### **CALDERWOOD URBAN DEVELOPMENT PROJECT**

### **AGRICULTURAL LAND STUDY**

February 2010



#### CALDERWOOD URBAN DEVELOPMENT PROJECT

### **AGRICULTURAL LAND STUDY**

### **Background**

This Agricultural Land Study has been prepared by Sphere Property Corporation (SPC) to accompany a Concept Plan Application under Part 3A of the *Environmental Planning & Assessment Act, 1979* (EP&A Act) and a proposal for State significant site listing under Schedule 3 of *State Environmental Planning Policy Major Development 2005* (SEPP Major Development) in relation to the Calderwood Urban Development Project.

### **The Project**

The Calderwood Urban Development Project is a master planned community development proposed by Delfin Lend Lease (DLL).

The Calderwood Urban Development Project proposes a mix of residential, employment, retail, education, conservation and open space uses. The development proposes approximately 4,800 dwellings and 50 hectares of retail, education, community and mixed use / employment land. The overall development will accommodate about 12,400 people and will deliver \$2.9 billion in development expenditure and create 8,000 full time equivalent jobs by 2031.

The Calderwood Urban Development Project site is located within the Calderwood Valley in the Illawarra Region. It is approximately 706 hectares in area with approximately 600 hectares of land in the Shellharbour LGA and the balance in the Wollongong LGA.

The Calderwood Valley is bounded to the north by Marshall Mount Creek (which forms the boundary between the Shellharbour and Wollongong LGAs), to the east by the Macquarie Rivulet, to the south by Johnsons Spur and to the west by the Illawarra Escarpment. Beyond Johnstons Spur to the south is the adjoining Macquarie Rivulet Valley within the suburb of North Macquarie. The Calderwood Urban Development Project land extends south from the Calderwood Valley to the Illawarra Highway. Refer to Location Plan at **Figure 1**.

### **Development Considerations**

The Calderwood Valley has long been recognised as a location for future urban development, firstly in the Illawarra Urban and Metropolitan Development Programmes and more recently in the Illawarra Regional Strategy (IRS).

The IRS nominates Calderwood as an alternate release area when demand for additional housing supply arises because of growth beyond projections of the Strategy, or if regional lot supply is lower than expected.

In 2008, the former Growth Centres Commission (GCC) reviewed the proposed West Dapto Release Area (WDRA) draft planning documents. The GCC concluded that forecast housing land supply in the IRS cannot be delivered as expected due to implementation difficulties with the WDRA, and the significantly lower than anticipated supply of housing land to market in the Illawarra Region is now recognised as a reality.

The GCC Review of the WDRA also recognised that there is merit in the early release of Calderwood in terms of creating a higher dwelling production rate and meeting State government policy to release as much land to the local market as quickly as possible. Given the demonstrated shortfall in land supply in the Illawarra Region and the WDRA implementation difficulties highlighted in the GCC Report, the release of Calderwood for urban development now conforms to its strategic role under the IRS as a source of supply triggered by on-going delays in regional lot supply. The Calderwood Urban Development Project can deliver about 12% of the IRS's new dwelling target.

Cchanges in outlook arising from global, national and regional factors influencing investment and delivery certainty, housing supply and affordability and employment and economic development also add to the case for immediate commencement of the Calderwood Project.

### **Planning History**

In April 2008 the Minister for Planning issued terms of reference for the preparation of a Justification Report to address the implications of initiating the rezoning of Calderwood for urban development including associated staging, timing and infrastructure considerations.

In February 2009, the Minister for Planning considered a Preliminary Assessment Report for the Calderwood Urban Development Project that provided justification for the planning, assessment and delivery of the project to occur under Part 3A of the EP&A Act, having regard to the demonstrated contribution that the project will have in achieving State and regional planning objectives.

Subsequently, on the 16 April 2009, pursuant to Clause 6 of SEPP Major Development, the Minister for Planning formed the opinion that the Calderwood Urban Development Project constitutes a Major Project to be assessed and determined under Part 3A of the EP&A Act, and also authorised the submission of a Concept Plan for the site. In doing so, the Minister also formed the opinion that a State significant site (SSS) study be undertaken to determine whether to list the site as a State Significant site in Schedule 3 of SEPP Major Development.

The Part 3A process under the EP&A Act allows for the Calderwood Urban Development Project to be planned, assessed and delivered in an holistic manner, with a uniform set of planning provisions and determination by a single consent authority. Given the scale of the proposal, the Concept Plan and SSS listing provide the opportunity to identify and resolve key issues such as land use and urban form, development staging, infrastructure delivery and environmental management in an integrated and timely manner.

### Agricultural Land Study

This Study has been prepared to address the Environmental Assessment Requirements issued by the Director General for the inclusion of the Calderwood site as a State Significant Site under SEPP Major Development, and for a Concept Plan approval for the development. Specifically, this study addresses the following requirements:

- "Address the impact of the development on primary production values and practices of adjoining rural areas and whether any impacts on regional significant areas of food production may result."<sup>1</sup>
- "(b) The suitability of the site for any proposed land use ... and (c) the implications of any proposed land use for local and regional land use."

<sup>&</sup>lt;sup>1</sup> Director General's Requirement, Concept Plan Application.

<sup>&</sup>lt;sup>2</sup> SSS Study Requirements.

In accordance with the Director General's Requirements this report has been prepared following consultation with the following agency.

Department of Industry and Investment – meeting between Mr A Docking, Resource
 Management Officer and Mr W Mitchell, Project Director, Calderwood, Delfin Lend Lease on 4
 November 2009. A record of this meeting is at Attachment A.

The Study provides information and analysis to support the broader consideration and assessment of the impact of the Calderwood Urban Development Project on agricultural land in relation to the provisions and requirements of:

- the Illawarra Regional Strategy including the Sustainability Criteria at Appendix 1 of that Strategy;
- State Environmental Planning Policy (Rural Lands) 2008 which applies to that part of the site that is located within the Shellharbour LGA;
- Local Planning Direction 1.2 Rural Zones which applies to that part of the site that is located within the Wollongong LGA; and
- Local Planning Direction 1.5 Rural Zones which applies to that part of the site that is located within the Shellharbour LGA.

One of the aims of the Illawarra Regional Strategy is to "Promote the economic food and fibre production and community values of existing agricultural lands and protect them from inappropriate urban expansion (other than that identified under this Strategy or in accordance with the Sustainability Criteria) ..." (p.36).

The Sustainability Criteria at Appendix 1 of the Illawarra Strategy require planning proposals to demonstrate "the most efficient / suitable use of land", and to avoid "identified significant agricultural land" and "productive resource lands – extractive industries, mining and fishing."

The Calderwood site is identified for potential future urban development under the *Illawarra Regional Strategy*. This Study examines the productive resource and regional significance of the existing agricultural/rural activities occurring on lands both within and immediately adjoining the site, and assesses the efficiency, suitability and sustainability of continued agricultural / rural land use on the site. It supports the proposed rezoning and redevelopment of the site having regard to the site's identification within the Strategy for potential future urban release, and the current and future agricultural capability of the land.

When assessing the proposed rezoning of the Calderwood site, the Department of Planning will take into consideration *Local Planning Directions 1.2* and *1.5* that relate to the future of rural land. The Directions aim to protect the agricultural production value of rural land within NSW, and to facilitate the orderly and economic development of rural lands for rural and related purposes.

Before rezoning land from a rural zone to a residential, business, industrial, village or tourist zone, or when preparing a planning proposal that will affect land within an existing or proposed rural or environment protection zone, the 'consistency' provisions of the Directions require the relevant planning authority to be satisfied that the proposal is:

- justified by a strategy / study that gives consideration to the protection of agricultural production value of rural land; or is
- in accordance with the relevant Regional Strategy.

State Environmental Planning Policy (Rural Lands) 2008 applies to land within the Shellharbour LGA. The SEPP aims to facilitate the orderly and economic use and development of rural lands for rural

and related purposes and incorporates 'Rural Planning Principles' and 'Rural Subdivision Principles' that are required to be incorporated into local environmental planning proposals unless the Director General of the Department of Planning is satisfied with respect to the 'consistency' provisions. This Study supports the rezoning of the Calderwood site for urban development in accordance with the 'consistency' provisions of *Local Planning Directions 1.2 and 1.5*. The strategic justification for the release of the Calderwood site for urban development is further detailed within the Environmental Assessment accompanying the Concept Plan and proposed State significant site listing.

### Methodology

The following methodology has been adopted to address the impact of the development on primary production values and practices of adjoining rural areas and on any regional significant areas of food production in this Study.

- Define the existing rural lands that comprise the 'area of potential influence' of the Calderwood Project.
- Identify the strategic planning context / future intended land uses and the agricultural capability
  of land within the 'area of potential influence'.
- Having regard to the strategic planning context / future intended land uses / agricultural
  capability of land within the 'area of potential influence', define the existing rural lands that will
  potentially be impacted by the Calderwood Project (the 'area of potential impact').
- Identify the existing agricultural land uses within the 'area of influence' and 'area of potential impact' of the Calderwood Project.
- Identify the existing agricultural land uses within the Calderwood Project site boundary.
- Identify the areas of regionally significant primary production.
- Assess the impact of the Calderwood Project on identified existing agricultural land uses, primary production values and practices of adjoining rural areas, and on regional significant areas of food production.

### 'Area of Potential influence' of the Calderwood Urban Development Project

The Calderwood site is identified in the *Illawarra Regional Strategy* for future urban development. It forms part of the urban corridor that extends from Albion Park in the south to Kembla Grange in the North. This urban development area is also identified in the DIPNR 2002 and DoP 2007 MDP (including Calderwood Valley).

The 'area of potential influence' of the Calderwood Urban Development Project with respect to potential to impact upon primary production values and practices is shown in **Figure 1**. The 'area of potential influence' has been defined to include all immediately adjoining land, and land within close physical proximity to the Calderwood site. The Calderwood project is not considered to generate any potential impact on agricultural land use beyond the identified 'area of potential influence'.

### 'Area of Potential Influence' and 'Area of Potential Impact'

The Calderwood Project is proposed within the context of the *Illawarra Regional Strategy*. The Strategy proposes the construction of 38,000 dwellings by 2031 to cater for significant population growth and identifies new urban expansion opportunities including both West Dapto and Calderwood. Population growth is to be accompanied by the development of new employment lands, town centres and community facilities.

The Strategy for the Illawarra seeks to balance the protection of existing agricultural land values with significant urban expansion. Large areas of land within the region will need to be transformed from their existing rural / agricultural zoning to urban zoning to provide an adequate supply of land strategically located to support population and economic growth. The sustainability criteria

incorporated within the Strategy aim to identify the most efficient / suitable use of land consistent with the overarching strategic planning context. They also aim to protect 'significant agricultural land' and 'productive resource lands' used for extractive industries, mining and fishing from urban expansion.

The 'area of potential influence' of the Calderwood project based on its current and future proposed land use is shown in **Figure 2.** It has been categorised as follows.

- Existing rural land included in the West Dapto Release Area (shaded grey). This area has been identified for future urban uses in the *Illawarra Regional Strategy* and MDP and is the subject of much recent study and review. Whilst the southern part of the release area is currently deferred, any uncertainty relates to the timing of the release and not to the intention that this land will be rezoned for urban purposes to assist in delivering the growth targets under the Regional Strategy. Any potential impact on the primary production values and practices of these lands arising from the Calderwood Project must therefore be assessed on the basis that this land has been determined by the State Government as suitable, and strategically important, to be rezoned from its current rural / agricultural use for urban purposes. The primary impact on any agricultural production value of this land arises from the identification of this land for urban expansion under the *Illawarra Regional Strategy*. Any short term impact associated with the Calderwood project is limited in scope pending its urban development.
- Existing rural land included in the MDP for future urban release (shaded blue). As is the case with the West Dapto Release Area, this area has also been identified for future urban use in the Illawarra Regional Strategy and the MDP. The primary impact on any agricultural production values and practices of these lands arises from the identification of this land as suitable for urban expansion, and any short term impact associated with the Calderwood project is limited in scope pending its release for urban development.
- Existing urban areas (shaded dark pink). This area includes Albion Park and Tullimbar. Both Albion Park and Tullimbar are areas of existing urban zoned and developed land, or urban zoned land under active development. There is no primary production value or practice on these lands, and potential impact is therefore non existent.
- Existing rural land immediately adjoining the existing urban areas (shaded light pink). These areas are physically separated from the subject site, and any potential impact on primary production values and practices of this land will be primarily influenced by proximity to the existing urban areas of Tullimbar and Albion Park. Any potential impact arising from the Calderwood development proposal is secondary to the change in land use that has already occurred / is occurring on immediately adjoining urban land.
- Existing rural land currently protected for environmental conservation purposes (shaded green). Whilst agricultural production is presently permissible on this land, the existing conservation / environmental protection zoning confirms that this is not seen as the long term use. The slope, topography and vegetation cover also present practical hurdles to any sustainable agricultural use. Potential impact on primary production values and practices is therefore considered to be limited.

Figure 2 and the above land use analysis demonstrates that:

more than half of the existing rural land within the 'area of potential influence' of the
 Calderwood Project has been identified by the State government for future urban development;

most of land adjoining the Calderwood site to the north, south and east comprises existing
urban development, land identified for future urban release, or rural land already strongly
influenced and physically contained by its proximity to the existing urban areas of Tullimbar and
Albion Park;

- more than half of the land adjoining the Calderwood site to the west comprises land identified for future urban release or conservation lands; and
- the Calderwood site is, to a large extent, physically contained, and geographically isolated from surrounding productive agricultural lands.

Implementation of the *Illawarra Regional Strategy* will fundamentally change the existing rural character of most of the land surrounding the Calderwood site. The locality will undergo transformation from the existing rural and agricultural land uses to urban development. This intended transformation underpins growth in the Illawarra.

The existing rural land within the 'area of potential influence' of the Calderwood Project that is subject to potential impact on primary production values and practices is limited to the residue area shown on **Figure 2** (striped areas).

# Primary Production Activities within the 'Area of Potential Influence' and 'Area of Potential Impact' of the Calderwood Urban Development Project

Land with potential for agricultural use, and the current / existing agricultural use of each allotment within the 'area of potential influence' of the Calderwood Urban Development Project is shown in **Figure 3**.

The current agricultural/rural uses of land within the 'area of potential influence' are shown in **Table 1** below. The table also identifies the number of lots within each land use category that are considered to be within the 'area of potential impact' of the Calderwood project as identified above.

**Table 1**: Agricultural land use within 'Area of Potential Influence' and 'Area of Potential Impact'

Land Use	Total Number of Adjoining Lots	Adjoining Lots Potentially Affected (i.e. Residue Area Striped)
Agistment	8	0
Dairy	10	4
Hobby Farm	15	7
Lifestyle	11	4
Low Intensity Farming	11	3
Other (including Market Gardening)	_4	_1
Total Lots	59	19

Figure 3 and Table 1 illustrate that within the overall 'area of potential influence':

- no land is currently used for cropping or high intensity agricultural production uses;
- a significant proportion (approximately 70%) of land is used for hobby farming, lifestyle, low intensity farming or 'other' uses; and

 dairying and agistment area the main productive agricultural land use with the majority of land used for these activities has been identified for future urban land release under the *Illawarra* Regional Strategy and /or the MDP and is therefore could only support ongoing agricultural practices in the short term.

**Figure 3** and **Table 1** also demonstrate that of those lots that are considered to have medium to long term potential to support ongoing agricultural practices (i.e. the 'area of potential impact' of the Calderwood project) only approximately 50 hectares are currently used for productive agricultural activities — mainly dairying activities with 1 market garden. The contribution of these existing agricultural activities towards the agriculture production values of the Illawarra Region is addressed below.

The impact of the Calderwood Urban Development Project on adjoining rural land uses is considered to be negligible because of the limited existing agricultural production occurring in adjacent areas. Any potential impact will be mitigated through sensitive urban design and the use of buffer areas. The draft Calderwood Concept Plan, see **Figure 4**, provides a buffer between the lands potentially affected and lands proposed for future residential development.

# Primary Production Activities Within the Calderwood Urban Development Site

The current use of land within the Calderwood Urban Development Project site is shown in **Figure 5**. The land was previously used extensively for dairying but was subdivided into blocks of approximately 40 ha around 40 years ago. It has generally been used for low intensity hobby farming containing a strong lifestyle element. It is currently zoned either rural or environmental protection. The site includes 20 Lots and the current uses of these lots are shown in **Table 2** below.

Table 2: Current agricultural land use within Calderwood Urban Development Project site

Land Use	Number of Lots	Total Area (ha)
Agistment	2	80.4
Dairy	4	147.0
Hobby Farm	2	16.4
Low Intensity Farming	10	337.4
Other	_2	<u>120.6</u>
Total	20	701.8

**Table 2** demonstrates that currently 6 out of the 20 landholdings within the site boundary are used for productive agricultural use, namely agistment and dairying, comprising approximately 30% of the total site area.

The impact of the loss of these land uses on regional significant areas of food production is considered below.

### **Regionally Significant Food Production**

The Calderwood site does include any regionally significant areas of food production.

Similarly, the 'area of potential influence' and 'area of potential impact' of the Calderwood Urban Development Project do not include any regionally significant areas of food production.

Regionally significant food production is located in the Wingecarribee, Shoalhaven and Kiama LGAs to the west and south of the Calderwood site. This position is recognised by the *Illawarra Regional Strategy* which notes (p.36) that "agricultural lands in the south of the Region (Kiama, parts of Shellharbour and adjoining agricultural lands in the Shoalhaven) are strategically important for long term food production that is close to markets".

Although located in a 'rural and natural resource area' under the Strategy, the Calderwood site, which is identified for future housing and settlement under Chapter 6 of the Strategy, is not identified as significant agricultural land, nor as productive resource land. Nor is it included within the defined 'area of potential influence' or 'area of potential impact'.

Land currently zoned for rural purposes represents a significant component of the total land area of the Wollongong and Shellharbour LGA's. However, most of that rural area is designated for residential development under the Illawarra *Regional Strategy* and the MDP. This reflects the economic reality that these two LGA's are no longer major agricultural areas.

The most reliable and comprehensive statistical information on the levels of production in the Illawarra Region are those provided by the Australian Bureau of Statistics. The 2005-06<sup>3</sup> statistics summarised in **Table 3** below for the Statistical Area covering the Illawarra region show the total land used for agriculture and for the two major agricultural uses in the region, grazing and raising crops.

Table 3: Land use for Agricultural Production in the Illawarra Region (2005-06)

	Total Land Use		Land Use - Grazing		Land Use - Crops	
	Area (ha)	Establishments	Area (ha)	Establishments	Area (ha)	Establishments
Wollongong	3,728	57	2,527	42	53	12
Shellharbour	5,215	50	3,536	44	818	6
Kiama	9,907	119	6,851	106	133	16
Shoalhaven	41,240	382	29,972	328	126	17
Wingecarribee	73,255	<u>592</u>	<u>55,477</u>	<u>534</u>	<u>2,939</u>	<u>153</u>
Total Illawarra	133,345	1,200	98,363	1,054	4,069	204

The value of this production for the same period is shown on a similar basis in **Table 4** below<sup>4</sup>.

<sup>&</sup>lt;sup>3</sup> **71250D0003\_200506 Agricultural Commodities: Small Area Data**, Australia, 2005-06 (Reissue), Australian Bureau of Statistics.

<sup>&</sup>lt;sup>4</sup> **71250DO001\_200506 Agricultural Commodities: Small Area Data**, Australia, 2005-06 (Reissue)(Additional Datacubes), Australian Bureau of Statistics.

Table 4: The Value of Agricultural Production in the Illawarra Region (2005-06)

	Agriculture – Total Value	Agriculture – Livestock Products	Agriculture – Crops
Kiama	\$12,076,977	\$8,337,435	\$2,082,353
Shellharbour	\$4,624,778	\$3,678,226	\$331,564
Wollongong	\$1,884,375	\$616,659	\$921,321
Shoalhaven	\$39,076,558	\$23,973,843	\$7,741,254
Wingecarribee	<u>\$26,890,703</u>	<u>\$9,107,374</u>	<u>\$18,348,847</u>
Total Illawarra	\$84,553,391	\$45,713,537	\$29,425,339

These statistics demonstrate that the Calderwood valley area is not a regionally significant agricultural production area.

- Livestock and crop production are the major sectors dominating the agricultural production in the region covered by the *Illawarra Regional Strategy*, representing almost 90% of the total agricultural value. The Shoalhaven and Wingecarribee areas dominate livestock and crop production areas followed by Kiama, Shellharbour and Wollongong. Shellharbour and Wollongong LGAs only contribute to approximately 8% of the total agricultural value of the region.
- Within the 'area of potential influence' and 'area of potential impact' of the Calderwood Project, land used for livestock activities represents only 0.04% of the total area of land in the region currently used for these activities within the Region. Any impact arising from the Calderwood project on these activities would have an imperceptible impact on the agricultural production value of the region.
- No livestock and crop production activities occur within the site; it only contains small scale and low intensity farming. The proposed Calderwood Urban Development Project will therefore result in no reduction in agricultural production value in the major sectors dominating the agricultural production in the region i.e. livestock and crop production sectors.

The combination of the small scale production on the site and its surrounding area, and the distance of this area from the major regional agricultural areas means that the development is unlikely to have any measureable impact on the production from those areas.

#### Conclusion

This report has considered the impact of the Calderwood Urban Development Project on:

- primary production values and practices of adjoining rural areas; and
- the 'regional significant areas' of food production.

SPC concludes that there would be nil to minimal impact on primary production values and practices of the adjoining areas due to the limited agricultural production in the locality. This would be the case even if the area had not previously been designed for urban development.

The proposal is consistent with the Rural Planning Principles of the *State Environmental Planning Policy (Rural Lands) 2008* because the proposed development is identified under the *Illawarra Regional Strategy* as having the potential to support future urban development.

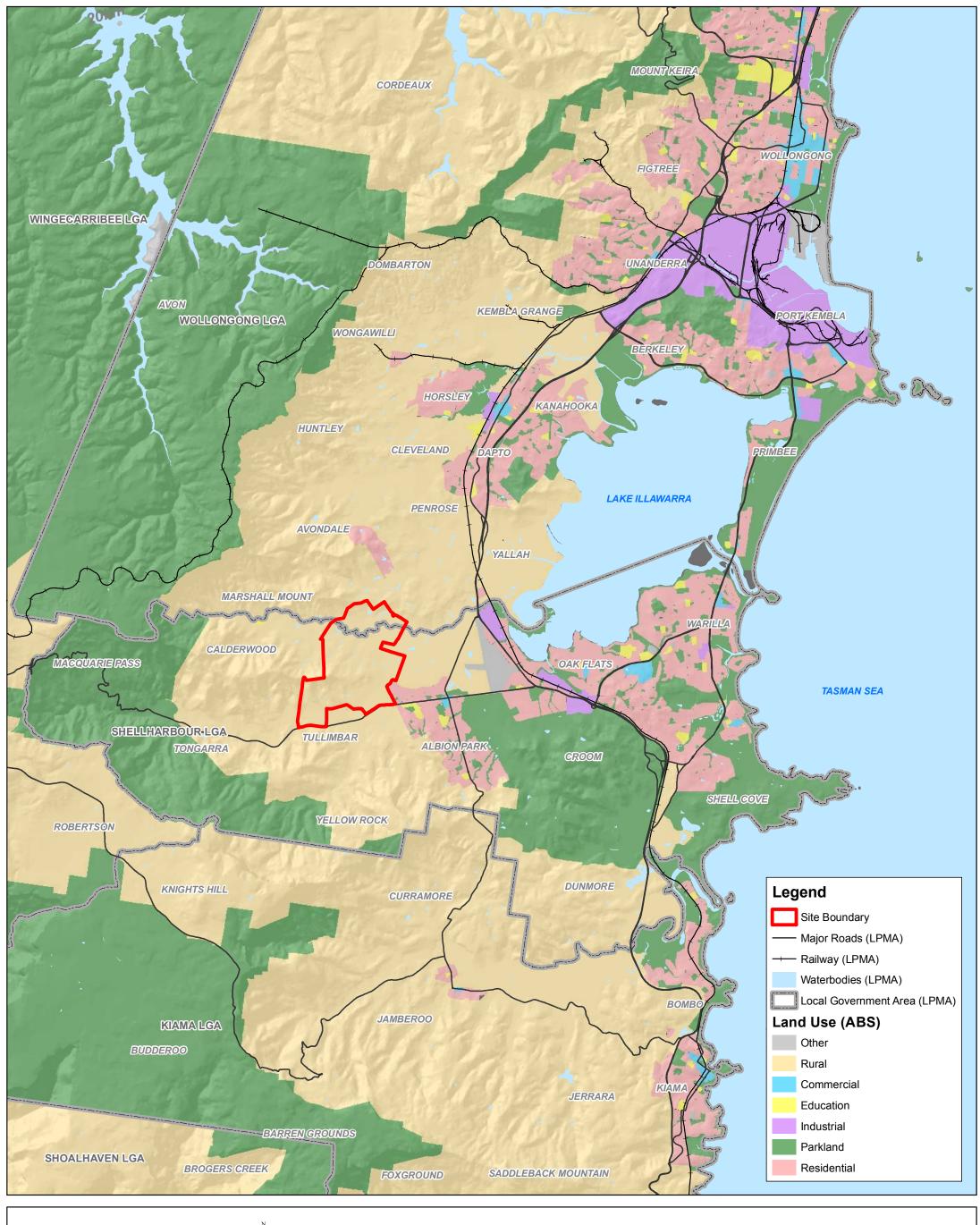
SPC also concludes that the development would have minimal impact on regionally significant areas of food production because the site does not currently support any livestock and crop production and is not located in or close to an area of regional agricultural significance. Any impact it might have on the 0.04% of the region's land used for agricultural production in its 'area of potential influence' and 'area of potential impact' will be so low on a regional basis as to be imperceptible.

However, any negligible impact that the development might have could be further reduced in its immediate vicinity (i.e. its impact on the approximately 50ha used for agricultural production in its 'area of potential impact') through appropriate urban design and the inclusion of a buffer area between the subject site and the adjoining affected agricultural land.

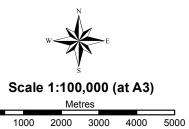
### Attachment A

# **Calderwood Urban Development Project Summary Record of Agency Consultations**

Date	4 <sup>th</sup> November 2009			
Project team member / firm	Bill Mitchell Project Director Calderwood			
Organisation	Department of Primary Industries			
Name of contact	Andrew Docking			
Position in organisation	Resource Management Officer			
Contact details	T: 02 4588 2128  F: 02 4588 2159   M: 0431 651 015   E: <u>Andrew.Docking@industry.nsw.gov.au</u>			
Form of Consultation	Face to face Yes	Phone call	Email	
Issues discussed / outcomes	1. Discussion based on attached Agenda and Briefing Note.  (a) Background on DLL Projects in Australia and NSW.  (b) Discussed status, scope and scale of Calderwood project.  (c) Outlined scope of Project documentation and time frame.  (d) Discussed specifics of Director General's requirements as follows.  2. Primary production values.  (a) Noted minor scale of employment activity based on ABS data. Noted ABS data as best source.  3. Adjoining land  (a) Discussed draft map of adjoining land uses. Noted as a sound approach.  4. Areas of Potential Influence  (a) Discussed draft map of areas of potential influence and how this has been defined. Noted as a sound approach.  5. General  (a) Concerns with adjoining uses arise from effluent, noise, flies, and odour.			
	<ul> <li>(b) Consider suitable design and future use arrangements to militate impacts including placement of other than urban use adjoining agricultural, maintain flexibility in informal spaces and Class 2 Lands for uses such as crop/fodder/community gardens.</li> <li>(c) Consider maintain traditional community contacts through Farmer's Market or similar.</li> </ul>			
Actions arising	progress	Notes and maintain contact ncluding mapping and other exhibition timeframe.		







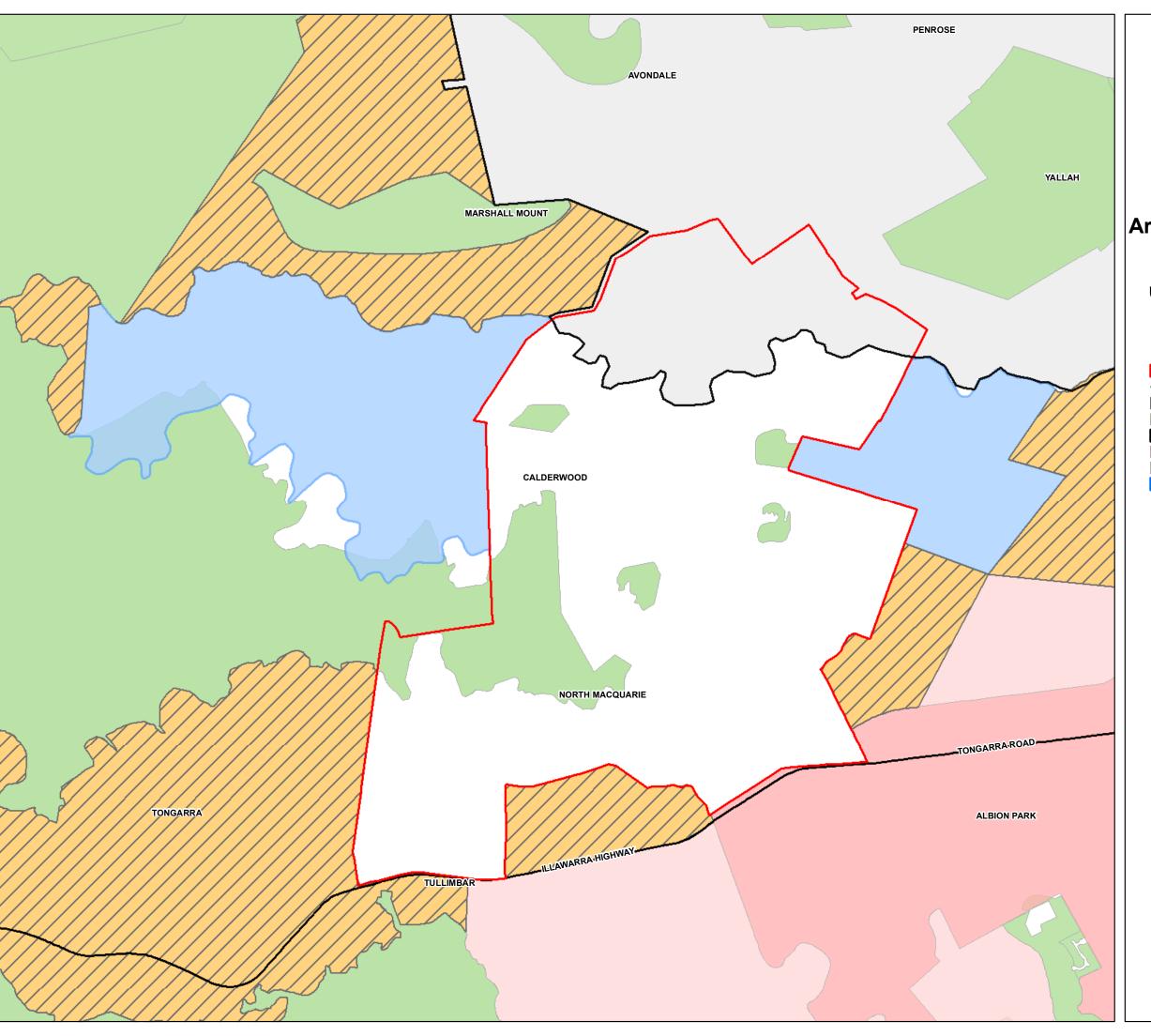
## **Location Plan**

FIGURE 1

CALDERWOOD URBAN DEVELOPMENT PROJECT



Map Produced by Cardno Wollongong
Date: 15 February 2010
Coordinate System: Zone 56 MGA/GDA 94
GIS MAP REF: 110026-01\_18022\_LocationPlan.mxd 06





# Rural/Urban Interface Areas of Potential Influence

CALDERWOOD URBAN DEVELOPMENT PROJECT

#### Legend

Site Boundary

— Major Roads (LPMA)

Area of Potential Impact

Environmental Protection and 7n

West Dapto Urban Release Area
Existing Urban

Adjoining Existing Urban

Metropolitan Development Precinct (MDP)

### FIGURE 2

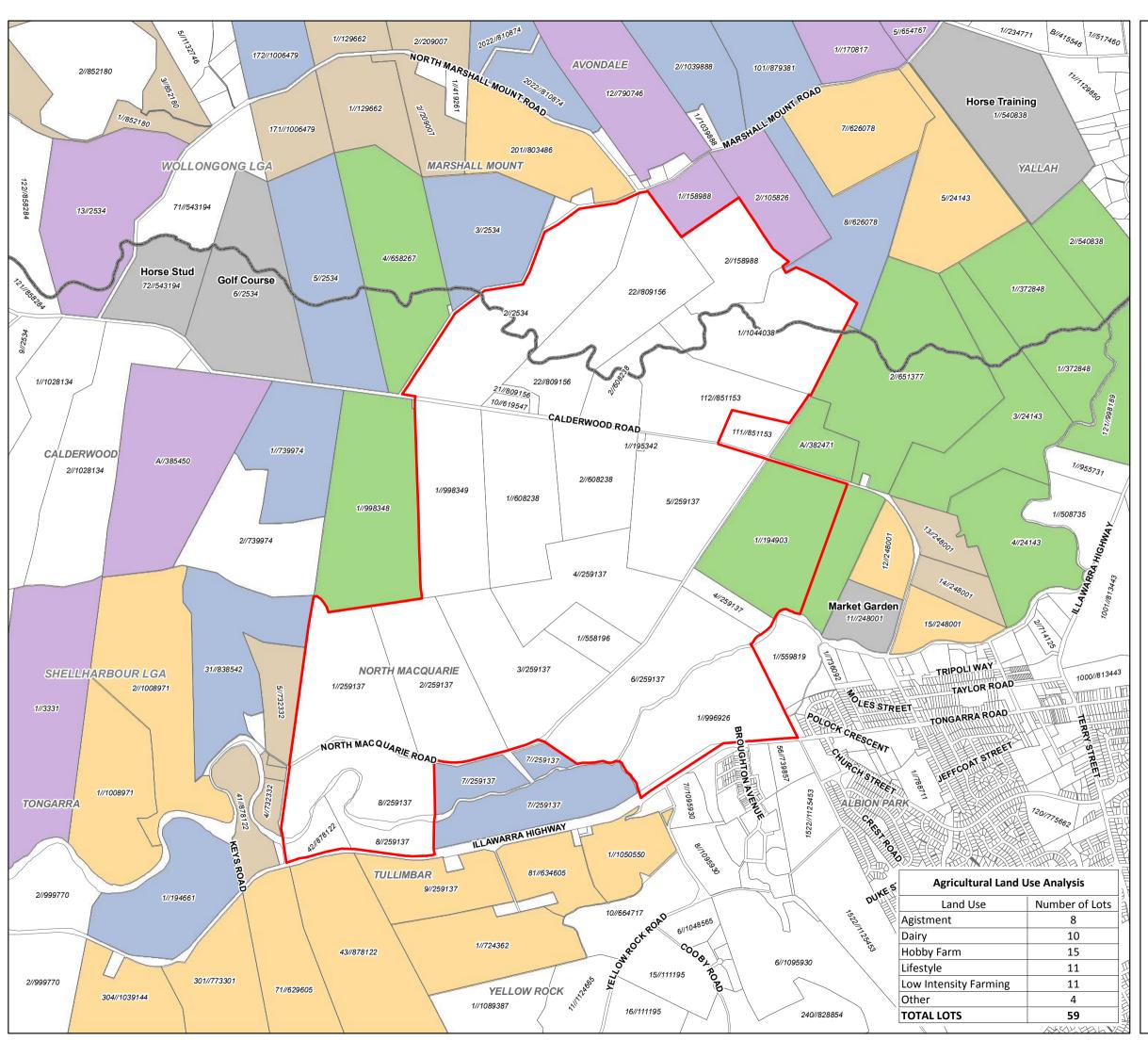


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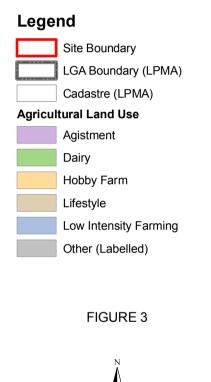
Map Produced by Cardno Wollongong Pty Ltd
Date: 13 January 2010
Coordinate System: Zone 56 MGA/GDA 94
GIS MAP REF: 110026-01\_18020\_RuralUrbanInterface.mxd 06





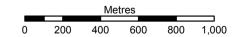
# Adjoining Agricultural Land Use

CALDERWOOD
URBAN DEVELOPMENT PROJECT



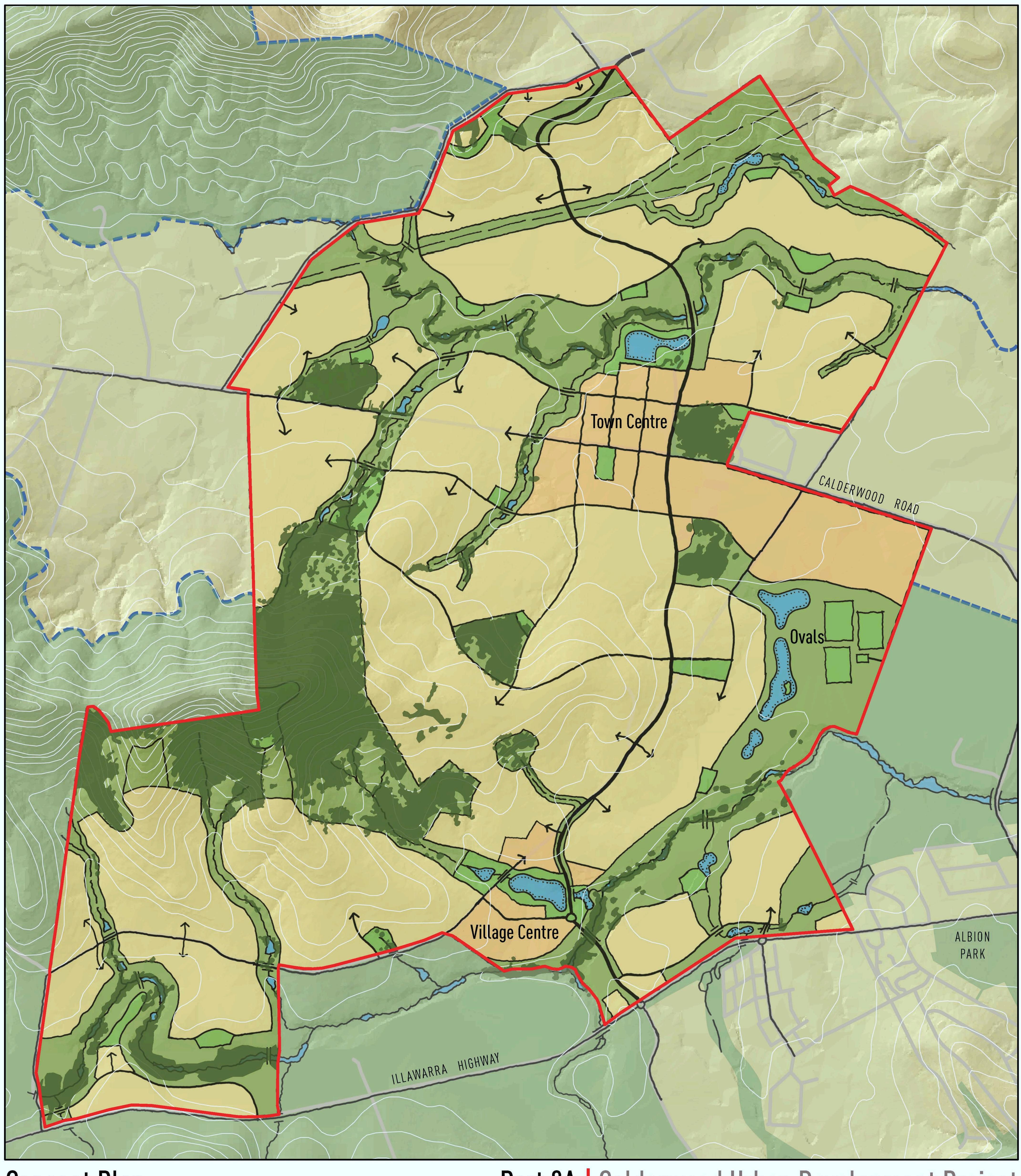


Scale 1:20,000 (at A3)





Map Produced by Cardno Wollongong
Date: 15 February 2010
Coordinate System: Zone 56 MGA/GDA 94
GIS MAP REF: 110026-01\_18023\_AdjoiningAgriculturalLandUse.mxd 05



Concept Plan

Part 3A | Calderwood Urban Development Project

FIGURE 4

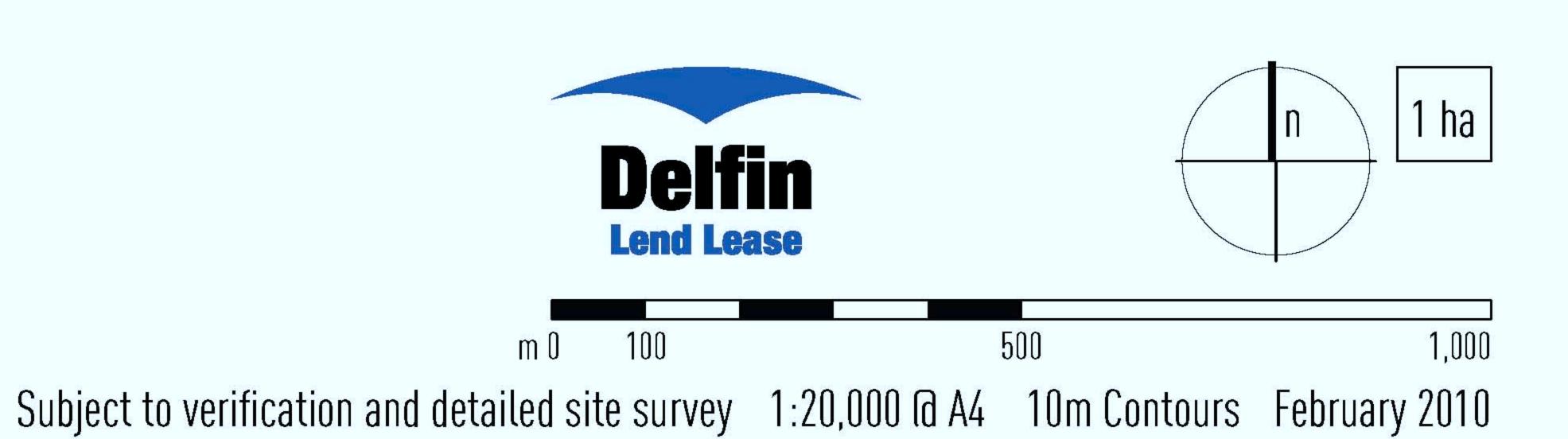
Town and Village Centres
Mixed Uses including Retail, Employment, Residential, Learning and Community Amenities

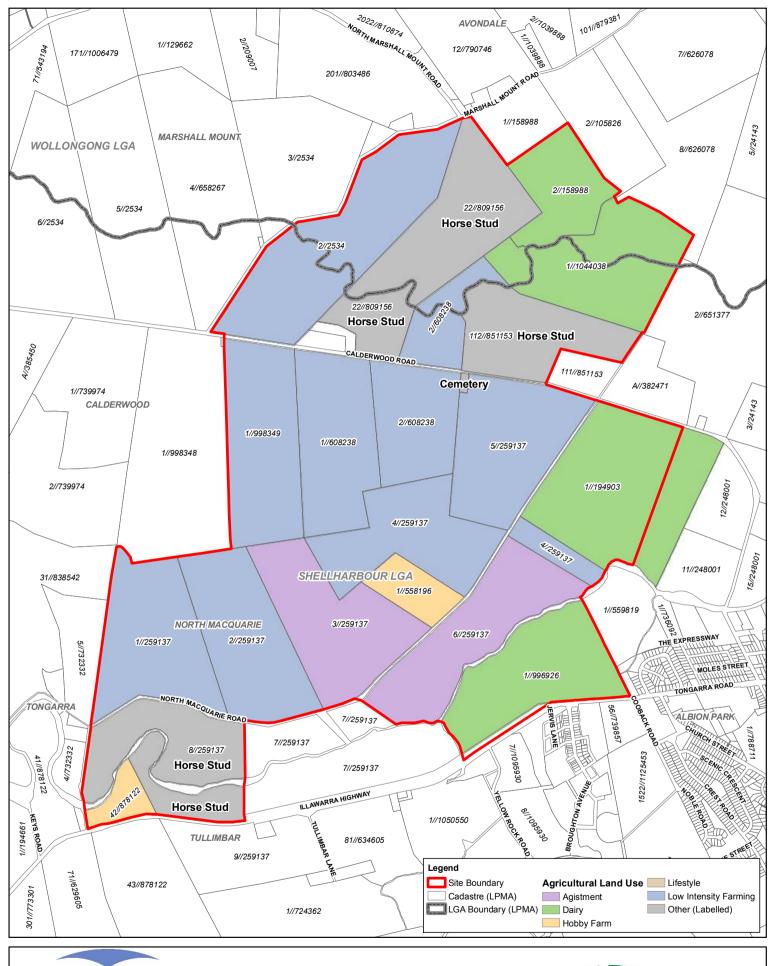
Residential Neighbourhoods

Parks
eg Citywide, district and local parks

Principal Open Space and Drainage
eg Environmental Conservation, Environmental Management and Drainage Corridors

Indicative Water Bodies







### **Agricultural Land Use Within Site**

CALDERWOOD URBAN DEVELOPMENT PROJECT







Map Produced by Cardno Wollongong Date: 15 February 2010 Coordinate System: Zone 56 MGA/GDA 94 GIS MAP REF: 110026-01 18029 AgriculturalLandUseWithinSite\_Portrait.mxd 01