



# Lockyer Valley Regional Council

Gatton Planning Scheme

## INDUSTRY LAND INVESTIGATION REPORT AND GATTON NORTH INVESTIGATION AREA

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Development Application Co-ordination

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1. TTM letter dated 4 June 2008.

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- 8-1 Biodiversity
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# 1 INTRODUCTION

The Department of Infrastructure and Planning (DIP) requires the Lockyer Valley Regional Council (LVRC) to substantiate inclusion of the Gatton North Investigation Area (GNIA) in the urban footprint for the 2009 review of the South East Queensland Regional Plan (SEQRP).

LVRC commissioned Town Planning Strategies to:

1. conduct a review of the existing opportunities to accommodate industry to 2031 on appropriately zoned land and recommend additional area needed,
2. undertake a desktop investigation of the suitability of the Gatton North Investigation Area to accommodate future industrial development; and
3. indicate initial development parameters for industrial development of the Gatton North Investigation Area.

## 1.1 Existing situation

The former Gatton Shire Planning Scheme (GPS) contains an industrial planning regime based on the provision of one industrial zone and the allocation of that zone to 10 discrete areas throughout the planning scheme area. Table 1 provides a summary of the zoned area; the respective precinct number; precinct area and a summary of the preferred future land use Specific Outcome for the respective precinct.

**Table 1 - Summary of Zoned land and Preferred Future Use**

Precinct number	Size of precinct (ha)	Preferred future use
Gatton-G1 Murder Gully	211.1 <i>UHa</i> <i>Emerging town</i>	Showrooms and similarly uses in the north fronting Gatton-Helidon Road. General and less compatible industries in the central and southern parts.
Gatton-G2	18.31	Low impact, low noise, low emissions and low traffic generating industry compatible with adjoining residential areas.
Gatton-G3 Crescent Street	1.781	Low impact industries and showrooms requiring location adjacent to commercial area.
Gatton-G4 and G6 Eastern Gateway	28.18	Showrooms, service trades and similarly uses fronting Eastern Drive. A wide range of industrial and related uses (G4) Small-scale low impact industries; possible residential with buffering (G6)
Gatton-G5 Northside	4.661	Lower impact industries; uses ancillary to the sawmill or showrooms. Redevelopment for non-industrial purposes.
Helidon-H1 William Street	1.723	Low impact industrial use and large-scale commercial uses.
Helidon-H2 Lawlers Road	58.09	Warehousing; medium and low impact industries
Helidon Magazine	791.2	Ongoing operation of the Helidon Explosive Magazine and related industries
Withcott Roches Road	78.6	A range of industrial and commercial industry uses

## 1.2 Development opportunities

The following industrial precincts contain greenfield land:

1. G1-Murder Gully (central and south)
2. G4-Eastern Gateway
3. G6-Eastern Gateway
4. H2-Lawlers Road, and
5. Withcott.

The following industrial precincts contain vacant or underutilised sites that are potentially available for development and future industrial use:

6. G2
7. G3-Crescent Street
8. H1-William Street
9. Helidon Magazine

While the following industrial precincts have sites potentially available for redevelopment for non-industrial purposes:

10. G5-Northside

## 2 LAND CHARACTERISTICS AND DEVELOPMENT CONSTRAINTS

### 2.1 Land Characteristics

The physical characteristics of the land available for future industrial development are identified on a series of maps accompanying this report. See the List of Plans for reference to the respective Precinct Plan.

### 2.2 Development Constraints

#### 2.2.1 FLOODING

Flood levels identified from historic records are.

Gatton – RL 102

Helidon – RL 135

Withcott – RL 235.

An assumption is made that all of Gatton town has Q100 flood level of RL102. This is unlikely as level would probably be higher further upstream, for example in Precinct G1. For the Gatton Precincts, RL 100 was used to represent the Q100. A further limitation on the reliability of the mapped flood information comes from the contour interval of 5 m. This means the level could be out by 5 m. In area where the land is 'flat' the flood information should be considered only as being the best available at this time.

A study to identify Q100 flood levels for the urban footprint is underway but is not yet complete.

## 2.2.2 SLOPE

Slopes greater than 15% are identified in the GPS. This is too steep for industrial land and this criterion has been used as no better information is available. More land at Withcott is unsuitable for industrial purposes than has been mapped and a factor of 0.75 has been applied to the available area to recognise this constraint.

## 2.2.3 SEWERAGE TREATMENT

Gatton and Helidon have existing treatment plants and both will require augmentation before additional volumes of effluent can be treated. New sewer mains will be required to connect to the treatment plants to industrial areas.

Table 2 summarises the development constraints for the existing precincts.

**Table 2 Summary of Development Constraints**

Precinct	G1	G2	G3	G4	G5	G6	H1	H2	H Mg	W
Urban Footprint	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No Remnant Vegetation	✓	✓	✓	✓	✓	✓	✓	✓	x	x
Flood free Q100(est)	x	✓	xpt	x	✓	x	✓	✓	✓	✓
Flood free access	✓ 1	✓	x	x	✓	x	✓	✓	✓	✓
Significant Drainage Line	✓	x	x	x	x	x	x	x	✓	x
Slope suitable < 15%	✓	✓	✓	✓	✓	✓	✓	✓	x	✓pt
No Biodiversity values	✓	✓	✓	✓	✓	✓	✓	✓	x	x
Separation from Urban Residential	xpt	x	✓	x	x	x	x	xpt	✓	✓pt
Separation from Acreage Res.	xpt	n/a	n/a	n/a	n/a	n/a	n/a	n/a	✓	✓
Access suitable	x	x 4	x	x 4	✓	x5	✓	✓	x	✓
DMR intersection suitable	x	n/a	x	x	n/a	x	✓	x	✓	x
Local intersections suitable	x 2	x	x	x	✓	✓	✓	✓	✓	✓
Water available	✓	✓	✓	✓	✓	✓	✓	✓	✓ 5	✓
Sewer available	x	✓ 5	✓ 5	✓ 5	✓ 5	✓ 5	✓ 5	x	x	x
Building without restrictions	x 3	✓	✓	✓	✓	✓	✓	✓	✓	✓
Free of major contamination	✓	✓	✓	✓	x	x	✓	✓	x	✓
Slope >15% requires earthworks	✓	x	x	x	x	x	x	✓ 6	✓	✓
Hazardous uses	x	x	x	x	x	x	x	x	✓	x

### Notes:

pt = for part of the area

1. Grantham Helidon Road Intersection flooded
2. Tenthill Creek Road horizontal geometry unsuitable
3. Airfield
4. Uses residential streets
5. Augmentation required
6. To fill large dam

## 3 UNCONSTRAINED LAND

Table 3 (following page) details the respective area of land by precinct affected by development constraints. It also identifies the remaining area of land available for industrial development.

Table 3 - Respective Area of Land in Hectares by Precinct Affected by Development Constraints

Precinct Name	Total Precinct Area	Flood Area	Drainage Area	Zone Area	Biodiversity Area	Remnant Vegetation Area	Slope Area	Balance Precinct Area (ha)	Developed	Otherwise Constrained	Available Precinct Area (ha)
Precinct G1	211.1	2.112	12.84	44.795	N/A	N/A	N/A	151.353	45	50	56.353
Precinct G2	18.31	N/A	N/A		N/A	N/A	N/A	18.31	13	5.31	0
Precinct G3	1.781	0.6327			N/A	N/A	N/A	1.1483	1,1483		0
Precinct G4 & G6	28.18	19.408	N/A		N/A	N/A	N/A	8.772		8.772	0
Precinct G5	4.661	N/A	N/A		N/A	N/A	N/A	4.661	4.661		0
Precinct H1 Helidon	1.723	N/A	N/A	1.723	N/A	N/A	N/A	1.723		1.723	56.353
Precinct H2 Helidon	58.09	N/A	N/A	58.09	N/A	N/A	N/A	58.09		50	8.09
Helidon Magazine	791.2	N/A	N/A	737.07	438.1	324.7	3.069	298.97		298.97	0
Withcott	78.6	N/A	N/A		22.92	29.36	31.83	41.8	4.772		26.578

Precinct Name	Total Precinct Area	Flood Area	Drainage Area	Investigation Area	Biodiversity Area	Remnant Vegetation Area	Slope Area	Balance Precinct Area (ha)	Developed	Constrained	Available Precinct Area (ha)
Gatton North	846.1	245.8	N/A	509.15	202.43	202.43	N/A	113.6528	0		

Notes:

- 1 This area is constrained due to Q100 flood levels based on local knowledge and not identified by constraint mapping.
- 2 The land in Precinct G2 is not suitable for industry development because it is has no buffers to the adjoining existing residential area.
- 3 The majority of these Precincts are below Q100 (RL 100). Showroom development it preferred. Enquiries have been received for development of this Precinct.
4. The site has redevelopment potential and it is not suited for industrial uses because it has no buffers to the adjoining existing residential area.
- 5 This area has been the subject of recent enquiry for tissue factory and wholesale storage.
- 6 This area is not generally available as it includes buffers to Helidon Explosives Magazine. A very limited class of industries is compatible with the dominant use in this Precinct.
- 7 Reduce area to allow for slope between 8% and 15%. ( 0.75)

Blue highlighted area is located in Helidon.

Brown highlighted area is located at Withcott.

## 4 LAND FOR EMPLOYMENT AND ECONOMIC DEVELOPMENT

The residential population of the Gatton Shire area was 15,639 in 2006 (ABS). The resident population in the workforce was 7,206 (ABS Labour Force minus students, those not in the labour force and those 'not stated').

The Working Population Profile shows that 79.2% of Shire Residents were employed in the Shire in 2006.

The South East Queensland Regional Plan predicted the dwelling stock of 5,700 houses in 2001 to increase by 2,400 dwellings to 2026. The Population Forecasting and Information Unit of DIP predicts the range of population at 2026 between 20,000 (low series) and 24,300 (high series). If the same growth assumptions are applied, the resident labour force will be between 9,215 and 11,195 by 2026. These are 27.9% to 55.4% increases in workforce.

Currently 1,585 persons or 28% of the workforce is employed in jobs that would be located in the Industry zone. Approximately 64.6 ha of Industry land is used for the current workforce in industrial sectors.

Based on predicted population growth, the proportional increase in the industrial workforce will be between 2,558 and 3,108 workers. To employ between 2,558 and 3,108 workers, extrapolating the current use of Industrial land, between 39.7 hectares and 62.1 hectares of additional industry land is required, to 2026.

It has also been suggested that industry employees are accommodated at the rate of 30 persons per hectare. This indicates a range of 32.4 hectares to 50.7 hectares of additional industry land is required to 2026.

The methods of establishing need for industry land contain crude calculations that maintain the *status quo*. They do not allow for;

- land required for 2026 to 2031
- the shortage of developed industrial land for operations with a large building footprint In South East Queensland, resulting in enquiries and now a reported purchase of land for a regional business.
- diversification of the industry base that currently serves residents of Gatton,
- a policy to catch up on the shortfall in the number of jobs currently available in the area to equal the existing number of resident workers,
- a policy to provide new jobs at a rate that gives each new resident in the workforce a new job,
- a policy to catch up on both the existing shortfall and match the resident workforce growth rate,
- an increase in service demand resulting from the correctional facility to be located north of Gatton Town,
- an increase in service demand resulting from the relocation of the Veterinary School to the University campus east of Gatton town,
- probable redirection of workers from the agriculture, forestry and fishing sector to industrial employment.



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## 5 INDUSTRY ZONE LAND

The relatively unconstrained land for future industry development is contained in 3 separate locations shown in Table 4.

**Table 4 Unconstrained Land in Industry Zone**

Location	Area in hectares
Gatton Precinct G1	56.353
Helidon Precinct H2	8.09
Withcott	26.578

*ck zoning Emerging town*

The selection criteria for industry land, in order of priority order are:

1. close proximity to the workforce, and
2. good connection to the industry area for employees, and
3. adequate separation from or buffering to existing and proposed urban and acreage residential zones,
4. convenient access for receiving raw material and distributing goods to the Warrego Highway,
5. suitable topography of the land with little slope,
6. close proximity to water supply services and wastewater treatment.

An assessment of the respective unconstrained land in the industry zone is made against the selection criteria.

### 5.1 Precinct G1

1. Good proximity to the workforce.
2. Reasonably good location but poor standard of road connection.
3. Reasonably good separation although has some potential conflicts with existing Urban and Park Residential development and possible future residential development.
4. Reasonably good proximity to the network but not the highway. Plan 1-3 identifies that significant reconstruction of Tenthill Road is required to provide suitable access to Precinct G1.
5. Poor as the land has greater slope than is optimum for industrial development.
6. Poor as the land is not served by the wastewater treatment system. The treatment plant is located approximately 4.6 kilometers from the Precinct.
7. The airfield will restrict the height of some buildings to less than 9 m.

See Plans 1-1 to 1-4.

#### **Conclusion**

The preferred future use of this precinct is for industries that serve the existing residential population, rather than major manufacturing industries. Of the three existing zoned areas, this is likely to be least costly to service.

## 5.2 Precinct H2

1. Poor proximity to the workforce.
2. Reasonably good potential connection to transport through proximity to the Warrego Highway and railway line.
3. Reasonably good separation although has some limited potential conflicts with Urban Residential development across the railway line.
4. Excellent proximity to the rail and state road infrastructure network. Access across the Railway line is by a level crossing. Substantial upgrading of the DMR intersection will be required.
5. The topography of the land suits industrial development.
6. The land is not served by the wastewater treatment system. The treatment plant is located approximately 2.2 kilometers from the treatment plant.
7. A large dam on the land will require filling.

See Plan 7-1.

### **Conclusion**

This Precinct offers medium to long term opportunities for major industrial development. Subject to suitable access upgrading, it offers transport / logistics opportunities.

This Precinct will be comparatively costly to develop as both significant roadworks and a wastewater treatment system is required.

It is additionally attractive because it adjoins land that is unconstrained for industry development. See Plan 7-2.

## 5.3 Withcott

1. Poor proximity to the local workforce.
2. Reasonably good potential connection to workforce through proximity to the Warrego Highway.
3. Reasonably good separation although has some potential conflicts with existing and future residential development.
4. Excellent proximity to state road infrastructure network. Substantial upgrading of the DMR intersection will be required.
5. The topography of the land suits industrial development.
6. No sewerage treatment system in the area.
7. A watercourse traverses the land.

See Plans 9-1 to 9-4.

### **Conclusion**

This Precinct offers medium to longer term opportunities for major industrial development. Subject to suitable access upgrading, it offers transport / logistics opportunities.

It is likely to be costly to develop as both significant roadworks and a new wastewater treatment system are required.

## 6 LAND BUDGET FOR INDUSTRY

While a methodology has been used to assist with identifying the need for land to accommodate the growth of industry, it has a number of acknowledged short-comings.

It identified that there is a need for up to 62.1 hectares of land for industry to 2026. The analysis of existing zoned land confirms that while there are 56.353 hectares of land available included in Precincts G1 to G6 inclusive, it is all located in Precinct 1. This Precinct has a number of limitations, the major of which is the poor access. The internal access to Tenthill Creek Road is difficult; the slope of the available area is less than ideal; the area is distant from the wastewater treatment plant; and it an area where building height is restricted due to the operation of the airfield. Other than for infill, further development in this precinct is not preferred.

Land for future industry growth should be sought elsewhere. There is an immediate need for the remaining industry allocation for Precinct G1, (say 52 ha) and a short term need for all of the existing industry in Precinct G2, (18 ha) to be transferred elsewhere.

Area required to 2026	<i>additional 1.</i>	62.1 ha
Area required for transfer from G1	<i>decommission</i>	52 ha
Area required for transfer from G2	<i>"</i>	<u>18 ha</u>
<b>TOTAL</b>		<u>132.1 ha</u>

The Gatton North Investigation Area was identified for this purpose. The potential of this area for industry development has now been considered. The results are shown on Plans 10-1 to 10-5.

To establish a development precinct area with sufficient size to bear the cost of providing access and services, it will be necessary to develop the QGAL that is not flood affected. Under this scenario, the combined area available for industry, both north and south of the Warrego Highway, is 113.7 hectares.

A Structure Plan is required for the area to properly consider the layout of the area and the provision of services.

An additional area has been identified west of the GNIA. It is described at Gatton West. Council has recently acquired some land in this area for the purposes of relocating the showgrounds. There is an area of 89.4 hectares available in this precinct for the longer term. It would be primarily suitable for local industries and service industry. See Plans 11-1 to 11-6. This land is relatively close to the wastewater treatment plant. The Council's plan to build a new flood free bridge over Lockyer Creek will provide access to the area. It still has potential for direct access to the Warrego Highway and this is desirable.

## 7 STRATEGY FOR PLANNING OF FUTURE INDUSTRY LAND

1. Gatton North Investigation Area (GNIA) and Gatton West (or a combination of them) have the best potential to meet the preferred site criteria.
2. GNIA area has constraints which substantially reduce the amount of suitable land within the investigation area. It also meets the criteria for a preferred locality for industry. See Plans 10-1 to 10-5.
3. Options are available for access to GNIA activities and they are shown on Figure 2 of the TTM letter dated 4 June 2008. Options 1 or 2 and 3 (with changes to the alignment to link with Allan Street) are conceptually suitable. See Attachment 1.
4. The Council's Works Program includes the construction of a bridge above Q100 to extend Spencer Street to the west over Lockyer Creek. With appropriate rail crossings, the area abutting the GNIA to the west, situated between the Warrego Highway and railway line becomes available for industrial use. See Plan 11-5. This land is identified as Gatton West. See Plan 11-1.
5. The preferred locations for regional scale, distribution uses and difficult to locate industries are:
  - a. Gatton North, north of the Warrego Highway
  - b. Helidon Magazine precinct, provided the uses are compatible with the magazine,
  - c. Helidon precinct H2, if Gatton North, north of the Warrego highway is not available, and as a very long term option for large footprint or difficult to locate industry.
6. The preferred location for local manufacturing industries and service industries are:
  - a. Gatton North Investigation Area, south of the Warrego highway,
  - b. Gatton West
  - c. Precinct G1 in Gatton, for infill of a curtailed area with priority on industries supporting agricultural uses,
  - d. Withcott which may also be suitable for transport and distribution activities in the very long term.
7. The preferred location for showroom retail development (not an industry use) is:
  - a. Precinct G4 unless it is ultimately found unsuitable due to flood level, OR
  - b. Precinct G5.
8. Precinct G4, G5 and G6 are preferred for residential use, if not allocated for retail showroom use or removed from contention by flooding (G4 and G6 only).
  - a. In Precinct G5 land contamination reduces the potential suitability of the site for residential although this is the alternative use if Precinct G4 and Precinct G6 are preferred as the showroom retail precinct).
9. Precinct G2 is suitable for longer term residential development, with the opportunity to consider slightly higher density given the amenity of the land.
10. Precinct G3 has capacity limited to upgrading outdoor storage area or car parking numbers.
11. Precinct H1 at William Street Helidon is already used for a truck depot and it is not suitable for more intense industrial activities as it has residential neighbours on all but one side.

Peet Limited  
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Attn: Oliver Johnson

04<sup>th</sup> June 2008

## Gatton North Industrial Estate Review of Access Options

TTM Consulting have been engaged by Peet Limited to review the accessibility of a development site located just north of Gatton township, and how this site might link into the existing external road network. Figure 1 below shows the approximate location of the subject site, the existing network of significant roads in the immediate vicinity of the site, and the approximate extent of current development in Gatton.

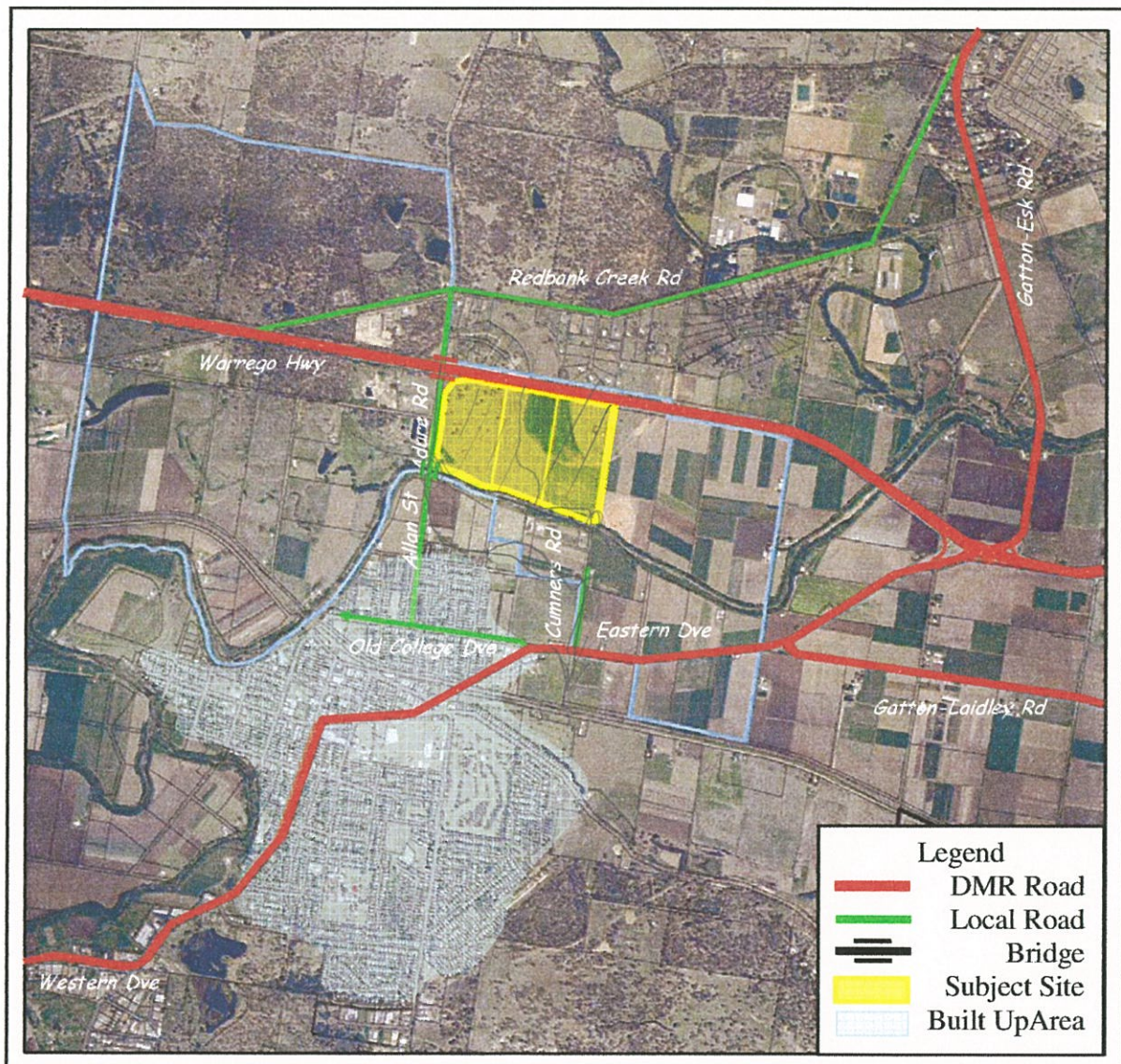


Figure 1: Subject Site, Existing Road Network and Existing Urban Footprint

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Ideally, the access arrangements for the Gatton North Industrial Estate should:

- Provide high quality access to major arterials/highways for heavy/commercial vehicles which minimizes their travel distance/time
- Minimise heavy vehicle traffic through built-up and/or residential areas
- Provide reasonably direct local road connections to residential areas for use by employees who live locally
- Not have a significant impact on the state controlled road network
- Benefit the wider community through provision of additional road infrastructure
- Provide flexibility through the availability of more than one access route

TTM have identified a number of access options which address these issues to a greater or lesser degree, as detailed below and shown in Figure 2.

**OPTION 1:** Construction of a new interchange on the Warrego Highway at Adare Road to the immediate north-west of the site.

- This provides high quality access to the Warrego Highway, to both the east and west, and reduces travel distance / time between the site and the highway to a minimum.
- Minimises heavy vehicle traffic through built-up and/or residential areas as the vast majority of this traffic will travel to the Warrego Highway.
- If the interchange is designed appropriately, its impact on the state controlled road network should be acceptable. A concept of the possible configuration of this interchange is part of Figure 2, and takes into account the existing residential development on the north-eastern corner of the interchange.
- The ability to access the Warrego Highway in this location is a benefit to not only the development, but also the remainder of the investigation area, and the northern part of Gatton township.

**OPTION 2:** Construction of new onramps to the Warrego Highway; the eastbound ramp at Redbank Creek Road and the westbound ramp at Adare Road. In addition to the ramps, this option would require the general upgrade of Redbank Creek Road to provide for exit from the highway.

- This provides a reasonably high quality access to the Warrego Highway, to both the east and west, and reduces travel distance / time between the site and the highway, but not as low as option 1
- Minimises heavy vehicle traffic through built-up and/or residential areas as the vast majority of this traffic will travel to the Warrego Highway.
- If the new ramps are designed appropriately, its impact on the state controlled road network should be acceptable.
- The ability to access the Warrego Highway in this location is a benefit to not only the development, but also the remainder of the investigation area, and the northern part of Gatton township.

8th.  
\* Joelle  
3247 52116



**OPTION 3:** Construction of northern extension to Cumners Road and a bridge over Lockyer Creek to connect into the south-eastern corner of the subject site.

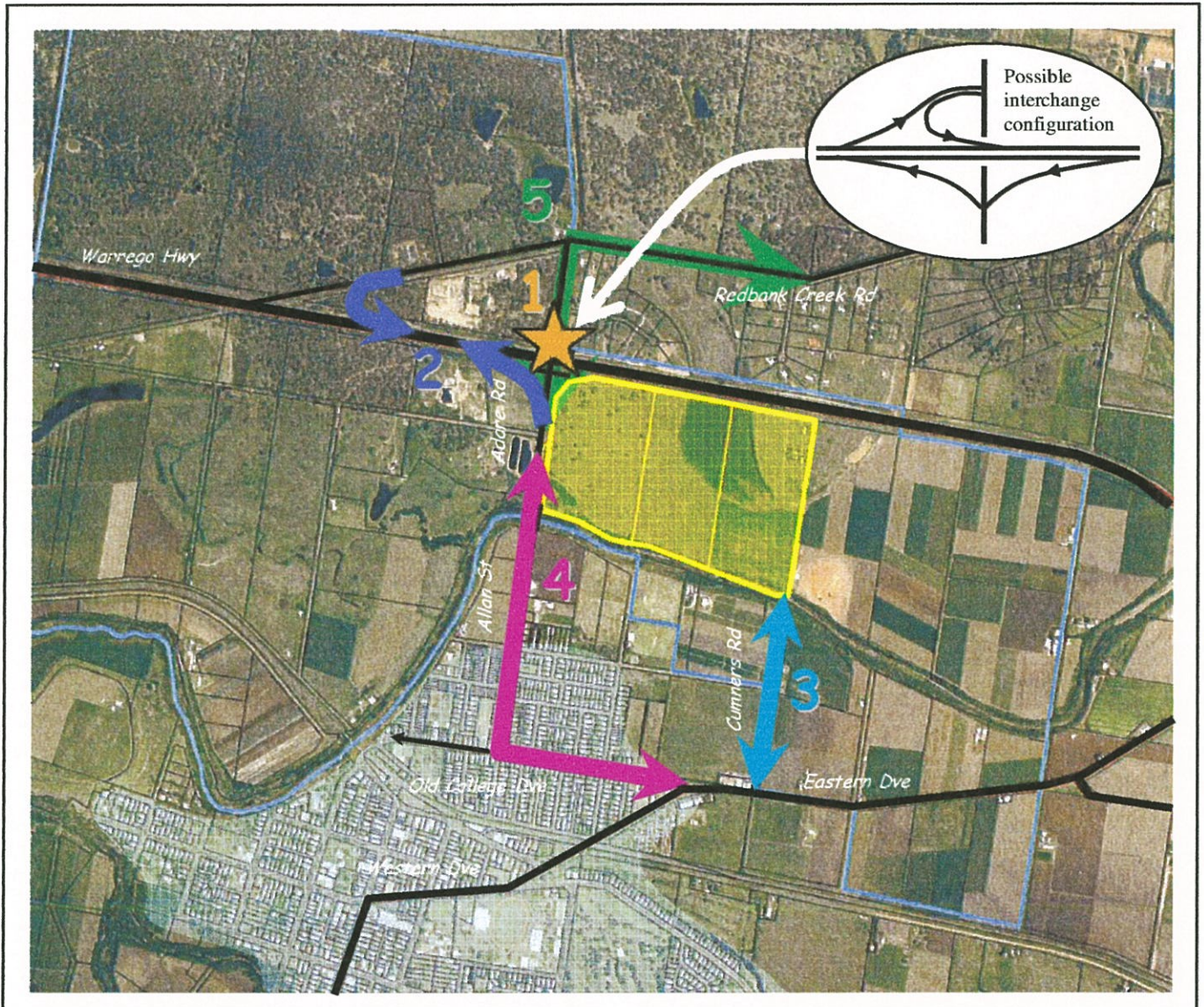
- This provides a reasonable quality access to the Warrego Highway via Eastern Drive, particularly to the east, however accessibility to the west is still relatively poor.
- Most heavy vehicle traffic avoids traveling through existing built-up and/or residential areas, however if in the future Gatton township expands to the east, it will be impacted upon by this traffic.
- This link provides a new and higher standard link between the subject site, and the business centre / residential areas of Gatton.
- The existing interchange at the eastern end of eastern drive is probably capable of accommodating the additional traffic generated by the development, and consequently the impact on the state controlled road network should be acceptable.
- This route may be of some benefit to other developments within the investigation area.

**OPTION 4:** Upgrade Adare Road / Allan Street / Old College Drive to a suitable standard

- This route provides poor quality access to the Warrego Highway, and results in increased travel distance / time between the site and the highway.
- This route guarantees that all heavy vehicle traffic moves through the built-up / residential areas of northern Gatton.
- This link provides an upgraded link between the subject site, and the business centre / residential areas of Gatton, however it will have an impact upon the amenity of adjacent properties.
- The existing interchange at the eastern end of eastern drive is probably capable of accommodating the additional traffic generated by the development, and consequently the impact on the state controlled road network should be acceptable.
- The upgrade of this route would offer little wider community benefit.

**OPTION 5:** Upgrade of Adare Road / Redbank Creek Road to a suitable standard

- This route has an increased travel distance / time between the site and the highway, however this option does remove heavy vehicle from residential streets.
- Discussions with DMR Toowoomba revealed that clearance of 5.5m is provided on Adare Road under the Warrego Highway, which is sufficient for a B-Double which requires a 4.5m clearance.
- This route also provides a connection between the proposed site and new Gatton Prison expansion. It is anticipated that shared trips may occur between the two sites by heavy vehicles.
- The existing interchange at the eastern end of Eastern Drive is probably capable of accommodating the additional traffic generated by the development, and consequently the impact on the state controlled road network should be acceptable.
- The upgrade and utilization of this route by heavy vehicles would require minimal works to the existing network reducing the overall impacts and not decrease residential amenity for communities located in close proximity to the proposed site.



**Figure 2: Possible Access Options**

In TTM's opinion, the optimum access arrangements are a combination of either Options 1 or 2, in addition to Option 3. However, Option 5 would also sufficiently service the site and has the least amount of network upgrades required for this option.

regards,

**Richard Watson**  
Senior Traffic Engineer

TTM Ref: 24239-06-let





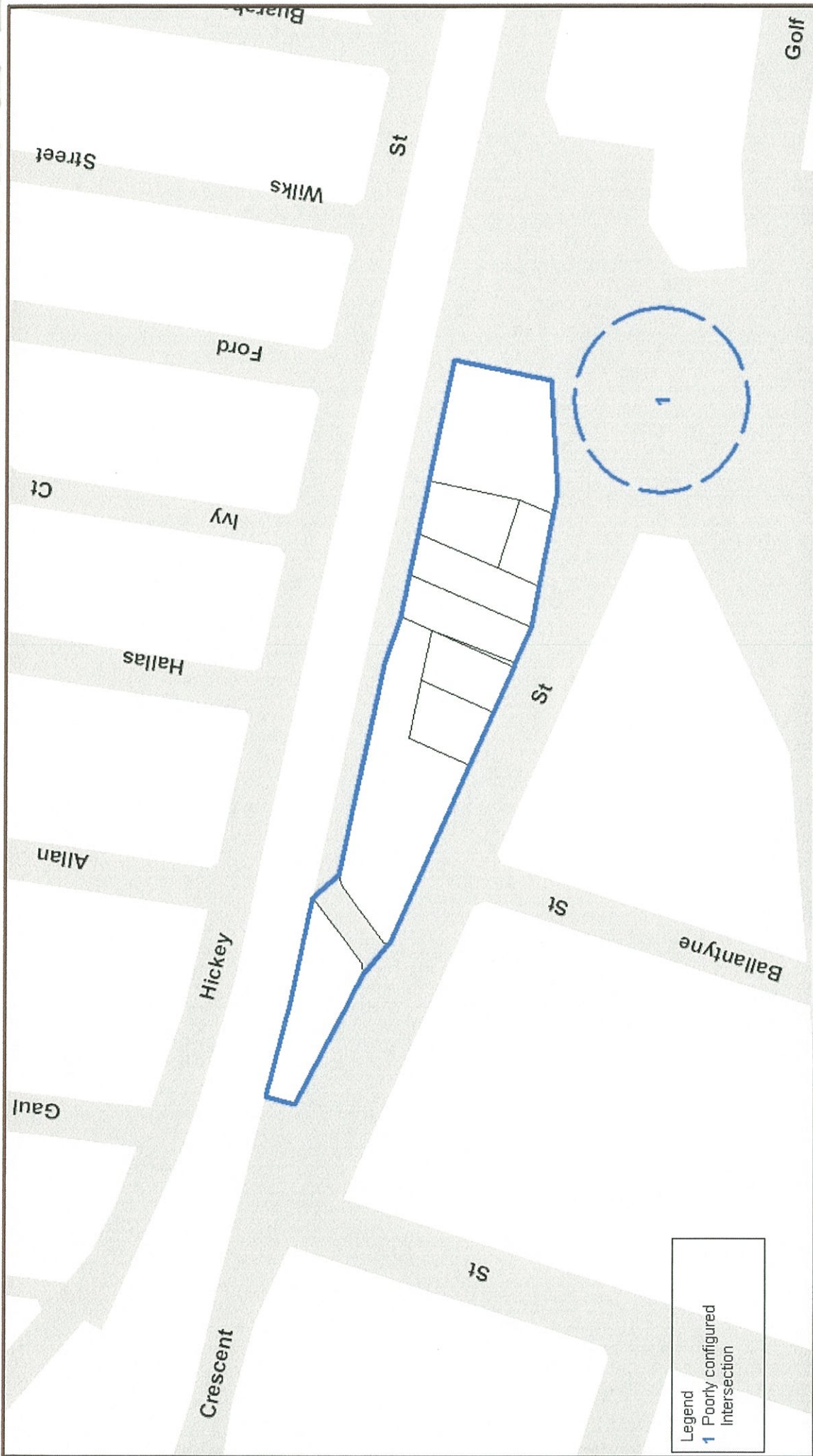












**Legend**  
 1 Poorly configured intersection

**GDA**

**Important**  
 The map was produced to the GEODESIC DATUM OF AUSTRALIA 1984 (GDA84), which has superseded the Australian Geodesic Datum of 1961 (AGD66). Height data are referred to the Australian Height Datum (AHD), as appropriate.  
 For most practical purposes, GDA84 coordinates and AHD coordinates are interchangeable, and the difference between GDA84 and AHD84 is negligible.

True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley Local Government Area. Magnetic North is 0.065° annually.

GN MN  
 TN

Grid - Magnetic  
 10.51°

Scale: 1:2500  
 Date: 05/06/2008  
 Projection: MGRS94, Zone 56  
 Sheet: 24

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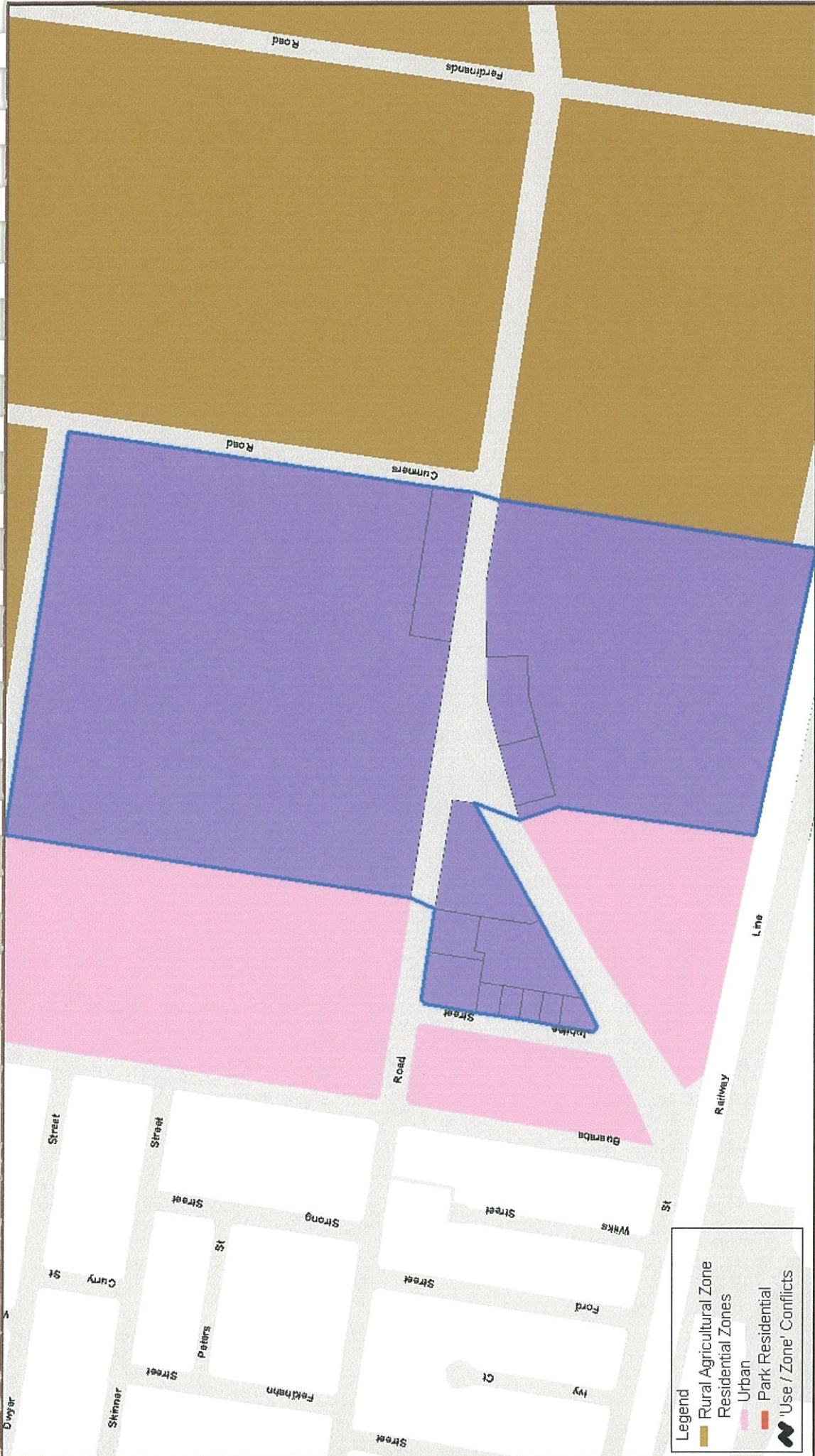
**Industry Land Investigation**  
**Precinct G3**  
**Connections**  
 June 2008

**3-2**

**LOCKYER VALLEY REGIONAL COUNCIL**  
 PO Box 82 Railway Street, Gatton Q 4343 Phone 1300 005 872 Fax 5462 3299







**Legend**

- Rural Agricultural Zone
- Residential Zones
- Urban
- Park Residential
- Use / Zone' Conflicts

**GDA**

**Important**

The map was produced by GDA using the DATUM OF AUSTRALIA 1984 GDA84, which has the Residuals Australian Geoid to Datum of 1984 (GDA84). Heights are referred to the Australian Height Datum (AHD), MSL.

For most practical purposes GDA84 coordinates and the like to the GDA84 coordinate based on the World Geoid Datum 1984 (WGS84) are the same.

True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley local Government Area. Magnetic North is shown for 2008 moving easterly by 0.000° annually.

Grid - Magnetic 10.51°

GN MIN  
TN

Scale: 1:5000  
Datum: 1984  
Date: 11/09/2008  
Projection: UTM Zone 56  
Size: A4

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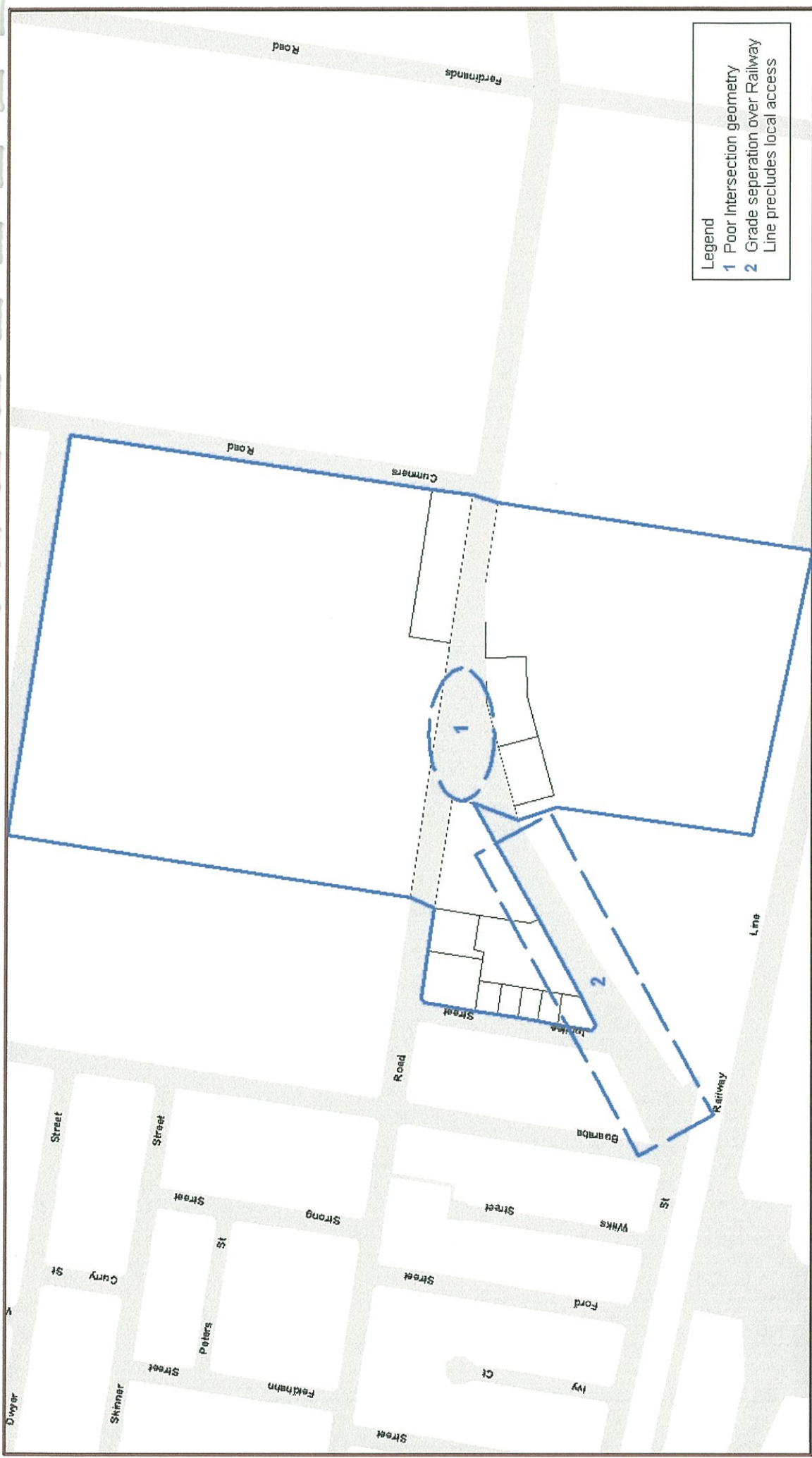
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**Industry Land and Investigation Precincts G4 & G6 Zones**

**June 2008**

**4-2**

**LOCKYER VALLEY REGIONAL COUNCIL**  
PO Box 82 Railway Street, Gatton Q 4343 Phone 1300 005 872 Fax 5462 3269



- Legend**
- 1 Poor intersection geometry
  - 2 Grade separation over Railway
- Line precludes local access

**Industry Land Investigation  
Precincts G4 & G6  
Connections**

June 2008

**4-3**

**LOCKYER VALLEY REGIONAL COUNCIL**  
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Scale: 1:25000  
Date: 15/06/2008  
Project: 2007/04/Zone 56  
Sheet: 4-3



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True North, Grid North and Magnetic North are shown on the map. The map is based on the Geospatial Data of 1984 (GDA84) datum and is not suitable for use in any other datum.

GN - Magnetic  
TN - Grid  
MN - Magnetic  
15.51°



- Legend**
- Assumed Flood Level
  - Rural Agricultural Zone Residential Zones
  - Urban
  - Park Residential
  - Precinct Boundary
  - 'Use / Zone' conflicts
  - Biodiversity Area
  - Remnant Vegetation Area
  - Slope
  - Air Field (height restrictions)

**Industry Land Investigation  
Precincts G4 & G6  
Combined Constraints**

**June 2008**

**4-4**

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**Lockyer Valley Regional Council**  
Department Planning  
Date: 13-06-2008  
Project: 10000-2008-06  
Page: 4/4

**GDA**  
The map was produced by GDA using the datum of AUSCRS-AUS 1984 (GDA84), which has the datum of 44,740,000.000 m. The datum of 44,740,000.000 m is related to the datum of 44,740,000.000 m. The datum of 44,740,000.000 m is related to the datum of 44,740,000.000 m.

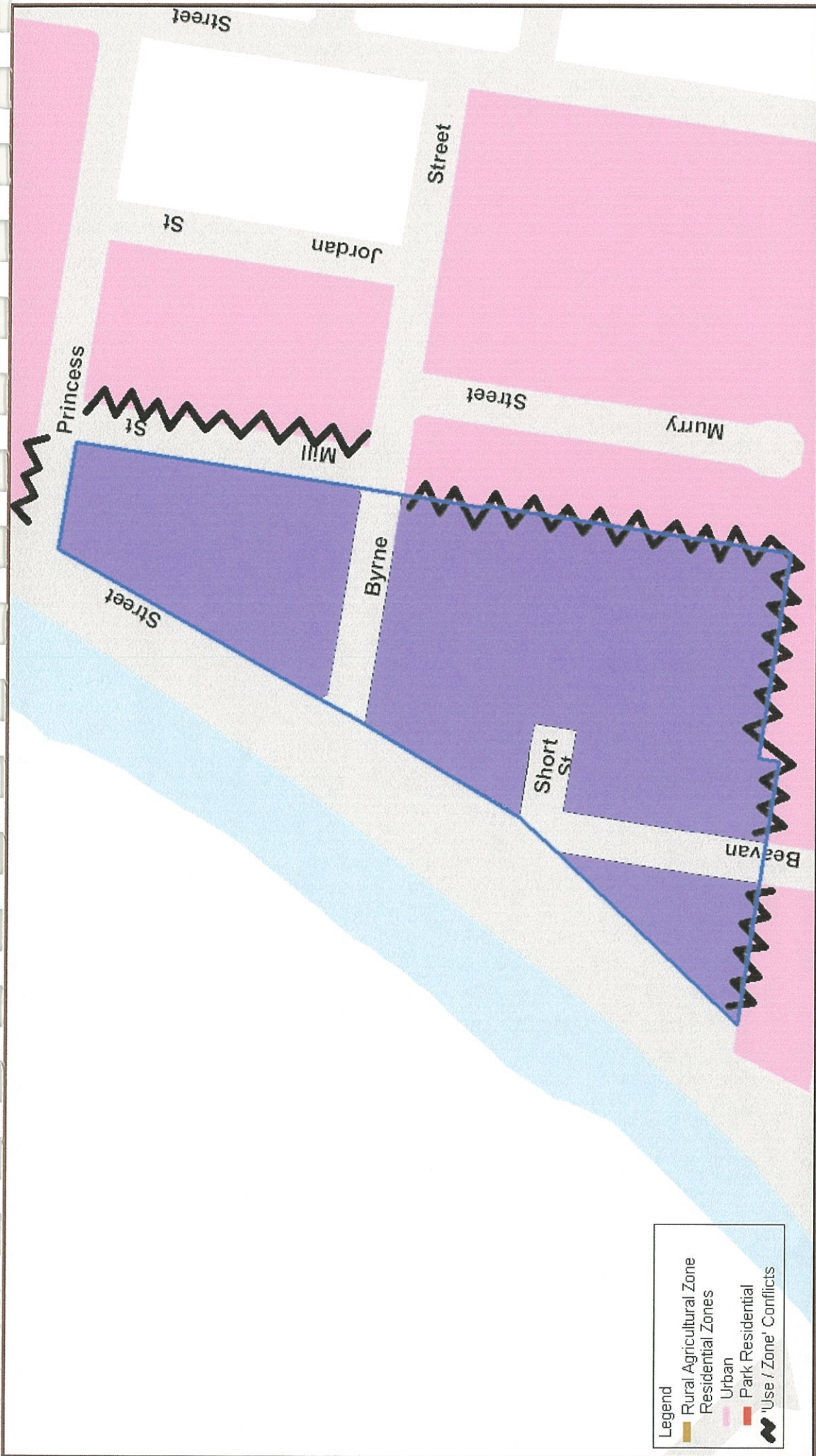
**Important**  
The map was produced by GDA using the datum of AUSCRS-AUS 1984 (GDA84), which has the datum of 44,740,000.000 m. The datum of 44,740,000.000 m is related to the datum of 44,740,000.000 m. The datum of 44,740,000.000 m is related to the datum of 44,740,000.000 m.

True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley local Government Area. Magnetic North is correct for 2008 moving easterly by 2.065° annually.

Grid - Magnetic  
10.53°

GN  
TN





**Legend**

- Rural Agricultural Zone
- Residential Zones
- Urban
- Park Residential
- 'Use / Zone' Conflicts

**Important**

The map was produced as GDA 1984 datum, which has a vertical offset of 64.8804m. Height values are used to the datum of 1984. For most practical purposes, GDA 1984 coordinates and the datum of 1984 are used. The datum of 1984 is used for all GDA 1984 coordinates.

**Important Notice**

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GN MN  
TN  
Grid - Magnetic  
10.51°

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**Lockyer Valley Regional Council**

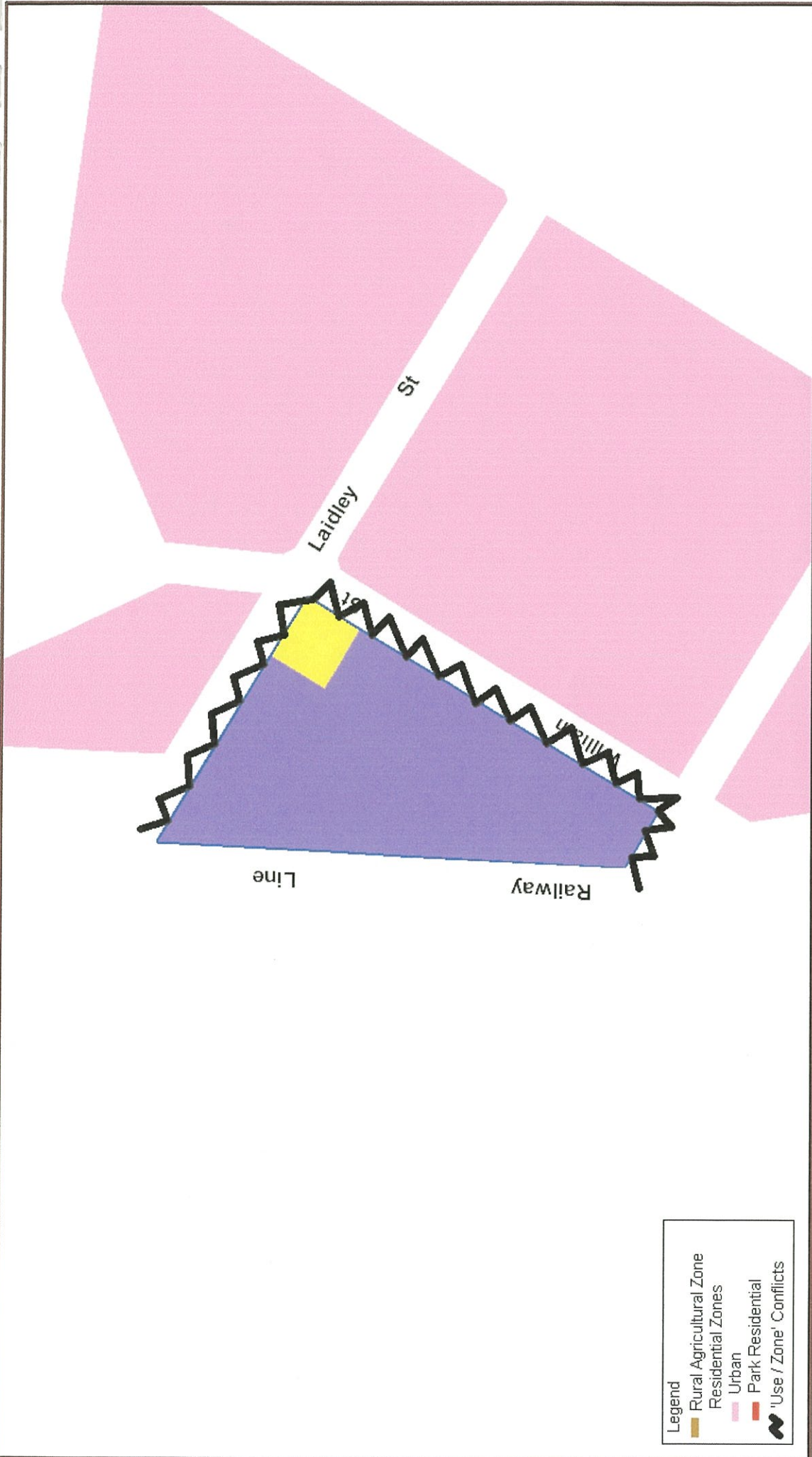
Scale: 1:2500  
Date: 29-09-2008  
Projection: GDA 1984, Zone 56  
Size: A4

**Industrial Land Investigation  
Precinct G5  
Zones & Combined Constraints**

June 2008

**5-2**

**LOCKYER VALLEY REGIONAL COUNCIL**  
P.O. Box 82, Railway Street, Gatton, Q. 4343, Phone: 1300 005 872, Fax: 5462 3299



- Legend**
- Rural Agricultural Zone
  - Residential Zones
  - Urban
  - Park Residential
  - 'Use / Zone' Conflicts

**Important**

The map was produced using GDA 2011 datum and is based on the 2011 datum. The map is based on the 2011 datum and is based on the 2011 datum.

**GDA**

True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley Local Government Area. Magnetic North is correct for 2025 moving easterly by 0.058° annually.

GN MN

Grid - Magnetic 10.85°

**Scale:** 1:2500

**Date:** 17/05/2008

**Projection:** MGRS Zone 56

**Scale:** A3

**Lockyer Valley**

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**Scale:** 1:2500

**Date:** 17/05/2008

**Projection:** MGRS Zone 56

**Scale:** A3

**Industry Land Investigation  
Precinct H1 Helidon  
Zones & Combined Constraints**

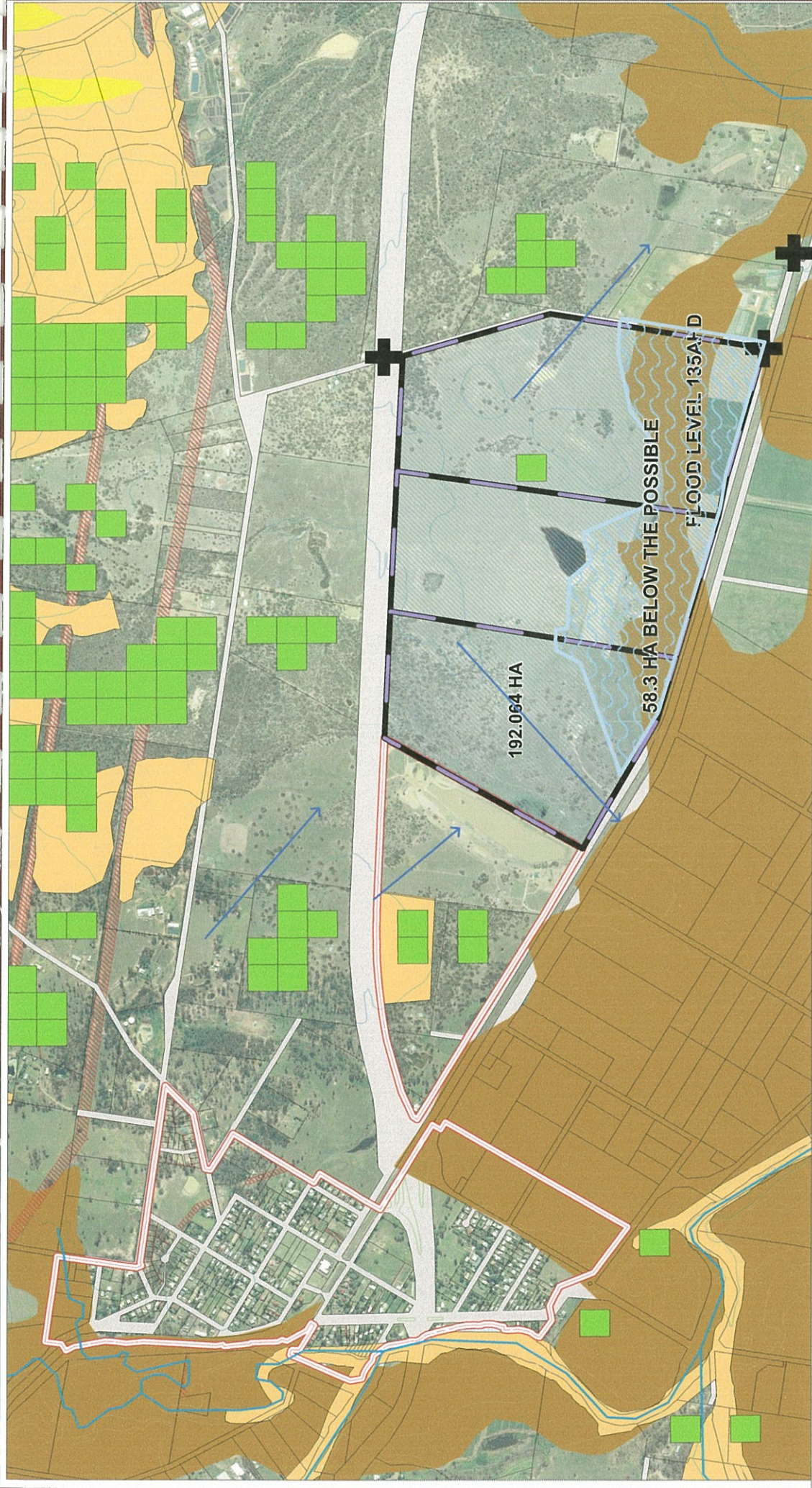
**June 2008**

**6-1**

**LOCKYER VALLEY REGIONAL COUNCIL**

P.O. Box 82, Railway Street, Gatton, Q. 4343. Phone: 1300 005 872. Fax: 5462 3299





**Creeks Legend**  
 Creepline

**Industrial Investigation Helidon Legend**  
 Subject Land

**SEQR Urban Footprint Legend**  
 Current Urban Footprint

**Slopes Greater than 10% Legend**  
 Affected Area

**Significant Vegetation Legend**  
 Significant Vegetation

**Easements Legend**  
 Easements

**GOAL Legend**  
 Good Quality Agricultural Land

**Bushfire Risk Legend**  
 Medium Risk  
 High Risk

**Roads Legend**  
 Roads  
 Waterways

**Drainage Lines**  
 Drainage Lines

**Points of Access Conflict**  
 Points of Access Conflict

**Important**  
 True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley. Local is correct for 2020 moving eastward by 0.006° annually.

**GDA**  
 based on the GEODESIC DATUM OF AUSTRALIA 1984 (GDA84), which has a fixed Australian Height datum. All Australian Height datum (AHD) heights are referenced to the Australian Height Datum (AHD) heights.

**CDAM**  
 coordinates are derived from the CDAM coordinates based on the World Geodesic Datum 1984 (WGS84) datum.

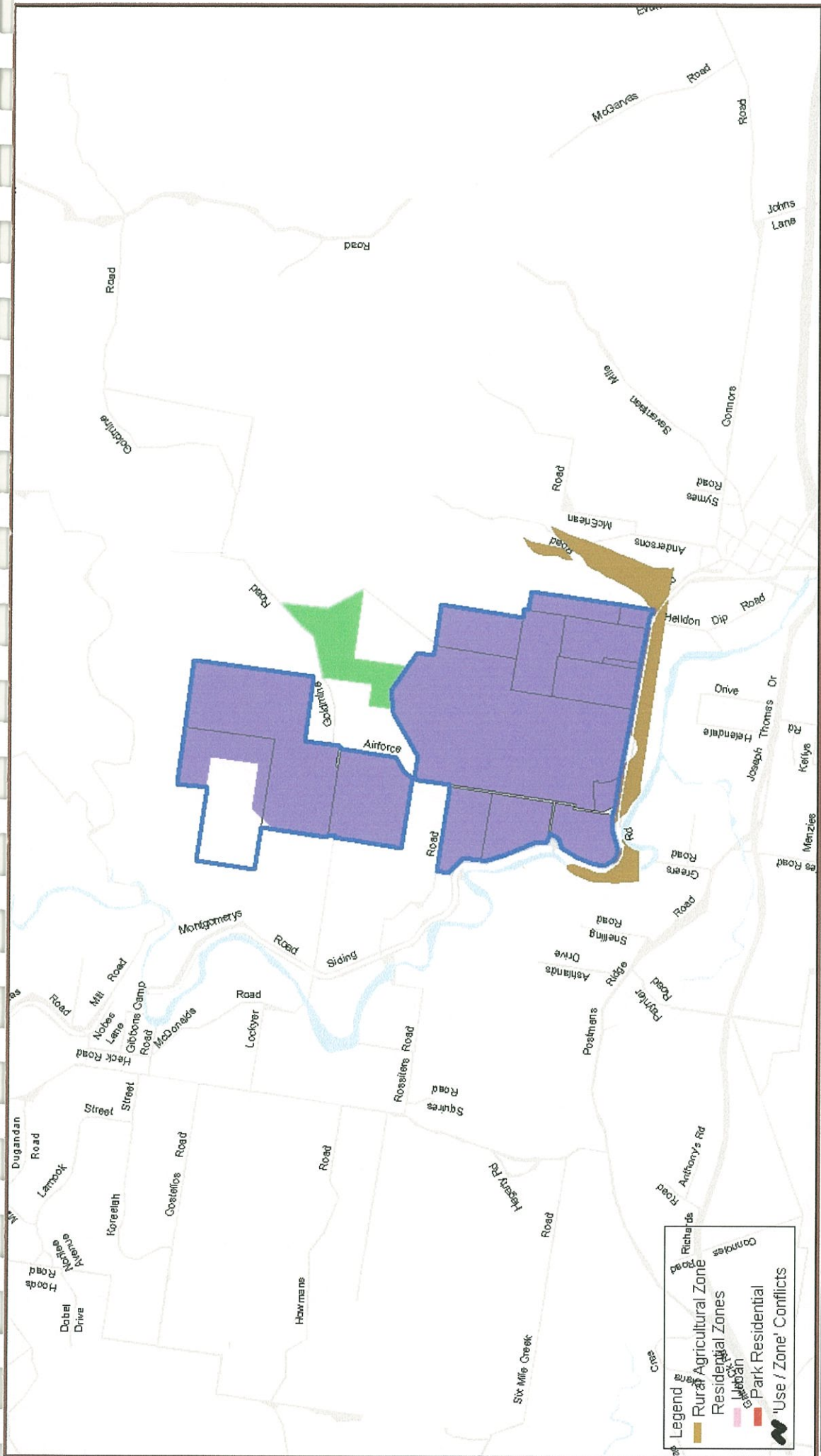
**Lockyer Valley**  
 Department of Natural Resources and Water  
 Brisbane 4000  
 Phone: 1300 657 274  
 Fax: 1300 657 274

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**Legend**

- Rural Agricultural Zone
- Residential Zones
- Urban
- Park Residential
- 'Use / Zone' Conflicts

**GDA**

**Important**

This map was produced by the GDA using the datum of GDA94. GDA94 was derived from the Geoid Height of 1984 (GHD84). Heights are referred to the Australian Height Datum (AHD) datum. For most practical purposes, GDA94 coordinates and the like, in their GDA94 coordinate based on the World Geoid of Datum 1984 (WGD84), are the same.

True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley local Government Area. Magnetic North is correct for 2005 moving easterly by 0.055° annually.

GN MN  
TN

0.055°

10.85°

**Lockyer Valley**

Scale: 1:50000  
 Date: 17/06/2008  
 Projection: MGRS Zone 56  
 Sheet: A1

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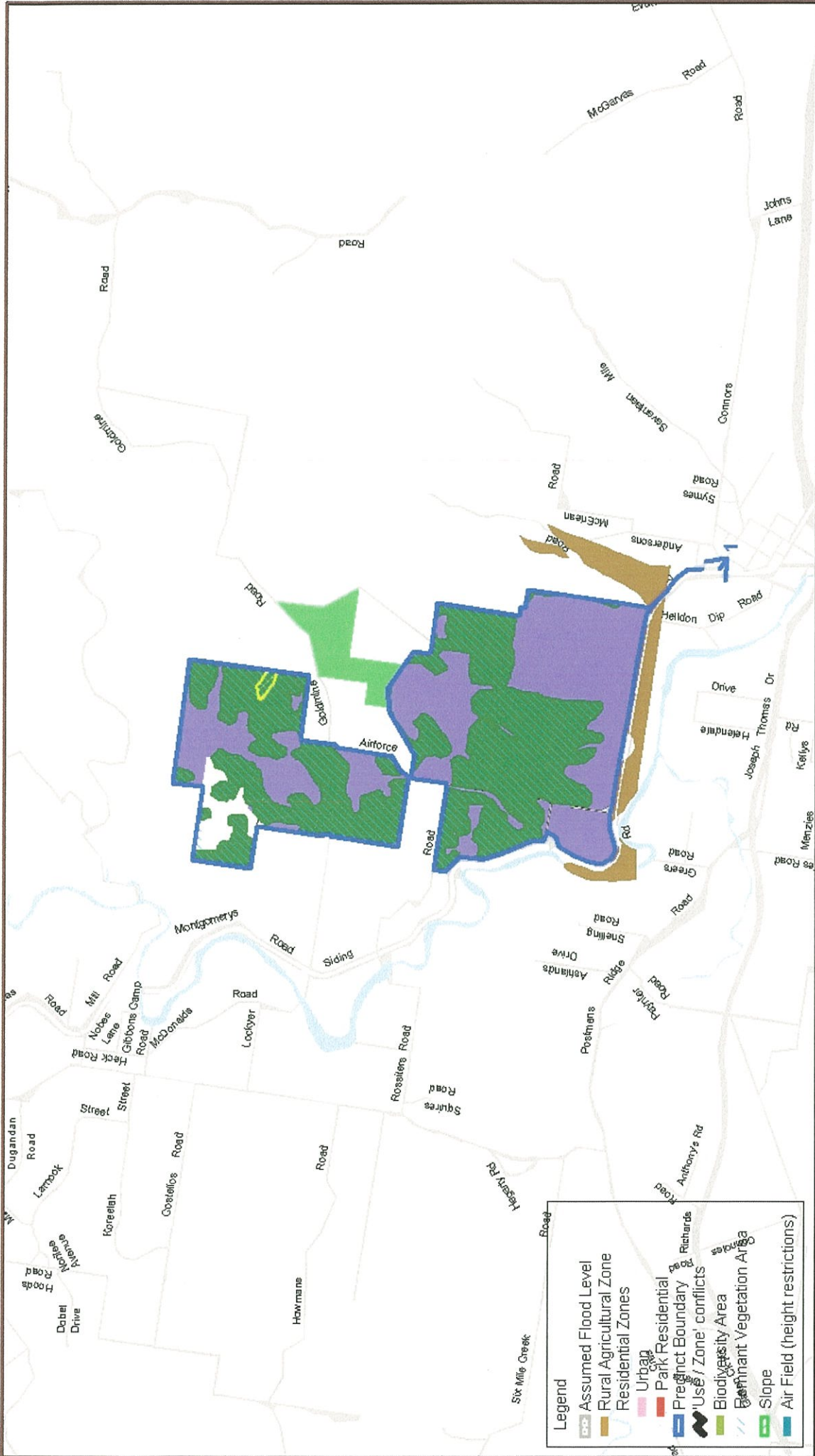
**Industry Land Investigation**  
**Helidon Magazine**  
**Zones**

**June 2008**

**8-2**

**LOCKYER VALLEY REGIONAL COUNCIL**  
 P.O. Box 82, Railway Street, Gatton Q. 4343, Phone 1300 005 872, Fax 5462 3299





- Legend**
- Assumed Flood Level
  - Rural Agricultural Zone
  - Residential Zones
  - Urban
  - Park Residential
  - Precinct Boundary
  - Use / Zone conflicts
  - Biodiversity Area
  - Remnant Vegetation Area
  - Slope
  - Air Field (height restrictions)

**Industry Land Investigation**  
**Helidon Magazine**  
**Combined Constraints**

June 2008

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**Lockyer Valley**

Scale: 1:25000  
 Date: 17/06/2008  
 Projection: UTM Zone 56  
 Size: A3

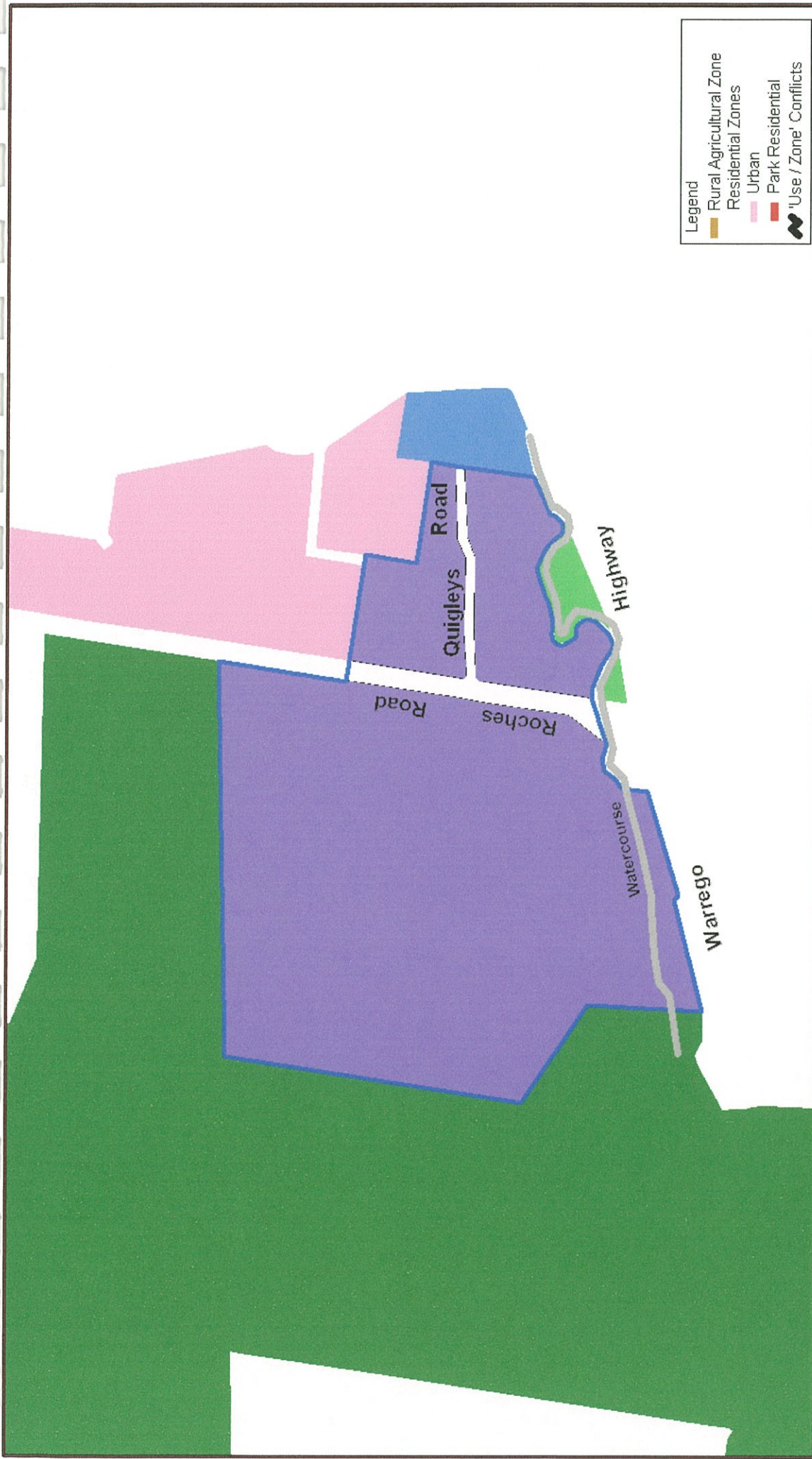
**GDA**

**Important**

The map was plotted on the GDA 1984 datum. The GDA 1984 datum is the datum used for the GDA 1984 datum. The GDA 1984 datum is the datum used for the GDA 1984 datum. The GDA 1984 datum is the datum used for the GDA 1984 datum.

True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley area. The GDA 1984 datum is the datum used for the GDA 1984 datum. The GDA 1984 datum is the datum used for the GDA 1984 datum.





- Legend**
- Rural Agricultural Zone
  - Residential Zones
  - Urban
  - Park Residential
  - 'Use / Zone' Conflicts

**Industry Land Investigation  
Withcott Investigation Area  
Residential Zones**

June 2008

**9-2**

**LOCKYER VALLEY REGIONAL COUNCIL**  
P.O. Box 82 Railway Street, Gatton, Q. 4343 Phone: 1300 005 872 Fax: 5482 3289



**Scale:** 1:10000  
**Date:** 17/06/2008  
**Projection:** GDA94 Zone 56  
**Size:** A3

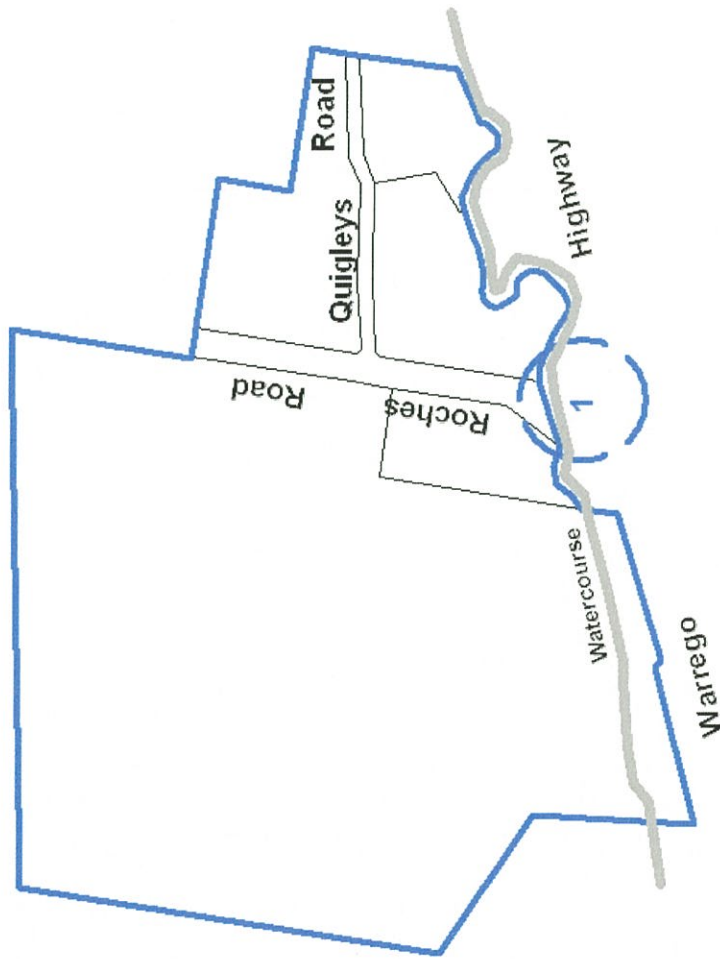
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**True North, Grid North and Magnetic North**  
The diagram shows the relationship between True North, Grid North (GN) and Magnetic North (MN) for the Lockyer Valley Local Government Area. Magnetic North is shown to be moving easterly by 0.006° annually.

**Grid - Magnetic**  
10.35°



**Legend**  
 1 Right turn onto Highway. Intersection upgrade required



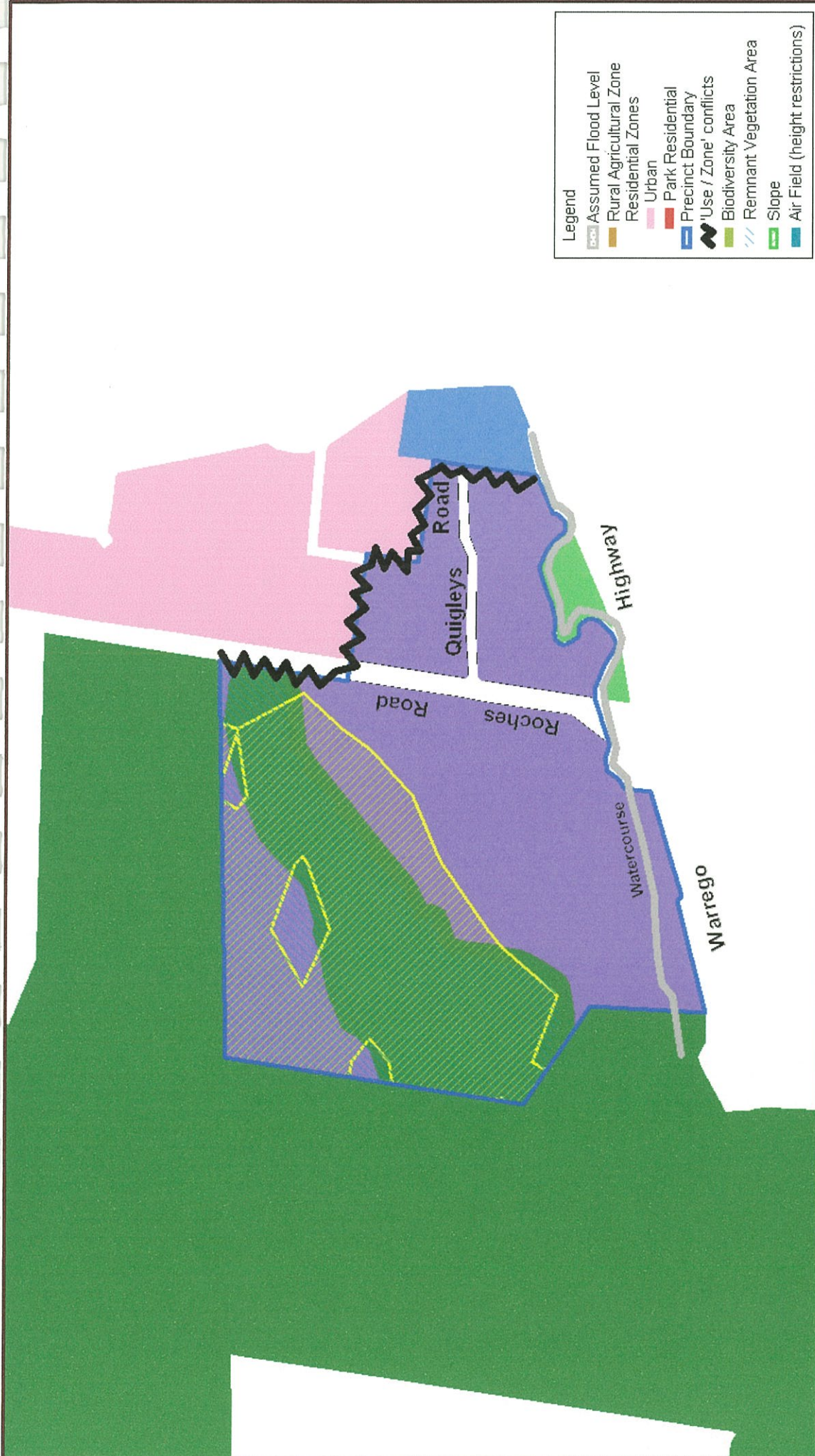
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 GDA  
 GN MN  
 TN \*  
 GN - Magnetic  
 10.85°



Scale: 1:10000  
 Date: 17/06/2008  
 Projection: UTM  
 Zone: 56

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Industry Land Investigation  
 Withcott Investigation Area  
 Connections  
 June 2008  
 9-3  
 LOCKYER VALLEY REGIONAL COUNCIL  
 P.O. Box 82 Railway Street, Gatton Q. 4343 Phone 1300 005 872 Fax 5462 3289



**Industry Land Investigation  
Withcott Investigation Area  
Combined Constraints**

June 2008

9-4

LOCKYER VALLEY REGIONAL COUNCIL  
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**Lockyer Valley**

Scale: 1:10000  
Department Planning  
Date: 17/06/2008  
Projection: MGA94 Zone 56  
Sheet: 45

**Important**

This North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley Local Government Area. Magnetic North is correct for 2008 moving easterly by 0.025° annually.

The map was produced by GDA. The map data was supplied by the Queensland Government. The map data is based on the Victorian Height Datum 1984 (VD84).

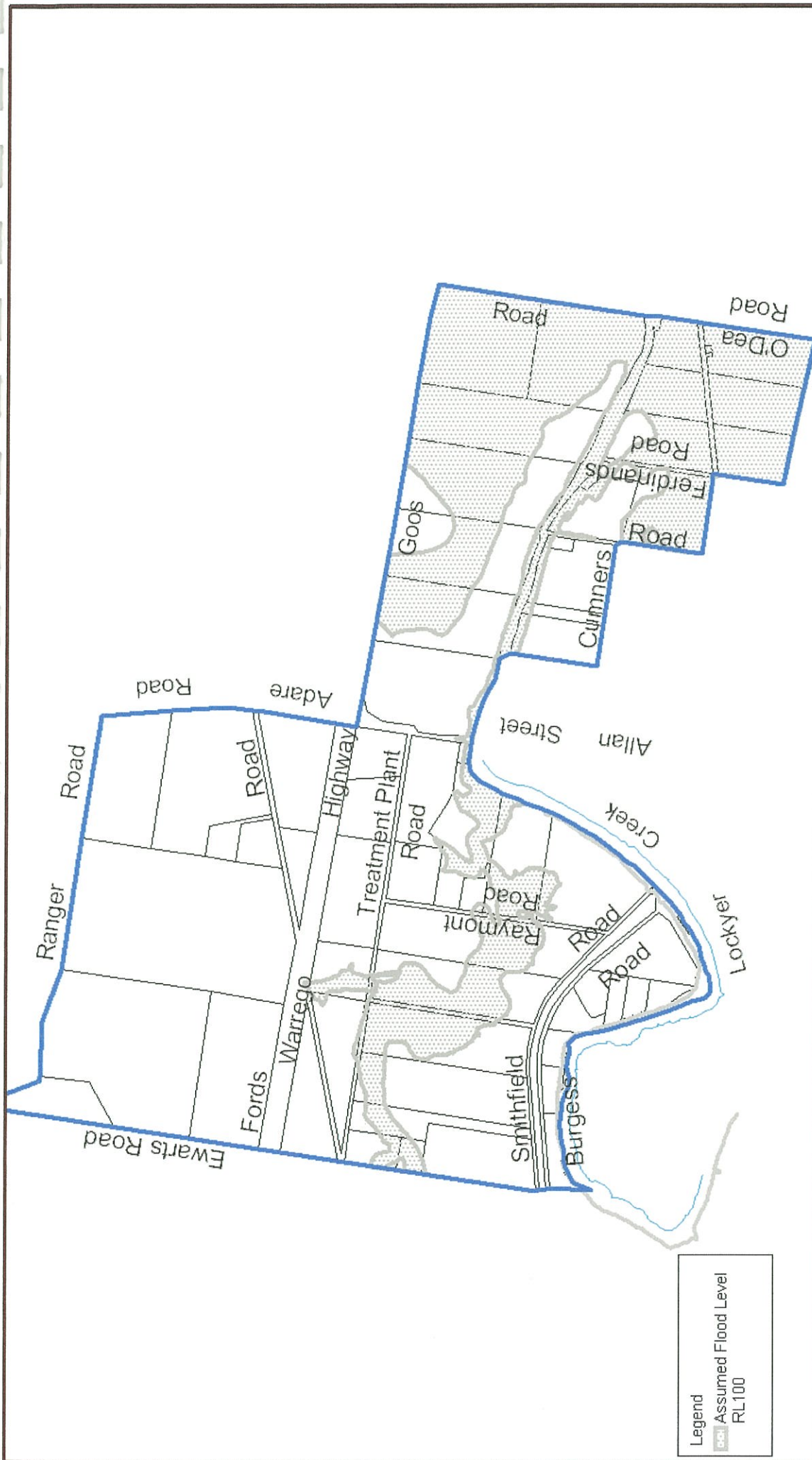
For more information please contact GDA on 1300 005 872 or the Victorian Height Datum 1984 (VD84) on 1300 005 872.

**GDA**

GN MN  
TN

Grid - Magnetic  
10.85°





**Legend**  
 Assumed Flood Level  
 RL100



**Important**  
 The map was produced in accordance with the Geospatial Data Transformation Act 2006, which has replaced the Geographical Data Act 1994. The map is based on the Geospatial Data Transformation Act 2006. The map is based on the Geospatial Data Transformation Act 2006. The map is based on the Geospatial Data Transformation Act 2006.

True North, Grid North and Magnetic North are shown diagrammatically for the area of the map. Magnetic North is shown for 2008 moving eastward by 0.055° annually.

GN MN  
 TN

Grid - Magnetic  
 10.83°



Scale: 1:25000  
 Date: 13/06/2008  
 Projection: UTM Zone 55  
 Date: 13/06/2008  
 Scale: 1:25000

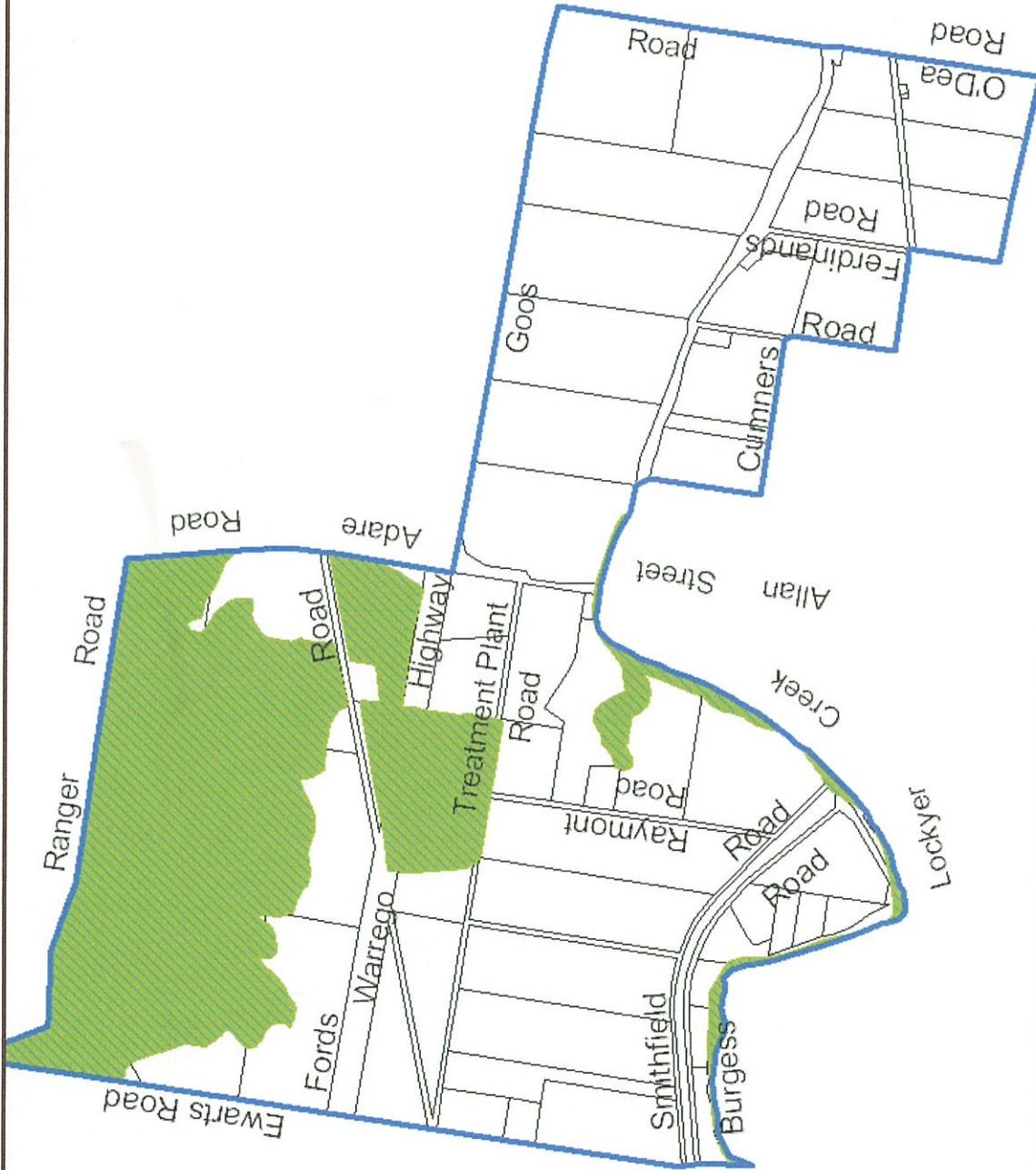
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**Industry Land Investigation Area**  
**Gatton North Investigation Area**  
**Assumed Flood Level RL100**

June 2008

**10-1**

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 P.O. Box 82, Railway Street, Gatton Q 4343 Phone 1300 005 872 Fax 5462 3269



**Legend**

- Biodiversity Area
- Remnant Vegetation Area

**GDA**

**Important**  
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Scale: 1:25000  
 Date: 11/09/2008  
 Projection: UTM Zone 56  
 SRS: UTM

Grid - Magnetic  
 10.85°

**Lockyer Valley Regional Council**

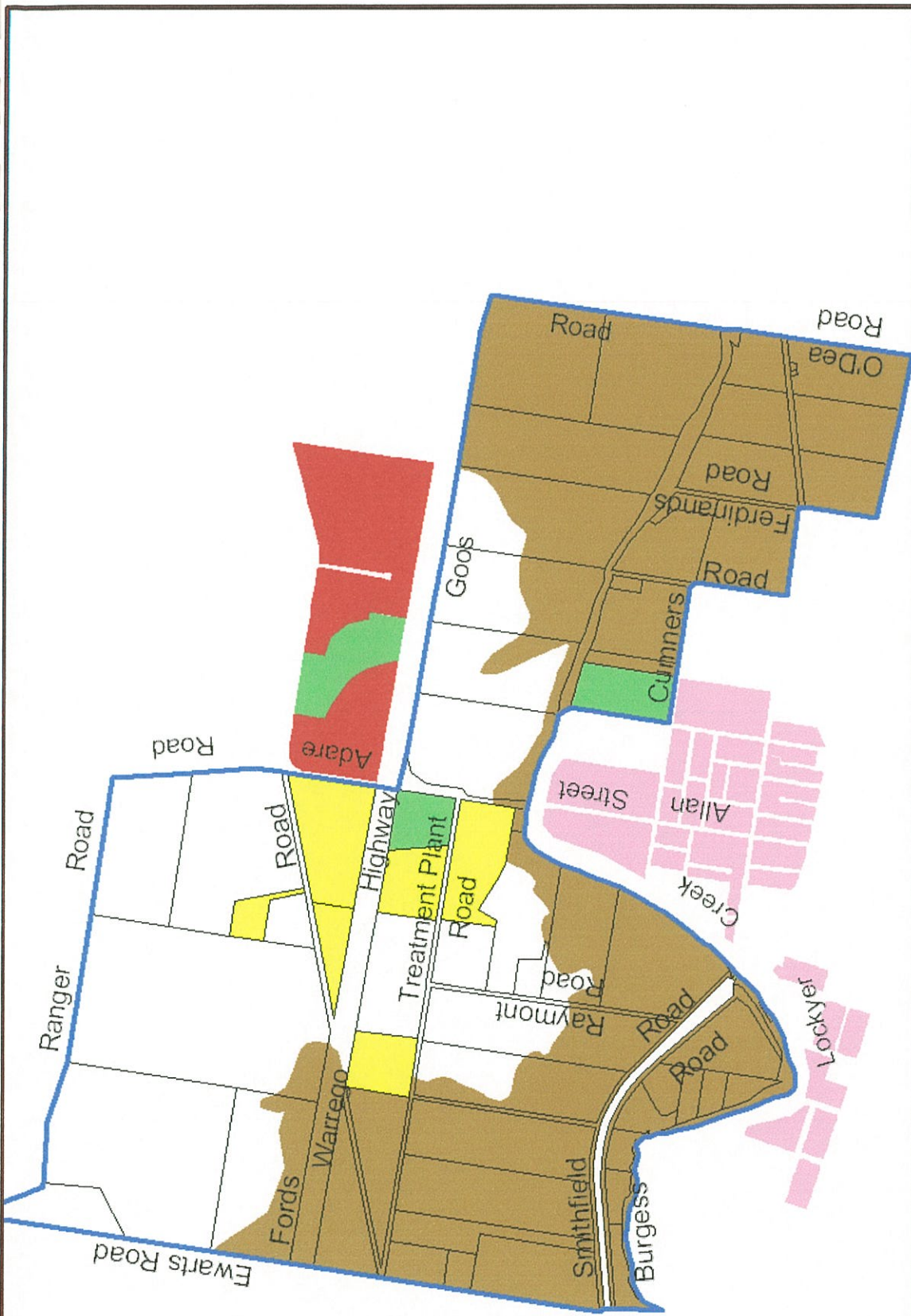
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**Industry Land Investigation**  
**Gattton North Investigation Area**  
**Biodiversity**

June 2008

**10-2**

LOCKYER VALLEY REGIONAL COUNCIL  
 PO Box 82, Railway Street, Gatton, Q. 4343 Phone: 1300 005 872 Fax: 5462 3299



**Legend**

- Rural Agricultural Zone
- Residential Zones
- Urban
- Park Residential

**GDA**

True North, Grid North and Magnetic North are shown diagrammatically for the Centre of the Lockyer Valley Local Government Area. Magnetic North is correct for 2008 assuming a declination by 0.006° annually.

**Important**

The map was produced on the GEOCENTRIC DATUM OF AUSTRALIA 1994 (GDA94), which has replaced the AUSTRALIAN DATUM OF 1984 (AD84). Height is measured to the AUSTRALIAN DATUM (AHD), is ft. For most practical purposes, GDA94 coordinates and the related GPS coordinates based on the World Geoid Model 1991 (WGS84) are the same.

Scale: 1:25,000  
 Date: 21/06/2008  
 Projection: UTM Zone 56S  
 Size: A3

**Lockyer Valley**

**Important Notice**

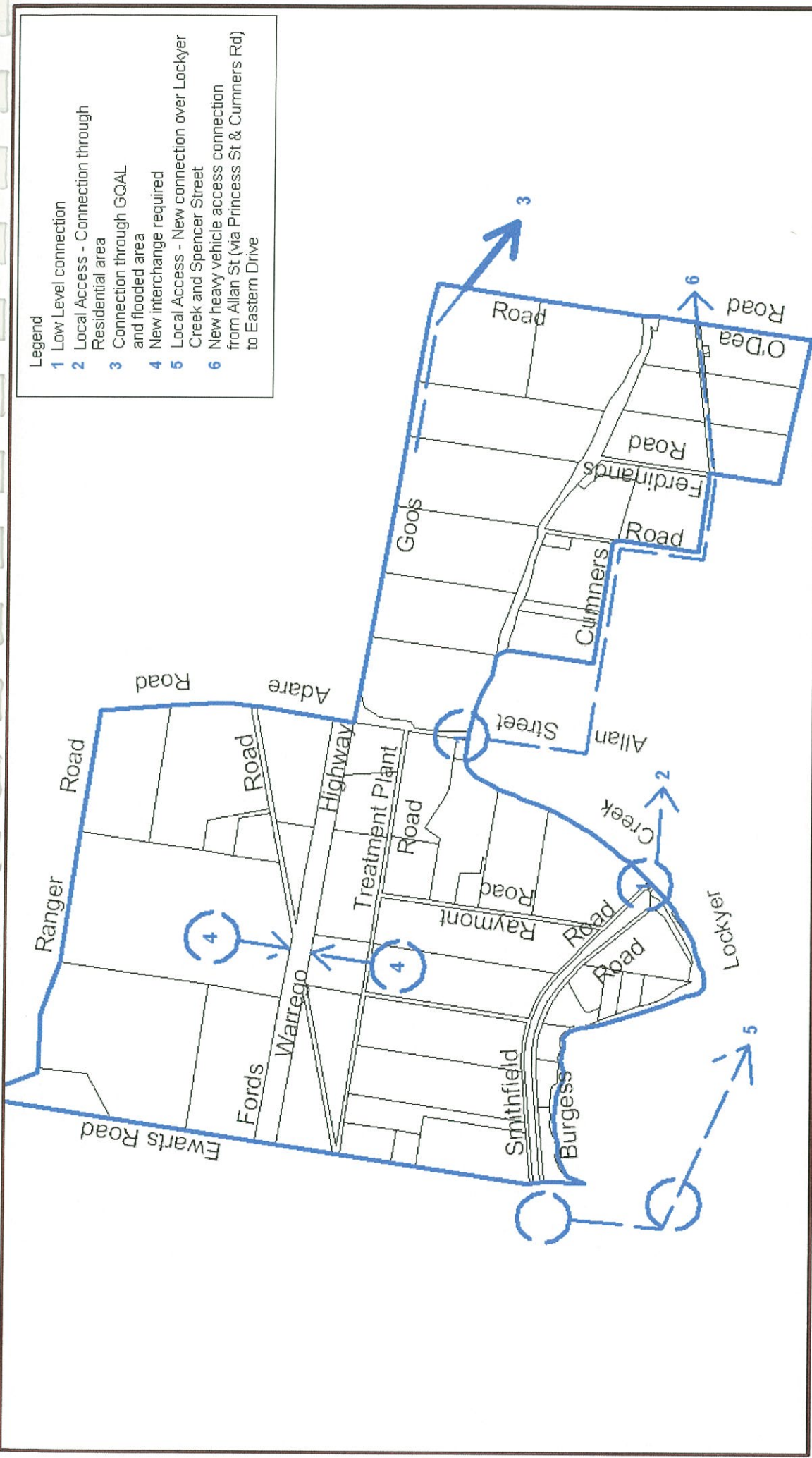
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**Industry Land Investigation  
 Gattton North Investigation Area  
 Zones**

**June 2008**

**10-3**

**LOCKYER VALLEY REGIONAL COUNCIL**  
 PO Box 82 Railway Street, Gattton Q 4943 Phone 1300 005 872 Fax 5482 3299



- Legend**
- 1 Low Level connection
  - 2 Local Access - Connection through Residential area
  - 3 Connection through GOAL and flooded area
  - 4 New interchange required
  - 5 Local Access - New connection over Lockyer Creek and Spencer Street
  - 6 New heavy vehicle access connection from Allan St (via Princess St & Cummers Rd) to Eastern Drive



**Important**  
 The 2004 redefinition of the GDA datum is the result of a geoid height model based on the 2004 Geoid Height Model (GGM04) and is based on the 1984 datum. The GDA datum is the same as the 1984 datum.

The North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley local Government Area. Magnetic North is correct for 2008 moving easterly by 0.006° annually.

Grid - Magnetic 10.85°




Scale: 1:25000  
 Date: 13.05.2008  
 Project: Lockyer Valley Regional Council  
 Author: J.S.

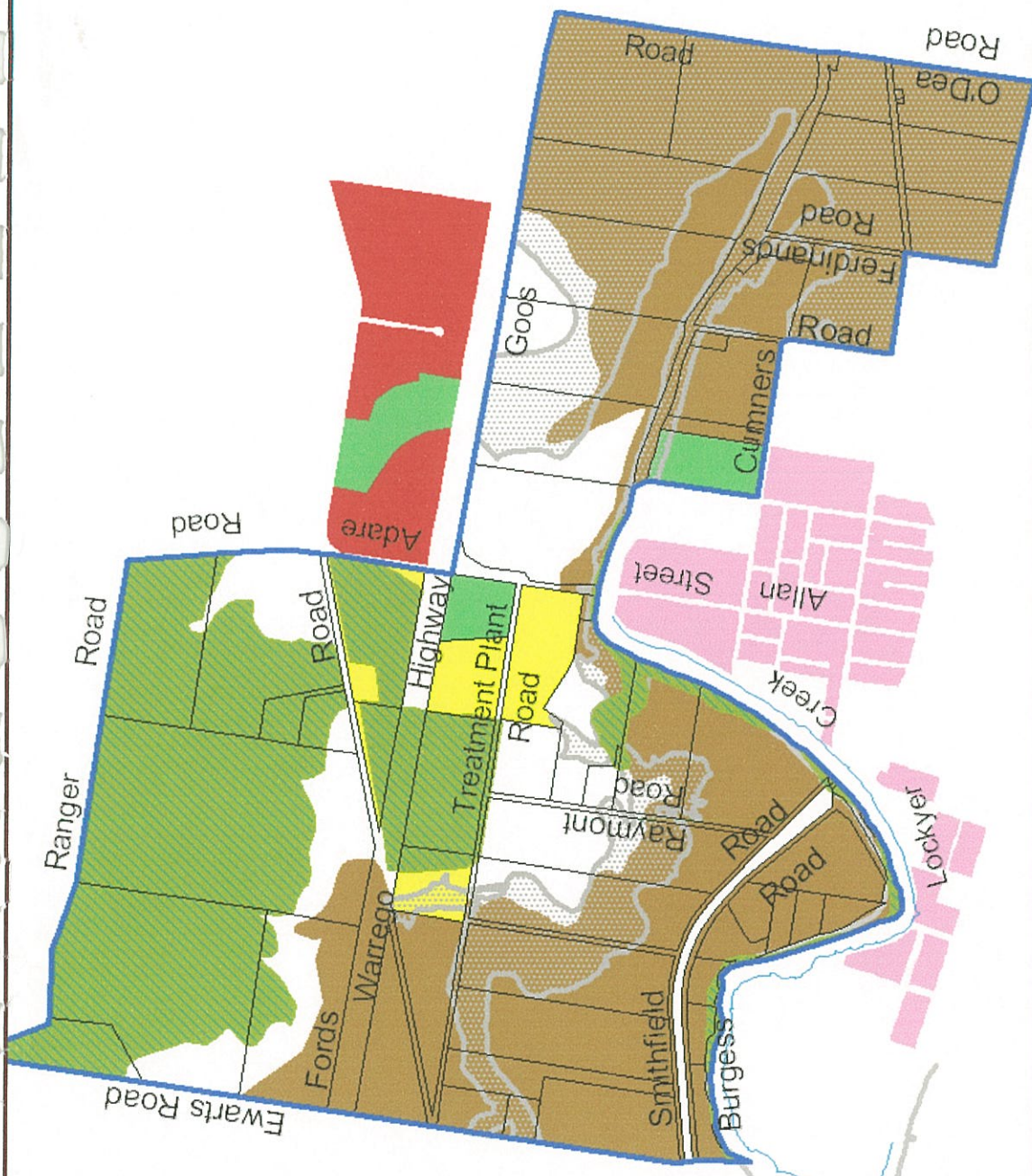
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**Industry Land Investigation  
 Gatton North Investigation Area  
 Connections**

June 2008

**10-4**

LOCKYER VALLEY REGIONAL COUNCIL  
 PO Box 82 Railway Street, Gatton Q 4343 Phone 1300 005 872 Fax 5462 3269



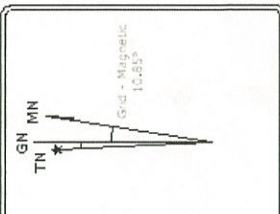
- Legend**
- Assumed Flood Level
  - Rural Agricultural Zone Residential Zones
  - Urban
  - Park Residential
  - Precinct Boundary
  - 'Use / Zone' conflicts
  - Biodiversity Area
  - Remnant Vegetation Area
  - Slope
  - Air Field (height restrictions)

**GDA**

**Important**

The map was produced in accordance with the Geospatial Data (Accessibility) Act 2009, which is a responsibility of the Government of Queensland. The map is provided for 2008 and is subject to annual updates.

For more information, contact the Queensland Government Geospatial Data Centre on 1300 363 624 or visit the website at [www.gda.qld.gov.au](http://www.gda.qld.gov.au).



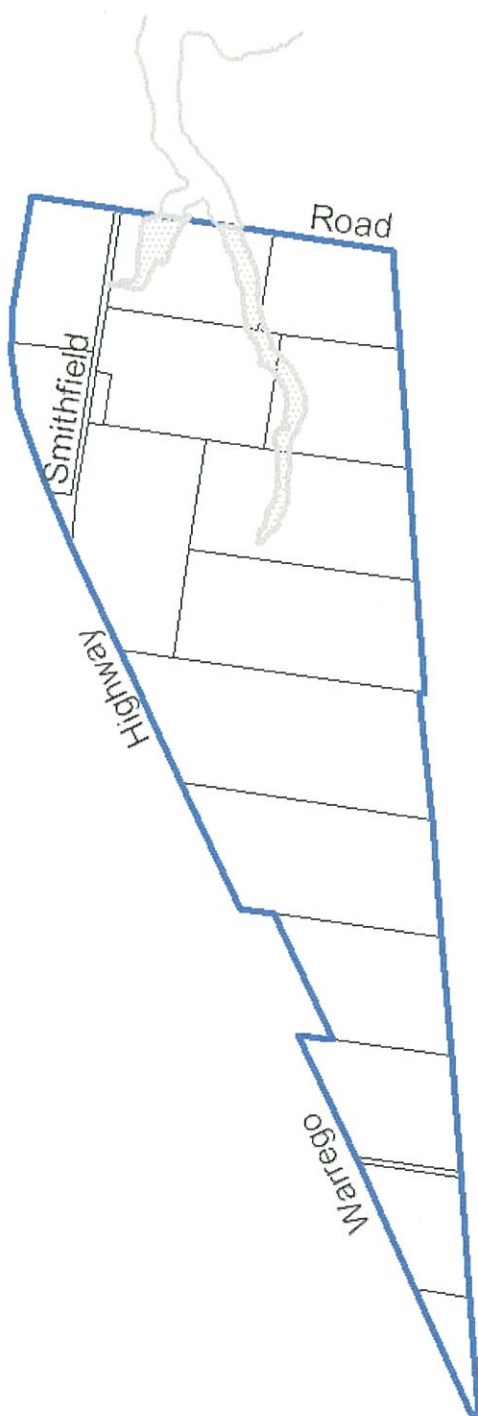
**Lockyer Valley**

Scale: 1:25000  
 Date: 13/05/2008  
 Projection: UTM  
 Author: JAC

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Legend  
 [shaded box] Assumed Flood Level  
 RL100



**Important**  
 The map was produced by GDA using the DATUM OF AUSTRALIA 1984 (GDA84), which has superseded the Australian Geodetic Datum of 1984 (AGD84). Heights are referred to the Australian Height Datum (AHD), if fit.  
 For most practical purposes GDA84 coordinates and state file de level (GPD) coordinates based on the World Geodetic Datum 1984 (WGD84) are the same.

True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley Local Government Area. Magnetic North is correct for 2008 moving annually by 0.005° annually.

GN  
 TN  
 MN  
 Grid - Magnetic  
 10.81°



Scale: 1:25000  
 Date of printing: 2008  
 Date of revision: 2008.06.05  
 Project: 02/03/06/2006.05  
 Sheet: 11-2

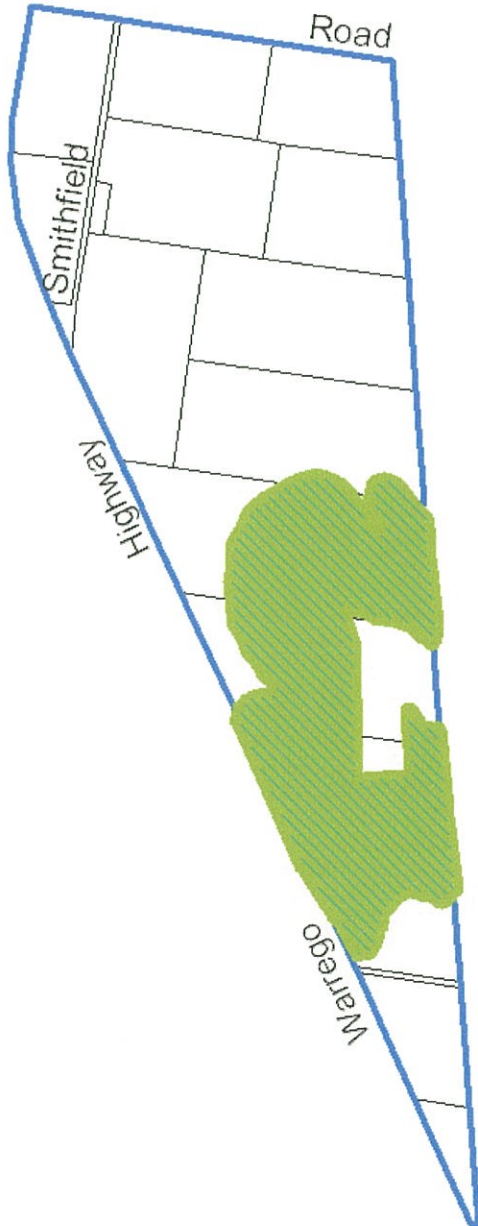
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**Industry Land Investigation Area**  
**Gatton West Investigation Area**  
**Assumed Flood Level RL100**

**June 2008**

**11-2**

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**Legend**

■ Biodiversity Area

/// Remnant Vegetation Area



**Important**

The map was produced as GEOCENTRIC DATUM OF AUSTRALIA 1984 (GDA84), which has replaced the Australian Geodetic Datum of 1984 (AGD84). Heights are referred to Australia Height Datum (AHD), is 1971.

For most practical purposes GDA84 coordinates and scale will be used. GDA84 coordinates based on the World Geodetic Datum 1984 (WGS84) are the same.

True North, Grid North and Magnetic North are shown diagrammatically for the Centre of the Lockyer Valley Local Government Area. Magnetic North is correct for 2008 moving easterly by 0.226° annually.

GN MN  
TN

Grid - Magnetic  
10.82°



Scale: 1:25000  
Department of Environment  
Date: 27/04/2008  
Project: 07/04/2008/06

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Approved by Council on 27/04/2008  
Approved by Council on 27/04/2008  
Lockyer Valley Regional Council 2008

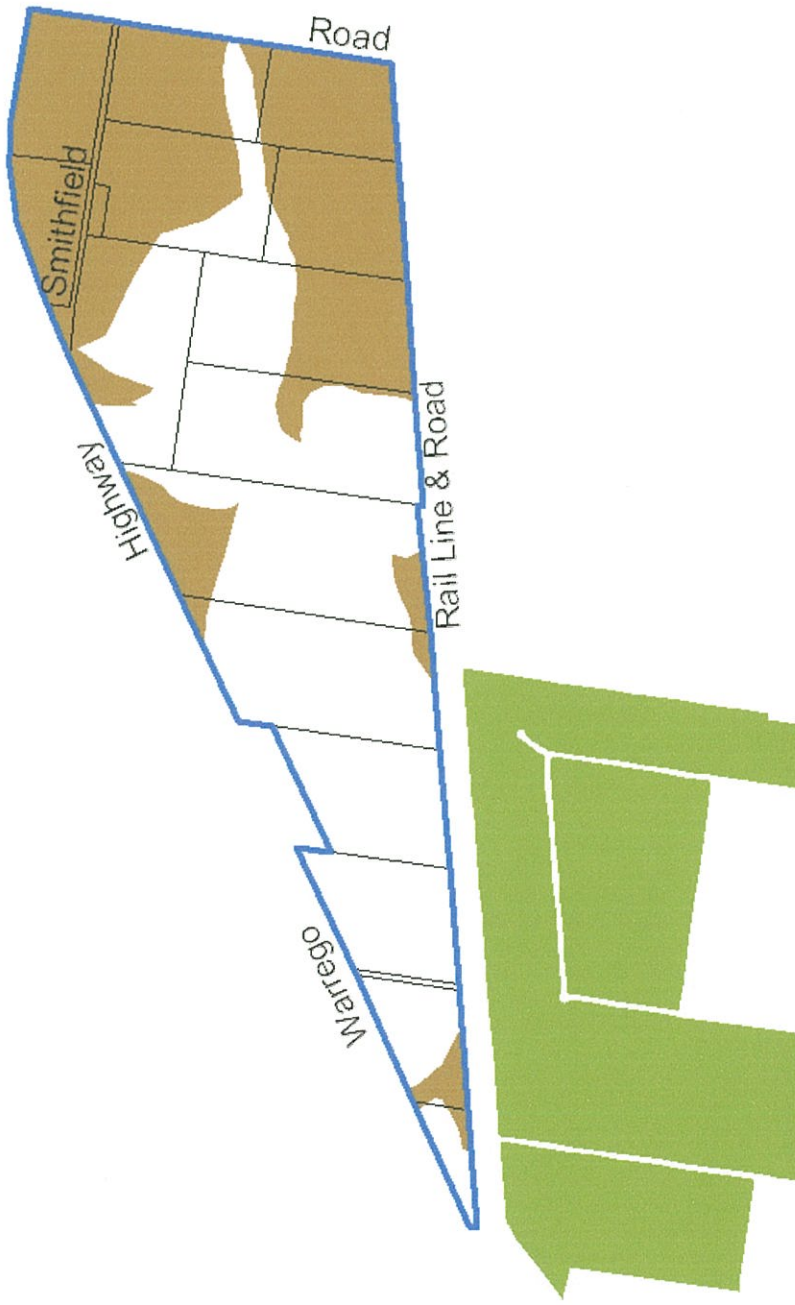
**Industry Land Investigation  
Gatton West Investigation Area  
Biodiversity**

June 2008

**11-3**

**LOCKYER VALLEY REGIONAL COUNCIL**  
PO Box 82, Railway Street, Gatton Q 4343 Phone 1300 005 872 Fax 5462 3269





**Legend**

- Rural Agricultural Zone
- Rural Residential
- Urban
- Rural Residential

**GDA**

**Important**

The map was produced in accordance with the DATUM OF AUSTRALIA 1984 (GDA84), which is superseded by the Australian Geoid Height Datum of 1984 (AGD84). Heights are referred to the Australian Height Datum (AHD), which is the datum used for most practical purposes. GDA84 coordinates and the true (real) GPD coordinates based on the 1984 Geoid (Datum 1984) (GPD84) are also shown.

True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley Local Government Area. Magnetic North is correct for 2008 moving easterly by 0.00° annually.

Grid - Magnetic 10.85°

Scale: 1:25,000  
 Date: 29.06.2008  
 Projection: UTM Zone 56  
 Size: A4

**Important Notice**

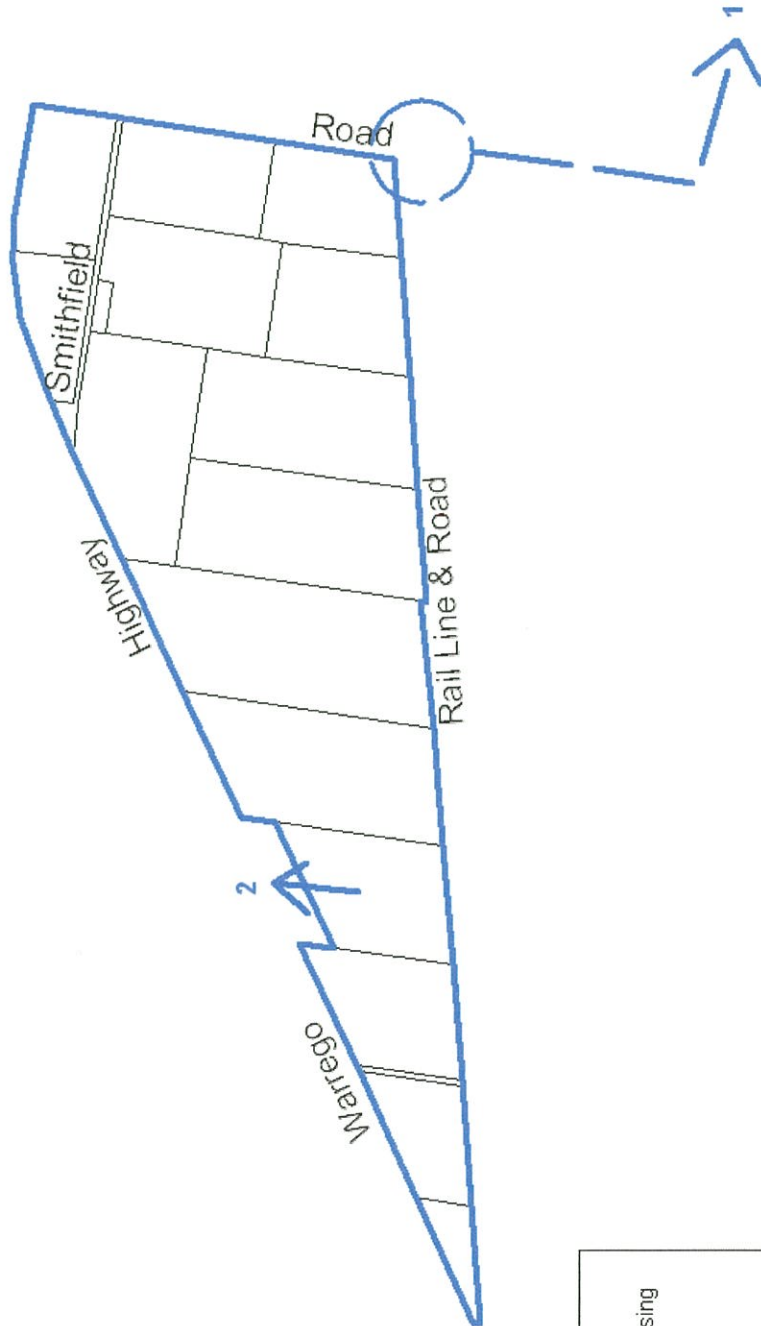
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**Industry Land Investigation**  
**Gatton West Investigation Area**  
**Zones**

**June 2008**

**11-4**

**LOCKYER VALLEY REGIONAL COUNCIL**  
 P.O. Box 82 Railway Street, Gatton, Q. 4343 Phone: 1300 005 872 Fax: 5462 3298



- Legend**
- 1** New flood free bridge crossing off Spencer Street
  - 2** Potential connection at Truck Stop



**Important**  
 The map was produced in accordance with the Geocentric Datum of Australia 1994 (GDA94), which has replaced the Australian Height Datum of 1984 (AHD84). Heights are referred to the Australian Height Datum (AHD), as appropriate.  
 For most practical purposes, GDA94 coordinates and AHD84 coordinates are interchangeable based on the World Geodetic Datum 1984 (WGD84) as the datum.

True North, Grid North and Magnetic North are shown diagrammatically for the Centre of the Lockyer Valley Local Government Area. Magnetic North is correct for 2008 moving easterly by 0.009° annually.

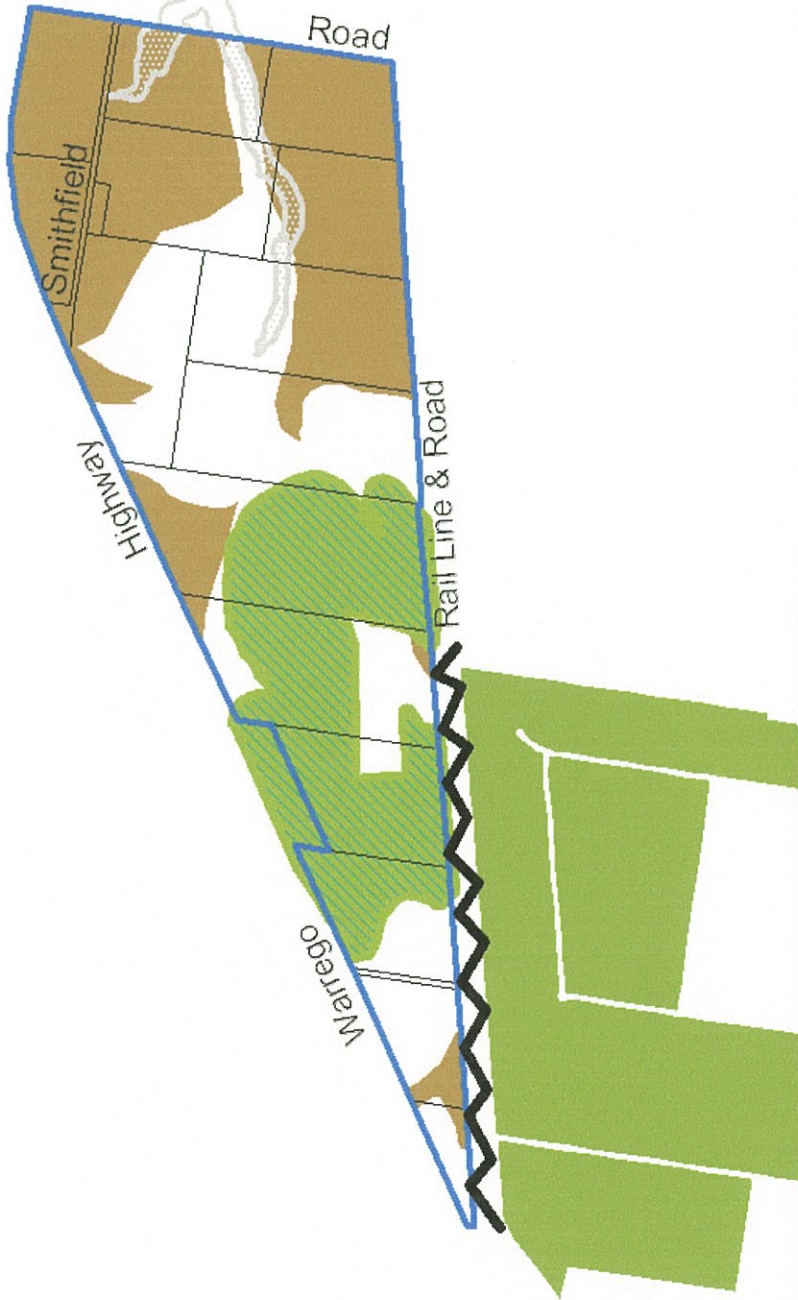
GN MN  
 TN

Grid - Magnetic  
 10.81°



Scale: 1:25000  
 Date: 25/06/2008  
 Projection: UTM Zone 56  
 S. 45°

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- Legend**
- Assumed Flood Level
  - Rural Agricultural Zone
  - Residential Zones
  - Urban
  - Park Residential
  - Precinct Boundary
  - 'Use / Zone' conflicts
  - Biodiversity Area
  - Remnant Vegetation Area
  - Slope
  - Air Field (height restrictions)

**Industry Land Investigation  
Gattin West Investigation Area  
Combined Constraints**

June 2008

**11-6**

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**Lockyer Valley**

Scale: 1:25000  
Date: 25/06/2008  
Department: Planning  
Projection: MGRS Zone 56  
Sheet: 11

**Important**

The highest point in the area is 1007.41m. The lowest point in the area is 100.00m. The area is located in the Gattin West Investigation Area. The area is located in the Gattin West Investigation Area. The area is located in the Gattin West Investigation Area.

**GDA**

True North, Grid North and Magnetic North are shown diagrammatically for the centre of the Lockyer Valley Local Government Area. Magnetic North is correct for 2008 moving westerly by 0.056° annually.

Grid - Magnetic  
10.81°

GN MN  
TN