0
Extractive	0	Max	0.2
Forestry & Logs	0	Max	0
General Industry	0	Max	0.2
Large Homesite Dwelling	0	Max	0
Large Homesite Vacant	0	Max	0
Low Value (Assume Vacant)	0	Max	0
Outbuildings	0	Max	0
Small Crops and Fodder Irrigated	0	Max	0
Unidentified	0	Max	0.2
Industry Investigation Zone			
Cattle Breeding and Fattening	0	Max	0
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Small Crops and Fodder Irrigated	0	Max	0
Small Crops Fodder Non-Irrigated	0	Max	0
Unidentified	0	Max	0.9
Industry Zone			
Animals, Special	0	Max	0
Builders Yards, Contractors Yards	0	Max	0.9
Cattle Fattening	0	Max	0
General Industry	0	Max	0.9
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.9
Low Value (Assume Vacant)	0	Max	0
Noxious, Offensive Industry	0	Max	0.9
Nurseries (Plants)	0	Max	0.9
Oil Depots & Refinery	0	Max	0.9
Outbuildings	0	Max	0
Retail Warehouse	0	Max	0.9
Sales Area Outdoor	0	Max	0.9
Section 25 Valn	0	Max	0
Service Station	0	Max	0.9
Shop Single	0	Max	0.9
Single Unit Dwelling (House)	0	Max	0.4
Small Crops and Fodder Irrigated	0	Max	0
Transport Terminal	0	Max	0.9
Vacant Urban Land	0	Max	0
Warehouses & Bulk Stores	0	Max	0.9
Unidentified	0	Max	0.9
Local Centre Zone			
Child Care, Ex K'Garten	0	Max	0.7
Combination Multi Dwelling & Shops	0	Max	0.9
Community Protection Centre	0	Max	0.7
Hospitals, Conv. Homes (Medical Care)	0	Max	0.7
Hotel, Tavern	0	Max	0.9
Hotel, Tavern (Large 1)	0	Max	0.9
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.9
Low Value (Assume Vacant)	0	Max	0
Multi Unit Dwelling (Flats)	0	Max	0.9

Identified Landuse	Min Size	Max Size	Imp. Fraction
Other Clubs (Non Business)	0	Max	0.9
Professional Offices	0	Max	0.9
Sales Area Outdoor	0	Max	0.9
Service Station	0	Max	0.9
Shop Single	0	Max	0.9
Shopping Group (2 to 6 Shops)	0	Max	0.9
Shops, Shopping Group (> 6 Shops)	0	Max	0.9
Single Unit Dwelling (House)	0	Max	0.7
Transport Terminal	0	Max	0.9
Vacant Urban Land	0	Max	0
Warehouses & Bulk Stores	0	Max	0.9
Unidentified	0	Max	0.9
Low Density Residential Zone			
Building Units	0	Max	0.6
Caravan Parks	0	Max	0.5
Child Care, Ex K'Garten	0	Max	0.5
Funeral Parlours	0	Max	0.4
Group Titles	0	Max	0.6
Hospitals, Conv. Homes (Medical Care)	0	Max	0.5
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.9
Low Value (Assume Vacant)	0	Max	0
Milk - Quota	0	Max	0
Multi Unit Dwelling (Flats)	0	Max	0.6
Outbuildings	0	Max	0.1
Parks, Gardens	0	Max	0
Professional Offices	0	Max	0.9
Religious	0	Max	0.4
Section 25 Valn	0	Max	0
Service Station	0	Max	0.9
Shop Single	0	Max	0.9
Single Unit Dwelling (House)	0	600	0.5
Single Unit Dwelling (House)	600	1,200	0.375
Single Unit Dwelling (House)	1,200	2,000	0.125
Single Unit Dwelling (House)	2,000	4,000	0.5
Single Unit Dwelling (House)	4,000	Max	0.05
Small Crops and Fodder Irrigated	0	Max	0
Transport Terminal	0	Max	0.9
Vacant	0	Max	0
Vacant Urban Land	0	Max	0
Warehouses & Bulk Stores	0	Max	0.9
Unidentified	0	Max	0.5
Low-Medium Density Residential Zone			
Building Units	0	Max	0.6
Caravan Parks	0	Max	0.6
Caravan Parks (Large 2)	0	Max	0.4
Community Protection Centre	0	Max	0.4
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.9
Low Value (Assume Vacant)	0	Max	0
Motels	0	Max	0.6
Multi Unit Dwelling (Flats)	0	Max	0.6
Outbuildings	0	Max	0.1
Professional Offices	0	Max	0.9

Identified Landuse	Min Size	Max Size	Imp. Fraction
Religious	0	Max	0.4
Section 25 Valn	0	Max	0
Service Station	0	Max	0.9
Shop Single	0	Max	0.9
Shopping Group (2 to 6 Shops)	0	Max	0.9
Single Unit Dwelling (House)	0	Max	0.5
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0.6
Major Centre Zone			
Car Parks	0	Max	0.9
Drive-In Shopping Centre	0	Max	0.9
Hospitals, Conv. Homes (Medical Care)	0	Max	0.5
Hotel, Tavern	0	Max	0.9
Hotel, Tavern (Large 1)	0	Max	0.9
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.9
Low Value (Assume Vacant)	0	Max	0
Professional Offices	0	Max	0.9
Religious	0	Max	0.5
Restaurant	0	Max	0.9
Retail Warehouse	0	Max	0.9
Sales Area Outdoor	0	Max	0.9
Section 25 Valn	0	Max	0
Shop Single	0	Max	0.9
Shopping Group (2 to 6 Shops)	0	Max	0.9
Shops, Shopping Group (> 6 Shops)	0	Max	0.9
Single Unit Dwelling (House)	0	Max	0.5
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0.9
No Zoning			
Large Homesite Dwelling	0	Max	0.1
Unidentified	0	Max	0
Road - CBD	0	Max	0.95
Road - Rural	0	Max	0.25
Road - SCR	0	Max	0.3
Road - Urban	0	Max	0.5
Open Space Zone			
Car Parks	0	Max	0.9
Cattle Breeding and Fattening	0	Max	0
Cemeteries Including Crematoria	0	Max	0.2
Community Protection Centre	0	Max	0.4
Extractive	0	Max	0.2
General Industry	0	Max	0.9
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.9
Low Value (Assume Vacant)	0	Max	0
Other Clubs (Non Business)	0	Max	0.4
Outbuildings	0	Max	0.1
Parks, Gardens	0	Max	0
Professional Offices	0	Max	0.9
Reservoir, Dams, Bores	0	Max	0
Showgrounds, Racecourses, Airfield	0	Max	0.2
Single Unit Dwelling (House)	0	Max	0.5
Small Crops and Fodder Irrigated	0	Max	0

Identified Landuse	Min Size	Max Size	Imp. Fraction
Sports Clubs, Facilities	0	Max	0.4
Vacant	0	Max	0
Vacant Rural Land	0	Max	0
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0
Principal Centre Zone			
Car Parks	0	Max	0.9
Child Care, Ex K'Garten	0	Max	0.6
Combination Multi Dwelling & Shops	0	Max	1
Community Protection Centre	0	Max	0.6
Drive-In Shopping Centre	0	Max	1
Funeral Parlours	0	Max	0.6
Group Titles	0	Max	1
Hotel, Tavern	0	Max	1
Licensed Clubs	0	Max	1
Light Industry	0	Max	0.9
Low Value (Assume Vacant)	0	Max	0
Motels	0	Max	1
Multi Unit Dwelling (Flats)	0	Max	0.6
Outbuildings	0	Max	0.1
Professional Offices	0	Max	1
Religious	0	Max	0.6
Res Institutions (Non-Medical Care)	0	Max	0.6
Restaurant	0	Max	1
Sales Area Outdoor	0	Max	0.9
Service Station	0	Max	0.9
Shop Single	0	Max	1
Shopping Group (2 to 6 Shops)	0	Max	1
Shops, Secondary Retail (Fringe CBD)	0	Max	1
Shops, Shopping Group (> 6 Shops)	0	Max	1
Single Unit Dwelling (House)	0	Max	0.6
Sports Clubs, Facilities	0	Max	0.4
Transport Terminal	0	Max	0.9
Vacant Urban Land	0	Max	0
Warehouses & Bulk Stores	0	Max	0.9
Unidentified	0	Max	1
Rural Residential Zone			
Area A precinct			
Cattle Breeding and Fattening	0	Max	0
Child Care, Ex K'Garten	0	Max	0.2
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.2
Low Value (Assume Vacant)	0	Max	0
Noxious, Offensive Industry	0	Max	0.2
Outbuildings	0	Max	0.1
Parks, Gardens	0	Max	0
Section 25 Valn	0	Max	0
Shop Single	0	Max	0.2
Single Unit Dwelling (House)	0	Max	0.1
Small Crops and Fodder Irrigated	0	Max	0
Sports Clubs, Facilities	0	Max	0.1
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0.1
Area B precinct			
Cattle Breeding and Fattening	0	Max	0

Identified Landuse	Min Size	Max Size	Imp. Fraction
Cream	0	Max	0
Extractive	0	Max	0.2
Group Titles	0	Max	0.1
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Low Value (Assume Vacant)	0	Max	0
Small Crops and Fodder Irrigated	0	Max	0
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0.1
Area C precinct			
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Single Unit Dwelling (House)	0	Max	0.1
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0.1
Area D precinct			
Animals, Special	0	Max	0
Cattle Breeding and Fattening	0	Max	0
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Low Value (Assume Vacant)	0	Max	0
Nurseries (Plants)	0	Max	0.2
Orchards	0	Max	0
Outbuildings	0	Max	0.1
Parks, Gardens	0	Max	0
Reservoir, Dams, Bores	0	Max	0
Section 25 Valn	0	Max	0
Service Station	0	Max	0.2
Shop Single	0	Max	0.2
Single Unit Dwelling (House)	0	Max	0.1
Small Crops and Fodder Irrigated	0	Max	0
Turf Farms	0	Max	0
Vacant	0	Max	0
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0.1
Area E precinct			
Building Units	0	Max	0.1
Cattle Breeding and Fattening	0	Max	0
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.2
Low Value (Assume Vacant)	0	Max	0
Motels	0	Max	0.2
Outbuildings	0	Max	0.1
Parks, Gardens	0	Max	0
Reservoir, Dams, Bores	0	Max	0
Section 25 Valn	0	Max	0
Single Unit Dwelling (House)	0	Max	0.1
Vacant	0	Max	0
Vacant Rural Land	0	Max	0
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0.1
Area F precinct			
Cattle Breeding and Fattening	0	Max	0
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0

Identified Landuse	Min Size	Max Size	Imp. Fraction
Unidentified	0	Max	0.1
Rural Zone			
Advertising - Hoarding	0	Max	0
Animals, Special	0	Max	0
Breeding	0	Max	0
Builders Yards, Contractors Yards	0	Max	0.1
Caravan Parks	0	Max	0.2
Caravan Parks (Large 1)	0	Max	0.1
Caravan Parks (Large 2)	0	Max	0.1
Cattle Breeding and Fattening	0	Max	0
Cattle Fattening	0	Max	0
Cemeteries Including Crematoria	0	Max	0.1
Community Protection Centre	0	Max	0.1
Cream	0	Max	0
Educational inc K'garten	0	Max	0.1
Extractive	0	Max	0.2
Forestry & Logs	0	Max	0
Funeral Parlours	0	Max	0.1
General Industry	0	Max	0.1
Goats	0	Max	0
Grains	0	Max	0
Group Titles	0	Max	0
Guest House, Private Hotel (Large 2)	0	Max	0
Horses	0	Max	0
Hotel, Tavern	0	Max	0.1
Hotel, Tavern (Large 1)	0	Max	0.1
Large Homesite Dwelling	0	Max	0
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.1
Low Value (Assume Vacant)	0	Max	0
Milk - No quota	0	Max	0
Milk - Quota	0	Max	0
Motels (Large Sites)	0	Max	0.1
Multi Unit Dwelling (Flats)	0	Max	0.2
Noxious, Offensive Industry	0	Max	0.2
Nurseries (Plants)	0	Max	0.1
Oil Depots & Refinery	0	Max	0.1
Orchards	0	Max	0
Other Clubs (Non Business)	0	Max	0.1
Outbuildings	0	Max	0
Parks, Gardens	0	Max	0
Pigs	0	Max	0
Poultry	0	Max	0
Religious	0	Max	0.1
Reservoir, Dams, Bores	0	Max	0
Retail Warehouse	0	Max	0.1
Sales Area Outdoor	0	Max	0.1
Section 25 Valn	0	Max	0
Service Station	0	Max	0.1
Shop Single	0	Max	0.1
Showgrounds, Racecourses, Airfield	0	Max	0.2
Single Unit Dwelling (House)	0	Max	0
Small Crops and Fodder Irrigated	0	Max	0
Small Crops Fodder Non-Irrigated	0	Max	0
Special Tourist Attraction (Commercial)	0	Max	0.1
Sports Clubs, Facilities	0	Max	0.1

Identified Landuse	Min Size	Max Size	Imp. Fraction
Transformers	0	Max	0
Transport Terminal	0	Max	0.1
Turf Farms	0	Max	0
Vacant	0	Max	0
Vacant Rural Land	0	Max	0
Vacant Urban Land	0	Max	0
Vineyards	0	Max	0
Warehouses & Bulk Stores	0	Max	0.1
Unidentified	0	Max	0
Specific Use (Special Purpose) Zone			
Explosives activity precinct			
Animals, Special	0	Max	0
General Industry	0	Max	0.3
Large Homesite Vacant	0	Max	0
Noxious, Offensive Industry	0	Max	0.3
Transport Terminal	0	Max	0.3
Unidentified	0	Max	0.3
SEQ correctional services precinct			
Community Protection Centre	0	Max	0.1
	0	Max	0.2
UQ knowledge and enterprise precinct			
Defence Force Estab	0	Max	0.2
Educational inc K'garten	0	Max	0.2
Educational inc K'garten (accommodation)	0	Max	0.2
Unidentified	0	Max	0.2
Sport and Recreation Zone			
Community Protection Centre	0	Max	0.2
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Other Clubs (Non Business)	0	Max	0.2
Outbuildings	0	Max	0.1
Parks, Gardens	0	Max	0
Reservoir, Dams, Bores	0	Max	0
Showgrounds, Racecourses, Airfield	0	Max	0.2
Small Crops and Fodder Irrigated	0	Max	0
Sports Clubs, Facilities	0	Max	0.2
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0
Township Zone			
Cattle Breeding and Fattening	0	Max	0
Hotel, Tavern	0	Max	0.4
Large Homesite Dwelling	0	Max	0.1
Large Homesite Vacant	0	Max	0
Light Industry	0	Max	0.4
Low Value (Assume Vacant)	0	Max	0
Religious	0	Max	0.4
Shop Single	0	Max	0.4
Single Unit Dwelling (House)	0	Max	0.4
Vacant Urban Land	0	Max	0
Unidentified	0	Max	0.4

Future Demand Generation

	Area classification	Imp. Fraction
Residential development		
Gatton	Urban Residential – Gatton and Helidon	0.5
	Urban Residential - 3,000m² Lots (Withcott)	0.15
	Urban Residential - 1,000m² Lots (Grantham)	0.5
	Urban Residential - 2,000m² Lots (Grantham)	0.15
	Village	0.15
	Park Residential	0.15
	Homestead Residential - Within Water Supply Service Area	0.15
	Homestead Residential - Outside Water Supply Service Area	0.15
	Rural Residential - 1. Adare	0.04
	Rural Residential - 2. Woodlands	0.04
	Rural Residential - 3. Placid Hills	0.04
	Rural Residential - 4. Winwill	0.04
	Rural Residential - 5. Veradilla	0.02
	Rural Residential - 6. Helidon	0.04
	Rural Residential - 7. Helendale Drive	0.06
	Rural Residential - 8. Postmans Ridge	0.02
	Rural Residential - 9. Blanchview	0.02
	Rural Residential - 10. Diana Crescent	0.06
	Rural Residential - 11. Park Ridge Drive	0.15
	Rural Residential - 12. Table Top	0.15
	Rural Residential - 13. Withcott West	0.04
	Rural Residential - 14. Murphys Creek	0.04
	Rural Residential - 10,000m² Lots (Grantham)	0.06
	Rural Residential - 20,000m² Lots (Grantham)	0.04
	Rural	0
Laidley	Urban Residential	0.5
	Village	0.15
	Rural Residential	0.15
	Rural	0
Non-residential and mixed development		
Gatton	Commercial	0.9
	Industrial	0.9
	Community Facilities	0.2
	Low Impact Industry	0.9
	Local Centre	0.45
	Limited Development	0
	Open space	0
Laidley	Commercial	0.9
	Industrial	0.9
	Community Facilities	0.2
	Open Space	0