Environmental Services Division

DUBBO DEVELOPMENT CONTROL PLAN (DCP) 2013

Council meeting 25 November 2019 repealed Chapter 1.2
Council meeting 27 April 2023 included amendments to Part 2.1.1
Please see the Community Particpation Plan 2019 for notification details.

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Chapter 1

Administration

Dubbo Development Control Plan 2013

1. Administration

1.1 Introduction

1.1.1 Name of plan and contents

This Plan is called the Dubbo Development Control Plan 2013 (Dubbo DCP 2013).

The Dubbo DCP 2013 consists of the following components:

Chapter 1 Administration
1.1 Introduction
1.2 Public Notification

Chapter 2 Development Principles
2.1 Residential Development and Subdivision
2.2 Commercial Development and Subdivision
2.3 Industrial Development and Subdivision
2.4 Rural Development and Subdivision

Chapter 3 Development Considerations
3.1 Access and Mobility
3.2 Economic Impact
3.3 Social Impact
3.4 Heritage Conservation
3.5 Parking
3.6 Dubbo City Regional Airport
3.7 Environmental Management

Chapter 4 Urban Release Areas
There are currently no specific Urban Release Area Plans.

1.1.2 Strategic context

The Dubbo Development Control Plan 2013 has been prepared by Council in accordance with Section 74C of the Environmental Planning and Assessment Act 1979 (the Act) and Part 3 of the Environmental Planning and Assessment Regulation 2000 (the Regulation). The Plan was adopted by Council at the meeting on 22 April 2013.

The Dubbo DCP 2013 commenced on 6 May 2013.

The Dubbo DCP 2013 must be read in conjunction with the Dubbo Local Environmental Plan 2011 (Dubbo LEP 2011), gazetted on 11 November 2011.

1.1.3 Land to which this Plan applies

This Plan applies to all land within the Dubbo Local Government Area (LGA) and contained within the Dubbo Local Environmental Plan 2011. If land is contained in an individual Development Control Plan forming Chapter 4, only the provisions contained in Chapter 4 will apply to the subject land.

1.1.4 Objectives of this Plan

The Dubbo Development Control Plan 2013 has the following objectives:

- Promote good quality and environmentally sustainable development;
- Provide guidance to prospective proponents and the community of Council's requirements to undertake development;
- Elaborate on further explain the requirements of the Dubbo Local Environmental Plan 2011 (as amended from time-to-time);
- Provide criteria to assist Council in assessing applications; and
- Provide development controls and requirements that are easily understood by the community and proponents.

1.1.5 Relationship to other plans and documents

This Plan repeals the following Development Control Plans and Council Policies:

Title	Description
DCP R1.1	Dryland Agriculture
DCP R1.2	Intensive Agriculture
DCP R1.3	Small Farm Estates
DCP R2.1	Villages
DCP U1.1	Urban/Rural Buffer Zone
DCP U2.1	Residential Suburban and Residential Medium Density Zones
DCP U2.2	Residential Fringe Zone
DCP U2.4	Residential Country Zone
DCP U3.2	3(b) Sub-Regional Business Zone
DCP U4.1	Light and General Industry
DCP G2.2	Flood-prone Lands – Urban Areas
DCP G3.1	Designing for Access and Mobility
DCP G4.1	Exempt and Complying Development
DCP No.22	Firgrove 1(c) Area
Policy No.3	Standards for Off-Street Parking of Motor Vehicles

Under the Environmental Planning and Assessment Act, 1979 (the EP and A Act), Council is required to take into consideration the relevant provisions of the Dubbo DCP 2013 in determining an application for development on land within the Dubbo LGA.

In the event of any inconsistency between any Environmental Planning Instrument (EPI) and the Dubbo DCP 2013, the provisions of the EPI will prevail.

Council in the assessment of a development application will consider all matters specified in Section 79C of the Environmental Planning and Assessment Act 1979. Compliance with any Environmental Planning Instrument or this Plan does not infer development consent will be granted.

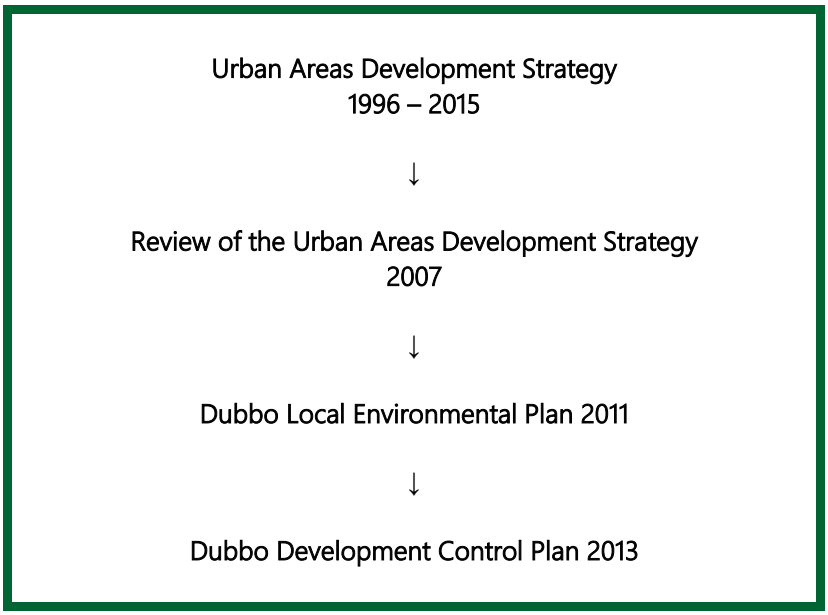
The Plan provides detailed guidelines and further information to assist development in the Dubbo Local Government Area.

1.1.6 Strategic context

The Dubbo Urban Areas Development Strategy has facilitated the creation of a range of lifestyle options for the urban area of the city. Through the restriction of urban development to a defined area, Council is seeking to protect the long-term future of agricultural land located beyond the urban area and promote an orderly release of urban land.

These lifestyle options have been developed through the Dubbo Urban Areas Development Strategy (UADS) adopted by Council in 1996 and the Review of the UADS adopted by Council in 2007. The Dubbo Local Environmental Plan (LEP) 2011 facilitates the achievements of the Strategy components in zoning lands for the sustainable development of the city.

The following figure details the context of the planning documents applicable to urban land.



The Urban Areas Development Strategy consists of the following components:

- Residential Areas Development Strategy;
- Commercial Areas Development Strategy;
- Institutional Areas Development Strategy;
- Recreational Areas Development Strategy; and
- Future Directions and Structure Plan

The Urban Areas Development Strategy was created to manage the development and provide for the conservation of land within the urban area of the city through ensuring the Central Business District is the centre of the city.

Centralisation of the Dubbo Central Business District will be facilitated by further residential development being undertaken in West Dubbo. The Strategy includes extensive areas in north-west and south- west Dubbo as being suitable for further residential development to incorporate the following:

North-west sector – 2,600 lots (approx)
South-west sector – 3,281 lots (approx)

The Dubbo Local Environmental Plan 2011 offers a range of lot sizes within the West Dubbo Urban Release Areas, ranging from 600 square metres to 10 Ha. This ensures a variety of lifestyle opportunities can be provided within a close proximity to the city centre.

The Strategy also allows for infill subdivision opportunities in the south-east sector with the Dubbo LEP 2011 allowing for the potential development of 1,059 lots within this sector.

The Strategy does not provide for any further reduction in the minimum lot size for subdivision in the eastern sector of the city based on centralisation of the Central Business District to the west, environmental constraints, infrastructure provision and transport requirements.

Further information in relation to the Dubbo Urban Areas Development Strategy is available on Council's website or by contacting Council's Environmental Services Division.

1.1.7 How to use this Plan

When preparing a development application, all relevant sections of the Plan are required to be considered.

The majority of sections in the DCP incorporate design elements that are required to be considered and addressed by a proponent in the design process.

Each section of the DCP has a consistent format. An example of how an element of the DCP is structured is provided below. The objectives of each section are stated at the beginning of each design element at the top of the page and the proposed development should focus on satisfying these objectives.

Below the objectives is a table with two columns. The column on the left outlines the aim of the design element, while the column on the right offers default design guidelines that an applicant can choose to use in their development in lieu of designing to satisfy the intent of the column on the left.

In summary, the column on the left provides a proponent with more flexibility in design, while the column on the right provides a proponent with standard solutions that are acceptable to Council.

If the proponent chooses not to use the 'Acceptable Solutions' in the right hand column, written detail must be provided of how the design satisfies the 'Performance Criteria' in the left hand column.

Performance criteria The streetscape character objectives may be achieved where:	**Acceptable solutions** The acceptable solutions illustrate one way of meeting the associated performance criteria
Built form	
P1 The frontage of buildings and their entries are readily apparent from the street.	A1.1 Buildings adjacent to the public street, address the street by having a front door or living room window facing the street. A1.2 Where dual occupancies or multi-dwelling housing are situated on corner blocks (where one is not a lane), the development is designed to face each street frontage.
P2 Building height at the street frontage maintains a compatible scale with adjacent development.	A2.1 Differences in building height between existing buildings and new development is not more than one storey when viewed from the public street and adjoining properties. A2.2 Where a building is adjoined on either side by a single storey building, the second storey is setback a minimum of 3 m from the front of the building to achieve a stepped height. A2.3 The design includes attic rooms which provide additional floor space with minimal streetscape impact.

1.1.8 Urban Release Areas

The Dubbo Local Environmental Plan 2011 contains a number of industrial and residential Urban Release Areas. An Urban Release Area is a section of the city designated by the New South Wales (NSW) Department of Planning and Infrastructure as requiring further detailed consideration and analysis for any subdivision development to be undertaken.

Development within an Urban Release Area is required, in accordance with Dubbo LEP 2011, to only be undertaken after a site specific Development Control Plan that has been prepared and adopted by Council. Development is also dependant on the Director General of the NSW Department of Planning and Infrastructure certifying that appropriate State infrastructure requirements are in place to support the development.

The onus is placed on a development proponent to ensure a site specific Development Control Plan is prepared and adopted by Council before a subdivision development proceeds in these identified areas.

If your site is situated within an Urban Release Area you should contact Council's Environmental Services Division in the initial stages of planning your development.

Council has adopted two site specific Development Control Plans for any Urban Release Area in the Dubbo LEP 2011. These will be included in Chapter 4 of this DCP.

1.1.9 Pre-lodgement advice

One of the biggest causes of delays in the processing of development applications (DAs) is the absence of appropriate or sufficient supporting information. One of the services Council offers to assist in avoiding these delays is the provision of advice prior to the formal lodgement of your DA. The advice ensures that you are aware of the issues which need to be addressed with your Application.

In cases where larger (eg medium density residential, industrial, commercial, subdivisions) or potentially controversial developments are proposed, Council offers a formal process for the provision of pre-lodgement advice. This process is provided in the form of a pre-lodgement meeting.

The pre-lodgement meeting is chaired by Council's Planning Services Supervisor or delegate. Depending on the nature of the development proposal being considered, other technical officers within the areas of building, engineering, health and environmental control may attend the meeting.

The flexibility of the meeting structure enables Council to ensure that the highest level of timely advice is provided. It also provides the opportunity for the Council officers who will be responsible for assessing your DA to be involved with the development proposal from the outset of Council's involvement.

In order to arrange a pre-lodgement meeting you should contact Council's Environmental Services Division.

The process which will be followed in holding a pre-lodgement meeting is a follows:

(1) Arrange a meeting date and time with the Planning Services Supervisor;
(2) Submit to Council, at least seven days preceding the meeting date, concept plans, subdivision plans or preliminary floor plans and elevations and a written outline of the proposal or any departure sought. The number of copies required to be submitted shall be determined in consultation with the Planning Services Supervisor;Council will undertake a site inspection where required and review the information provided and any relevant Council records relating to the subject land in preparation for the pre-lodgement meeting;

(3) Pre-lodgement meeting held with relevant Council officers. Meetings will be held in the Civic Administration Building, corner of Darling and Church Streets, Dubbo; and

(4) Additional meetings can be held at a mutually convenient time to discuss issues relating to the proposal and the advice provided by Council.

It is emphasised that the basis for preliminary discussions are intended to be simple and direct. Detailed drawings and plans are not necessary, however the clearer and more detailed the presentation, the more precise Council's response to you will be. The more precise the advice is the less likely there will be a need to require additional information to be submitted during the development assessment process once a DA is lodged.

Note: Pre-lodgement advice is not designed to replace the normal assessment process undertaken in determining development applications. Pre-lodgement advice should not be taken as a guarantee of approval or refusal of your proposal.

1.1.10 Development application submission requirements

To ensure your development application can be processed by Council in a timely manner it is also important that you include sufficient information to justify your proposal and any impacts it may have on the natural and physical environment.

Schedule 1 of the Environmental Planning and Assessment Regulation, 2000 provides the requirements for the submission of a development application. A summary of schedule 1 has been reproduced below. It should be noted that not all of the documents and reports provided below will be required for the submission of each and every development application. Please ensure you contact Council's Environmental Services Division to discuss the details of your development.

- Statement of Environmental Effects,
- Site Analysis Plan,
- Flora and Fauna Assessment or a Species Impact Statement where applicable,
- Bushfire Risk Assessment,
- Flood Study,
- Geotechnical Report,
- Erosion and Sediment Control Plan,
- Contamination Assessment,
- Acoustic Assessment,
- Site Waste Management Plan and Operational Waste Management Plan,
- Social Impact Assessment,
- Crime Risk Assessment,
- Economic Impact Assessment,
- Heritage Impact Assessment and Aboriginal Archaeology Report,
- Stormwater Management Plan,
- Traffic Impact Assessment,
- Landscape Plan, and
- Engineering Design Plans.

You are encouraged to contact Council's Duty Officers to discuss information requirements for submission of your development application.

Site Analysis Plan

A Site Analysis Plan (SAP) is required with all development applications with the exception of minor proposals.

A (SAP) establishes the development context and explains graphically the key physical influences, constraints and opportunities on the design and how the proposed development will relate to the immediate environment.

A (SAP) is useful for the applicant and Council in providing a detailed examination of the site and the adjoining land. Through the preparation of a (SAP) a proponent can become more familiar with the land and its physical influences.

The content of a (SAP) will depend upon the nature of the development proposed. However, it should document, where relevant and as determined by Council, the following site features as a minimum:

- Property address including lot numbers and deposited plan numbers;
- Boundaries, easements and fences;
- Topographic features such as contours, drainage and ridge lines;
- Orientation (true north);
- Agricultural suitability;
- Land capability;
- Groundwater vulnerability;
- Flood-prone areas/waterways;
- Existing vegetation/wildlife corridors;
- Existing buildings and other structures;
- Access and connection points (vehicular, pedestrian, cycle etc);
- Services such as telephone, power, water and roads;
- Prevailing wind direction (seasonal);
- Views to and from the site;
- Sources of any emission such as noise, odour, dust, etc;
- Contaminated soils, fill and waste disposal areas;
- Areas affected by land degradation (ie erosion, salinity);
- Archaeological sites;
- Items of European or Aboriginal heritage;
- Bushfire hazard areas; and
- Location and use of adjacent land(s)/properties.

1.2 Repealed

Chapter 2

Development Principles

Dubbo Development Control Plan 2013

2. Development Principles

2.1 Residential Development and Subdivision

2.1.1 Residential Design – Dwellings, Dual Occupancy And Multi-Dwelling Housing

This section is designed to encourage 'best practice' solutions and clearly explain Council's requirements for dwellings, dual occupancy and multi-dwelling housing developments in the residential and village zones where applicable.

The objectives of this section are:

- To facilitate a mix of dwelling sizes complementing the character of the area and that provide accommodation for all sectors of the community; and
- To facilitate low density residential accommodation utilising the existing infrastructure.

This section lists design elements under the following headings:

Element 1	Streetscape character
Element 2	Building set-backs
Element 3	Solar access
Element 4	Private open space and landscaping
Element 5	Infrastructure
Element 6	Visual and acoustic privacy
Element 7	Vehicular access and car parking
Element 8	Waste management
Element 9	Site facilities
Element 10	Non-residential uses
Element 11	Signage
Element 12	Detached development (Outbuildings, sheds, garages)

Each design element has been structured so that it contains:

- 'Objectives' describing the required outcomes;
- 'Performance criteria' outlining the range of matters that need to be addressed to satisfy the objectives (ie the performance criteria explains how an objective is to be achieved);

Note: Not all performance criteria will be applicable to every development.

- 'Acceptable solutions' are specific measures which illustrate one way of meeting both the performance criteria and objectives of an element. They are examples only and are not mandatory; and
- 'References' to relevant clauses of the Dubbo LEP 2011, other relevant legislation, Council policies and literature relevant to the design element.

This section provides requirements for all types of development defined as residential accommodation within Dubbo LEP 2011.

Element 1: Streetscape character

Objectives

- To design residential housing development to complement existing streetscape and neighbourhood character, particularly in areas of identified and valued character including heritage precincts (see Section 3.5 Heritage Conservation);
- To design residential housing in keeping with the desired future streetscape and neighbourhood character; and
- To provide a mix of dwelling sizes complementing the character of the area and that provide accommodation for all sectors of the community.

Performance criteria The streetscape character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Built form	
P1 The frontage of buildings and their entries are readily apparent from the street.	A1.1 Buildings adjacent to the public street, address the street by having a front door facing the street. A1.2 The site area for multi-dwelling housing is a minimum of 700 m^2 and has a minimum frontage of 20 m. A1.3 Where dual occupancies or multi-dwelling housing are situated on corner blocks (where one is not a laneway), the development is designed to face each street frontage. A1.4 Dual occupancy development shall be designed in accordance with Figure 1. A1.5 Dual occupancy development shall not be designed as 'mirror reversed'.
P2 The development is to be designed to respect and reinforce the positive characteristics of the neighbourhood, including: – Built form; – Bulk and scale; – Vegetation; and – Topography.	A2.1 Design elements to consider include: – Massing and proportions; – Roof form and pitch; – Floor to ceiling height; – Façade articulation and detailing; – Window and door proportions; – Features such as verandahs, eaves and parapets; – Building materials, patterns, textures and colours; – Decorative elements; – Vehicular footpath crossing (location and width); – Fence styles; and – Building set-backs.
P3 Walls visible from the street are adequately detailed for visual interest.	A3.1 This may be achieved by recesses, windows, projections or variations of colour, texture or materials. A3.2 Walls longer than 10 m are articulated with a variation of not less than 600 mm for a minimum length of 4 m.

Performance criteria The streetscape character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
P4 Garages and parking structures (carports) are sited and detailed to ensure they do not dominate the street frontage, integrate with features of the dwelling and do not dominate views of the dwelling from the street. Note: See Plate 1 photographs.	A4.1 The width of a garage door or parking structure facing the street shall not be greater than 50% of the total width of the front of the building for an allotment in excess of 12 m in width, measured at the street frontage. A4.2 Garages or parking structures are located in line with or behind the alignment of the front façade/ entrance of the dwelling, with a minimum set-back of 5.5 m (see Element 2 – Building Set-backs), where the street frontage is in excess of 12 m.

Figure 1: Various forms of dual occupancy housing

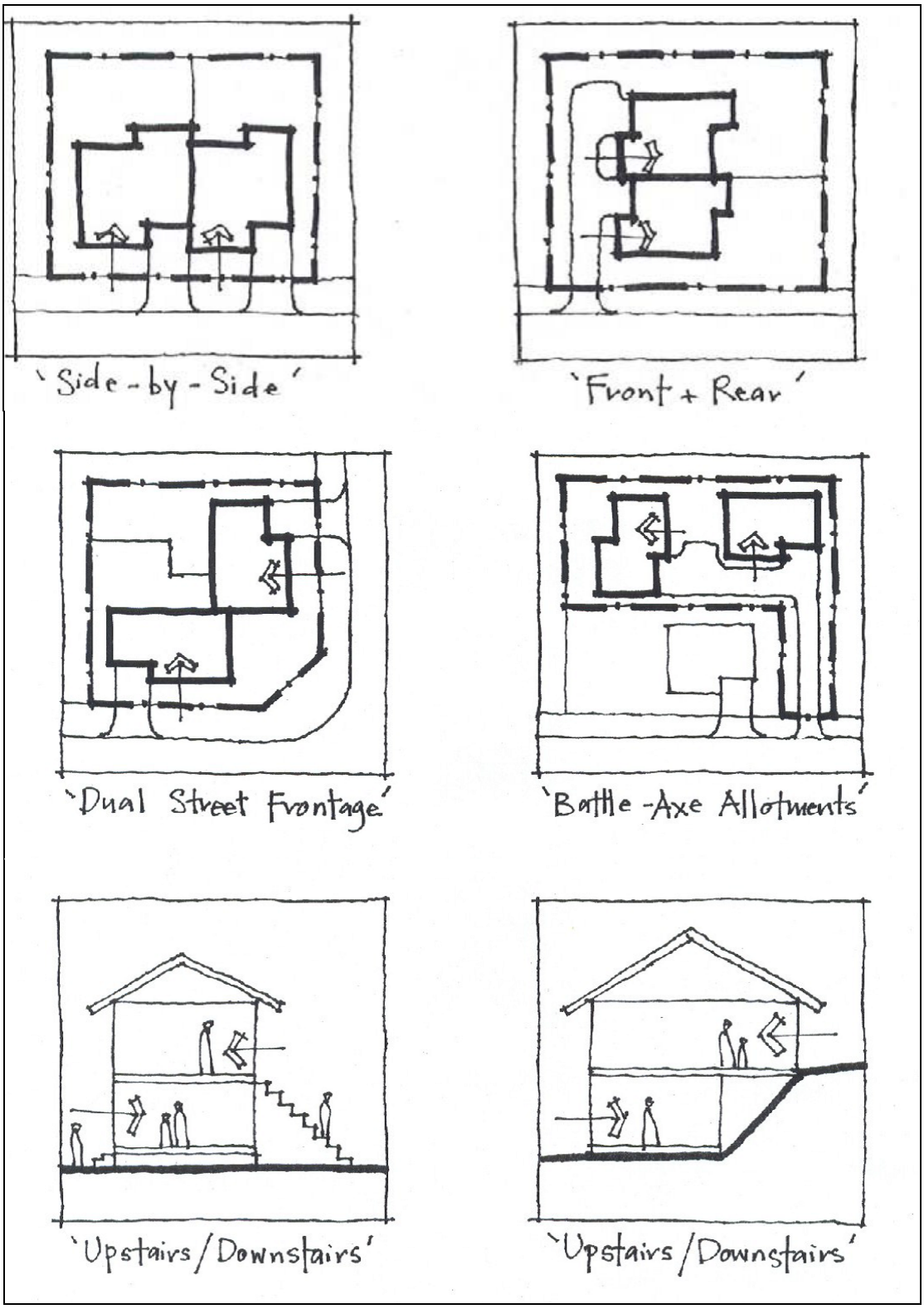
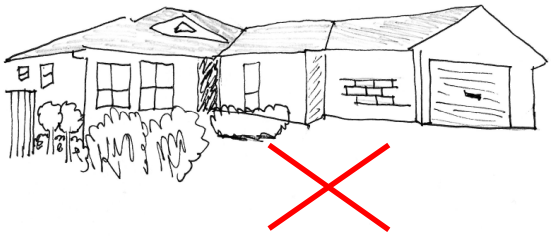


Plate 1: Examples of residences and garages

a. Double garage dominates street frontage and the entry to the residence.



b. Single garage dominates street frontage.

c. Appropriate colour scheme and good landscaping ensure garage is not dominant.

d. Colour scheme, proportionality and landscaping tie garage into dwelling.

e. Mirror-reversed dual occupancy development

Performance criteria The streetscape character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Fencing	
P6 Fencing is consistent with the existing character of the area. Note: See Plate 2 photographs.	A6.1 Fences should take elements from neighbouring properties where elements are representative of the character of the street.
P7 Front fences enable outlook from the development to the street or open space to facilitate surveillance and safety. Front fences provide noise attenuation on classified roads. Front fences provide security in areas where there is a difference of land use (eg residential, commercial or industrial).	A7.1 Front fences have a maximum height of 1.2 m if solid or less than 50% transparent and 1.5 m if greater than 50% transparent. A7.2 Fences along secondary frontages may have a maximum height of 1.8 m up to a point that is level with the building line for the primary road frontage provided that: – The fence does not exceed 5 m in length without articulation or detailing to provide visual interest (see Figure 2); – The fence is constructed of materials which are consistent with those used in development on the site and adjoining developments (other than solid metal panels or chain wire fencing); and – The fence is softened with the use of landscaping. A7.3 Solid front fences to main roads or highways for the purposes of noise attenuation may be considered to a height of 1.8 m provided that: – The fence does not exceed 5 m in length without articulation or detailing to provide visual interest (see Figure 2); – The fence is constructed of materials which are consistent with those used in the development on the site and adjoining developments (other than solid metal panels or chain wire fencing); and – The fence is softened with the use of landscaping.

Performance criteria The streetscape character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
P8 Fencing style and materials reflect the local streetscape and do not cause undue overshadowing of adjoining development. Note: Barbed/razor wire or electrified fencing in residential areas is not permitted.	A8.1 Side fences on corner allotments are set-back and/or articulated to provide for vegetation screening to soften the visual impact of the fence. A8.2 Side fences forward of the building line are not constructed of solid metal panels or chain wire fencing (including factory pre-coloured materials). A8.3 Fences adjoining heritage-listed properties are constructed of timber palings or other materials associated with the architecture and character of the area.
P9 Fencing on corner allotments does not impede motorists' visibility at the intersection.	A9.1 Fencing is either splayed, set-back, reduced in height or transparent to maintain visibility for motorists. Note: The extent of the splay will be determined by Council in consideration of the characteristics of the road and the radius of the kerb return.
P10 Gates are designed to ensure pedestrian and motorist safety. Note: Gates are not permitted to open across the footpath (Clause 21, Roads Regulation 2008).	A10.1 Where a driveway is provided through a solid fence, adequate visibility for the driver is maintained.

References
• Dubbo LEP 2011; • DCP 2013, Section 2.5 Heritage Conservation; • AMCORD Section 4.3: Streetscape and Neighbourhood Character; • NSW Heritage Office 'Conservation Areas' and 'In-fill' publications; and • Roads Regulation 2008.

Plate 2: Examples of fencing

a. Side fence that attempts articulation but still detracts from the streetscape as plantings absent from indents

b. Plain colorbond side fence dominating the streetscape

c. Corner allotment fencing with no visual appeal

d. 1.8 m high corner fencing softened with landscaping

e. Vegetation screening used to soften visual impact of the fence

f. Long, blank wall prone to graffiti

g. Good use of vegetation to provide privacy while still enabling passive surveillance.

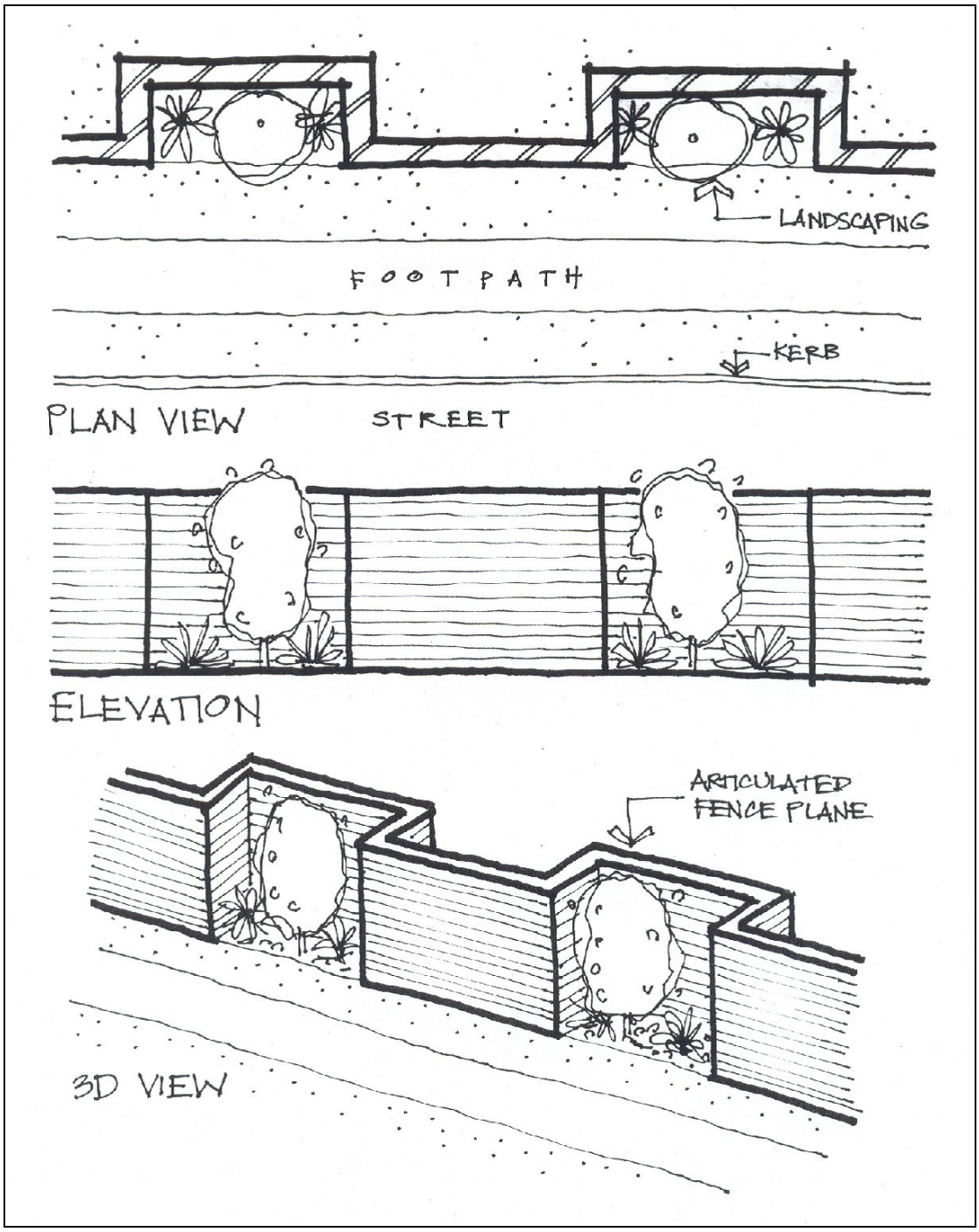
h. Front fence providing detail, landscaping, passive surveillance and security.

i. Appropriate scale. Clearly defines private space. Good passive surveillance.

j. Good mixture of materials. Limited potential for graffiti.

k. Clearly defines private space. Attractive landscaping. Good passive surveillance.

Figure 2: Examples of an articulated fence



Element 2: Building set-backs

Objectives

- To ensure that the set-back of a building from the property boundaries, the height and length of walls, site coverage and visual bulk are acceptable in the neighbouring setting; and
- To ensure habitable rooms of dwellings and private open space within the development and in adjacent developments can receive adequate sunlight, ventilation and amenity.

Performance criteria The building set-back objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
P1 **Front boundary set-back – dwellings and ancillary structures** The set-back of the development from the front boundary of the allotment is consistent with established set-backs, or is consistent with the desired amenity of the locality. Residential development on corner allotments shall address both street frontages. Note: The set-back is measured from the property boundary to the first vertical structural element of the development. No portico, posts, etc shall be any closer than the stated set-back. Note: This applies to a dwelling house and any ancillary structure that is attached or detached to a dwelling house.	Primary frontage A1.1 **R1 and R2 zones -** minimum set-back of 4.5 m from the front property boundary where no streetscape set-back has been established. A1.2 **RU5 zone -** minimum set-back of 10 m from the front property boundary where no streetscape set-back has been established. A1.3 In established areas, infill development is to be set-back the average of the front building set-backs of the adjoining and adjacent dwellings, if the difference between the set-backs of the adjoining buildings is greater than 2 m. Alternatively, a dwelling may be progressively stepped in as detailed in Figure 3, Scenario 3. Secondary frontage A1.4 **R1 and R2 zones -** the secondary (side) set-back is 3 m. Where the corner is splayed, residential development is designed accordingly. A1.5 **RU5 zone -** the secondary (side) set-back is 5 m. Where the corner is splayed, residential development is designed accordingly.
P2 **Side and rear boundary set-backs – dwellings and ancillary structures** The set-back of the development from the side and rear boundaries of the allotment is consistent with established set-backs or is consistent with the desired amenity of the locality.	A2.1 Residential development is set-back such that it complies with the requirements of the Building Code of Australia (BCA).

Performance criteria The building set-back objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Note: The set-back is measured from the property boundary to the first vertical structural element of the development. No portico, posts etc shall be any closer than the stated set-back. Note: This applies to a dwelling house and any ancillary structure that is attached or detached to a dwelling house.	A2.2 **RU5 zone –** the minimum set-back to the side or rear boundary is 5 m.
P3 **Front boundary set-back – garages and carports** The location of garages and carports does not diminish the attractiveness of the streetscape, does not dominate views of the dwelling from the street and integrates with features of associated dwellings.	Primary frontage A3.1 Garages and carports are set-back in the **R1 and R2 zones** a minimum of 5.5 m from the front property boundary and in line with or behind the alignment of the front façade of the dwelling. This does not apply to allotments where the frontage is less than 12 m in width. A3.2 Garages and carports are set-back in the **RU5 zone** a minimum of 10 m from the front property boundary and in line with or behind the alignment of the front façade of the dwelling. Secondary frontage A3.3 Garages and carports in the **R1 and R2 zones** on secondary frontages of corner allotments may extend beyond the alignment of the secondary façade of the dwelling and shall achieve a minimum 5.5 m set-back from the secondary property boundary (see Figure 4). A3.4 Garages and carports in the **RU5 zone** on secondary frontages of corner allotments may extend beyond the alignment of the secondary façade of the dwelling but shall achieve a minimum 5.5 m set-back from the secondary property boundary (see Figure 4).
P4 **Side and rear boundary set-backs – garages and carports** The location of garages and carports does not diminish the attractiveness of the locality and integrates with features of associated dwellings.	A2.1 Garages and carports are set-back such that they comply with the requirements of the BCA.

References
• Dubbo LEP 2011; • Element 3 – Solar Access; • Element 6 – Visual and Acoustic Privacy; • AMCORD (1995) Section 5: Site Planning and Building Design; and • BCA.

Figure 3: Set-backs for infill development in established areas

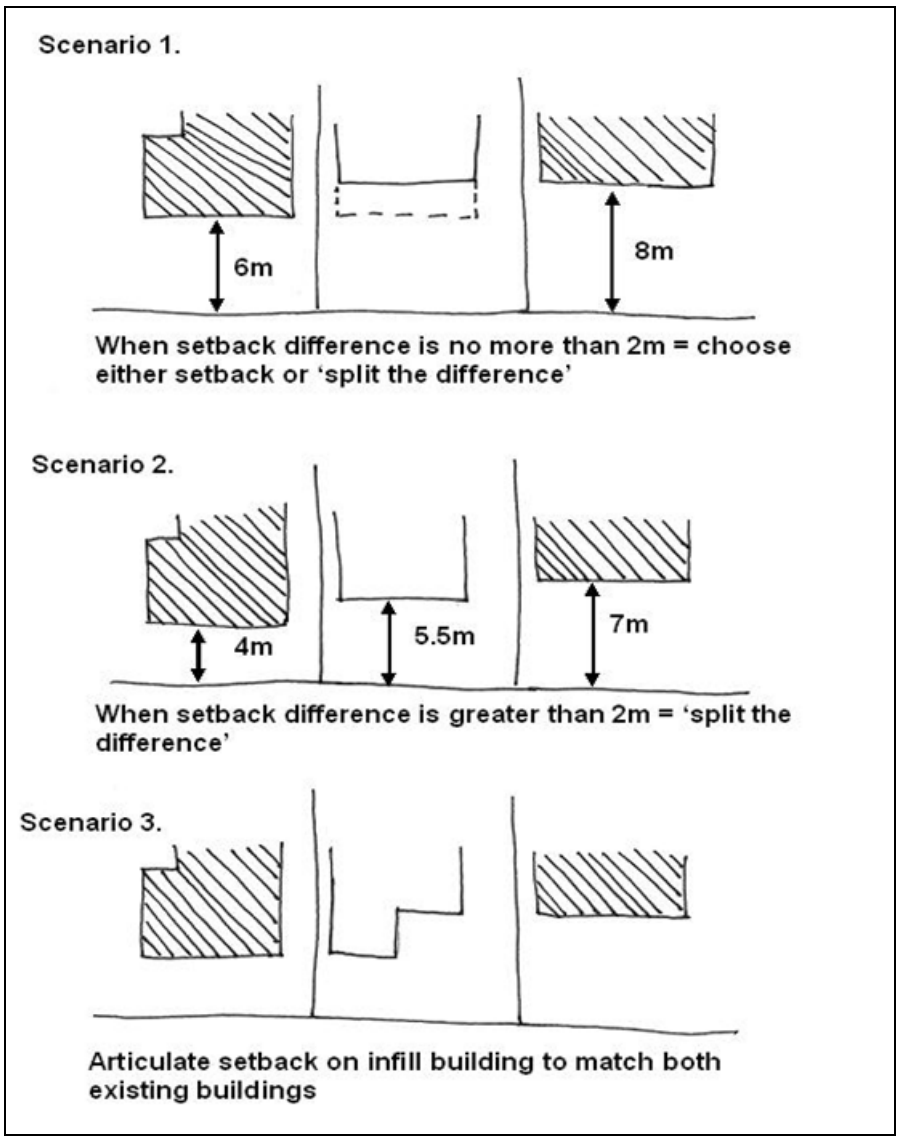


Figure 4: Corner allotment with the main entry to the primary road and the garage to the secondary road, with a set-back minimum of 5.5 metres

Element 3: Solar access

Objectives

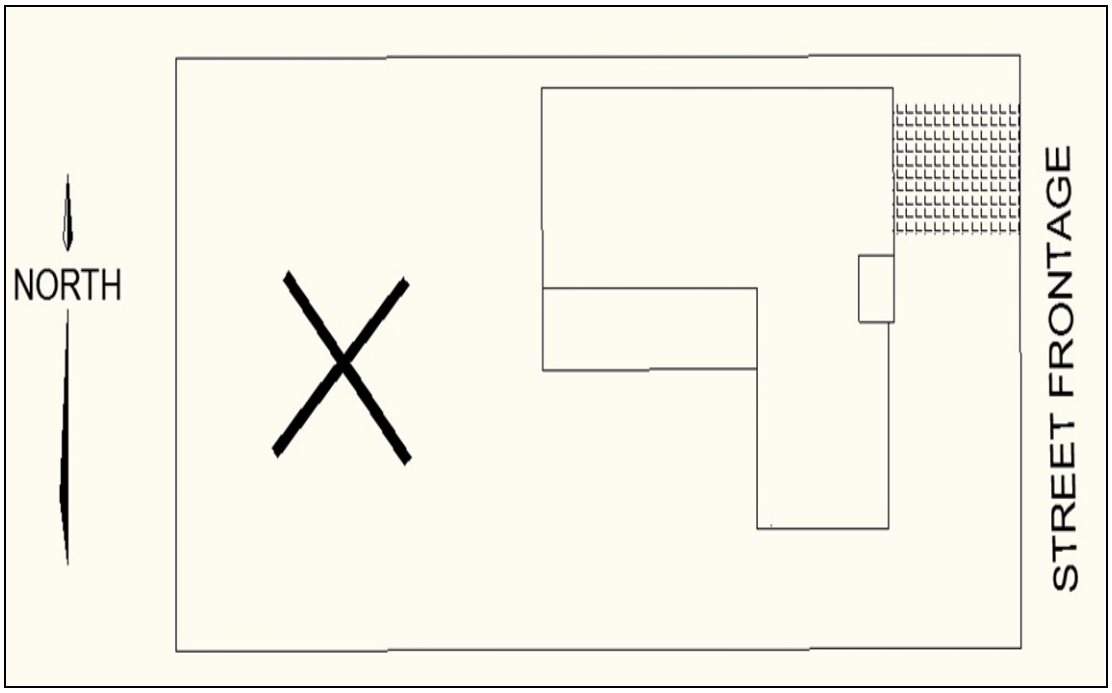
- To ensure all development provides an acceptable level of solar access for occupants; and
- To ensure development does not significantly impact on the solar access and amenity of adjoining and adjacent allotments.

Performance criteria The solar access objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Solar access	
P1 Development is designed to ensure solar access is available to habitable rooms, solar collectors (photovoltaic panels, solar hot water systems etc) private open space and clothes drying facilities. Note 1: Council requires the submission of a shadow diagram to demonstrate the impact of overshadowing on adjoining and adjacent allotments for any residential development above single storey. Shadow diagrams are to be prepared for 9.00 am, 12 noon and 3.00 pm on 22 June. The shadow diagrams are to demonstrate the extent of overshadowing of the proposed and existing development on the subject land and adjacent sites. Note 2: The length of shadows cast by the sun in Dubbo for 22 June is able to be calculated using the information provided at the end of this element.	A1.1 Dwellings are sited in accordance with Figure 5. A1.2 On east/west orientated lots, the set-back on the north-side of the lot is increased to allow for maximum solar access to habitable rooms located on the north-side of the dwelling. A1.3 A roof area sufficient to meet the space requirements for a solar hot water service is provided where it faces within 20^0 of north and receives direct sunlight between the hours of 9.00 am and 3.00 pm on 22 June. A1.4 Outdoor clothes drying areas are located to ensure adequate sunlight and ventilation are provided between the hours of 9.00 am and 3.00 pm on 22 June to a plane of 1 m above the finished ground-level under the drying lines.
P2 The proposed development does not reduce the level of solar access currently enjoyed by adjoining or adjacent allotments.	A2.1 Habitable rooms of adjoining development receive a minimum of four hours solar access between the hours of 9.00 am and 3.00 pm on 22 June. A2.2 Principle private open space of adjoining and adjacent development receives a minimum of four hours solar access over 75% of the main private open space area between 9.00 am and 3.00 pm on 22 June. A2.3 Landscaping is designed to ensure that when mature, required areas of private open space or established BBQ/pergola areas on adjoining allotments maintain solar access on 22 June in accordance with A2.2.

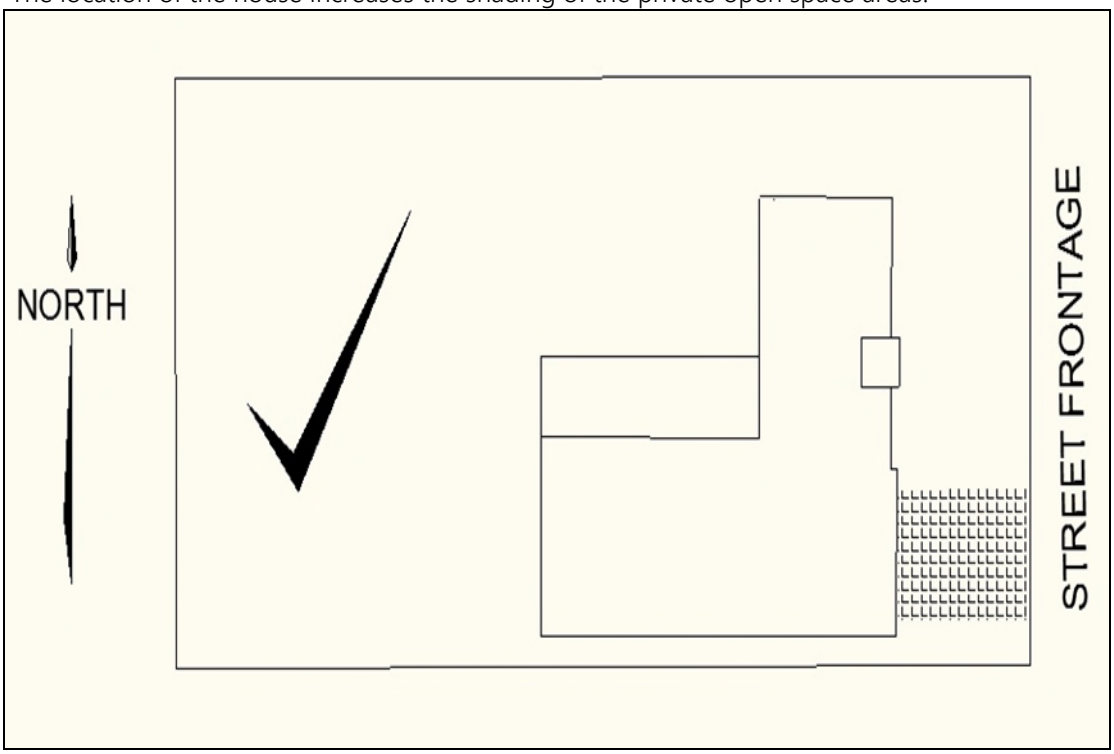
Performance criteria The solar access objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
	A2.4 The solar impact of development shall be shown with the submission of shadow diagrams taken on 22 June (winter solstice). The shadow diagram shall be prepared in accordance with Figure 6.

References
• Element 2 – Building Set-backs; • Element 4 – Private Open Space and Landscaping; and • AMCORD.

Figure 5: Sitting of dwellings on east/west orientated lots



- Dwelling built close to the northern boundary results in little to no winter sunlight being able to enter habitable rooms in the dwelling; and
- The location of the house increases the shading of the private open space areas.



- Dwelling built close to the southern boundary enables winter sunlight to enter habitable rooms in the dwelling; and
- Good solar access to private open space during winter.

Note: 'Habitable rooms' refers to rooms that are most frequently occupied when occupants are not asleep (eg living rooms).

Figure 6: Shadows cast from structures

On 22 June each year the angle of the sun is at its lowest, thereby casting the longest shadow. Development applications are required to show what shadows are cast from their development at 9.00 am, 12 midday and 3.00 pm. This information will enable Council to assess the impact of any overshadowing on adjoining properties.

The angle of the shadows on 22 June is 224^0 at 9.00 am, 182^0 at 12 midday and 137^0 at 3.00 pm, as per Figure X below:

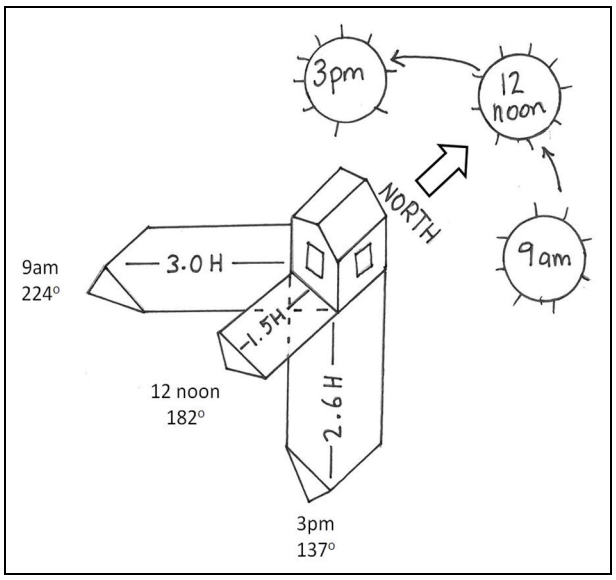


Figure X - Sun angles for 22 June
H = height of structure (eg roof line)

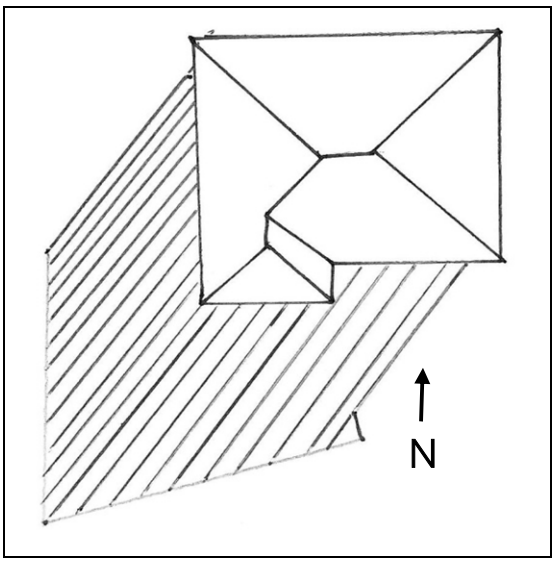


Figure Y – Example shadow diagram for 9.00 am on 22 June

How to calculate shadow length for 22 June (winter solstice)

- Find the height (H) of the object (eg roof gutter)
- Multiply this measurement by the following numbers:

H x **3.0** = length of shadow cast at 9.00 am
H x **1.5** = length of shadow cast at 12 noon
H x **2.6** = length of shadow cast at 3.00 pm

Example: Roof gutter height of 3 m
3 m x **3.0** = 9 m shadow cast at 9.00 am
3 m x **1.5** = 4.5 m shadow cast at 12 noon
3 m x **2.6** = 7.8 m shadow cast at 3.00 pm

Using the site plan which shows the proposed building, draw lines from the corners of the building along the shadow angles appropriate for each time of day as per the example in Figure Y above.

Note: The slope of the site will affect the shadow length.

Element 4: Private open space and landscaping

Objectives

- To provide private outdoor open space that is well-integrated with the development and is of sufficient area to meet the needs of occupants;
- To provide a pleasant, safe and attractive level of residential amenity; and
- To ensure landscaping is appropriate in nature and scale for the site and the local environment.

Performance criteria The private open space and landscaping objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Private open space P1 Private open space is of an area and dimension facilitating its intended use. Note: See Element 3 – Solar Access requirements for private open space development in residential areas.	**Development in residential areas** A1.1 Dwelling houses, dual occupancy and multi-dwelling housing shall have a Principle Private Open Space (PPOS) area, in addition to the general Private Open Space (POS). A1.2 The PPOS area has a minimum area per dwelling of 25 m^2 and a minimum dimension of 5 m (4 m for multi-dwelling housing). This area can include covered (not enclosed) outdoor entertainment areas. A1.3 Dwelling houses and dual occupancies have an overall minimum POS area (including PPOS) of 20% of the site area (excluding the area located forward of the front building line). A1.4 Multi-dwelling housing has an overall minimum POS area (including PPOS) of 5% of the site area per dwelling within the development (excluding the area located forward of the building line).
P2 Private open space is easily accessible by the occupants of the development and provides an acceptable level of privacy.	A2.1 All Principle Private Open Space (PPOS) is directly assessed from the main living area. A2.2 All private open space is located behind the front building line and is screened to provide for the privacy of occupants and the occupants of adjoining properties.
Landscaping P3 Landscaping is provided at a scale and density which is appropriate for the development.	A3.1 Landscaping is provided in accordance with the requirements of the Landscaping Schedule (below). A3.2 The height and density of vegetation at maturity will be suitable to screen and soften the development. A3.3 A landscape plan is required to be provided for assessment with the lodgement of development applications for dual occupancy and multi-dwelling housing developments.

Performance criteria The private open space and landscaping objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
P4	Landscaping is located to not impact infrastructure, development on the site or development adjoining the site.	A4.1 A4.2	Species are selected and located taking into consideration the size of the root zone of the tree at maturity and the likelihood of potential for the tree to shed/drop material. Species are selected and located to ensure that the amenity of adjoining and adjacent properties is not impacted (see Element 3 – Solar Access).
P5	Landscaping is undertaken in an environmentally sustainable manner which limits the time and costs associated with maintenance.	A5.1 A5.2 A5.3 A5.4 A5.5 A5.6	Existing native trees are retained. Species selected are suitable for the local climate. Species selected require a minimal amount of watering (Waterwise Garden). Landscaping does not impact ground-water levels by over-watering resulting in ground-water level increases or the pollution of waters. Landscaping is provided with a timed watering system and moisture meter to determine if watering is required. Sensors are used to control watering systems (see also Element 9).

Landscaping Schedule

A Landscape Plan is required to be submitted with a development application for dual occupancy and multi-dwelling housing developments. The standard of landscape plan is based on either Category 1 or Category 2. The table shown below specifies the level of information required to be included for Category 1 and 2 landscape plans:

Category number	Minimum information standard
1	Details of ground-cover and landscaping shown on the site plan including the following: 1. Location of landscaping on the site. 2. Scientific name of all plant material. 3. Height and characteristics of plant material at maturity. 4. Status of landscaping at planting. 5. Specification of a maintenance regime. 6. The plan shall be drawn to a recognised scale such as 1 to 100. The landscape plan shall be prepared by a building design professional or appropriately qualified and experienced professional preparing the development plans.

Category number	Minimum information standard
2	A separate landscape plan and planting schedule including the following: 1. Location of landscaping on the site. 2. Scientific name of all plant material. 3. Height and characteristics of plant material at maturity. 4. Status of landscaping at planting. 5. Specification of a maintenance regime. 6. Specification of irrigation systems for maintenance of landscaping referencing Council's current standards. 7. Specification that a horticultural professional will supervise implementation of the works in the landscape plan. 8. The plan shall be drawn to a recognised scale such as 1 to 100. The landscape plan and supporting information shall be prepared by a suitably qualified and experienced horticultural professional or landscape architect.

The table provided below details the type of development and the category of landscape plan required to be provided to Council at the time of lodgement of a development application:

Development type	Landscape plan category
Dual occupancy	1
Multi-dwelling housing	2

Note: Please discuss the development with Council's Building and Development Services Branch.

References

- Element 3 – Solar Access;
- Element 9 – Site Facilities; and
- The Tree Booklet – All you need to know about planting and caring for trees in Dubbo (published by DCC).

Element 5: Infrastructure

Objectives

- To encourage residential development in areas where it can take advantage of existing physical and social infrastructure;
- To ensure infrastructure has the capacity or can be economically extended to accommodate new residential development;
- To efficiently provide development with appropriate physical services; and
- To minimise the impact of increased stormwater run-off to drainage systems.

Performance criteria The infrastructure objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
P1	Residential development shall not overload the capacity of public infrastructure including reticulated services, streets, open space and human services.	A1.1	Physical infrastructure is provided by the proponent in accordance with Council's adopted version of NAT Spec and relevant policies.
P2	Design and layout of residential development provides space (including easements) and facilities to enable efficient and cost-effective provision of telecommunication services.	A2.1	Development is connected to a telecommunication system provided in accordance with the requirements of the appropriate authority.
P3	The development is connected to reticulated sewerage, water supply and electricity systems and to natural gas where available.	A3.1	Development is connected to Council's reticulated water supply, stormwater drainage and sewerage system to Council's adopted version of AUSPEC and relevant policies (including separate water meters where the development is to be subdivided).
		A3.2	Where not serviced by Council reticulated water supply in the **RU5 zone**, each dwelling is provided with at least 45,000 litre potable water storage (or 20,000 litre potable water storage if supplemented by an alternative supply) and have ready access to a minimum water supply of 10,000 litres reserved for fire fighting purposes (see Note 1).
		A3.3	Extend and construct electricity supply capable of meeting the needs of the development and locate development where ready access to an electricity supply is available.
		A3.4	Where Council sewerage services are not available, an approved effluent disposal system is installed and located so it is not: - Situated on flood-affected land; - Within or adjacent to drainage lines; and - Likely to contaminate any surface or ground-water supplies.

Performance criteria The infrastructure objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
P4	In areas where drainage infrastructure has little or no excess capacity, developments which would generate stormwater run-off beyond that equivalent to 35% site cover (or beyond that presently generated by the site if greater) should provide for stormwater drainage mitigation or upgrading of the local drainage system.	A4.1 A4.2 A4.3	Onsite stormwater detention shall be provided with delayed release into the stormwater system. Minimal impervious areas shall be provided. An onsite water recycling system shall be provided.

References

- Dubbo LEP 2011;
- AMCORD (1995) Section 2: Physical Infrastructure;
- Dubbo City Council's Section 94 Contribution Plan for Open Space and Recreation Facilities, Urban Roads and Stormwater Drainage;
- Dubbo City Council's Section 64 Contribution Policy for Water and Sewerage;
- Dubbo Infrastructure Strategy;
- Dubbo Urban Areas Development Strategy.

Note: Please discuss the development with Council's Building and Development Services Branch. Water supply storage may be inground or aboveground provided that, with respect to the 10,000 litres reserved for fire fighting purposes, the following is observed:

(a) Where inground (including farm dams) or below ground storage is provided, access for fire fighting should enable draughting of water onto a fire fighting unit with said unit's own drafting equipment; and

(b) Where above-ground storage is provided:

  (i) The outlet for domestic supplies be located at a level above that of the 10,000 litres reserved for fire; and

  (ii) The tank and its man-hole access must be located so that it is accessible by fire fighting units and personnel.

The accessibility of water storage by rural fire fighting units is primarily determined by the reach of their draughting hose, which is a standard 6 m in length.

Element 6: Visual and acoustic privacy

Objectives

- To limit overlooking of private open space and views into neighbouring development;
- To substantially contain noise within each dwelling and to limit noise from communal areas or shared facilities affecting nearby dwellings; and
- To protect internal living and sleeping areas from inappropriate levels of external noise.

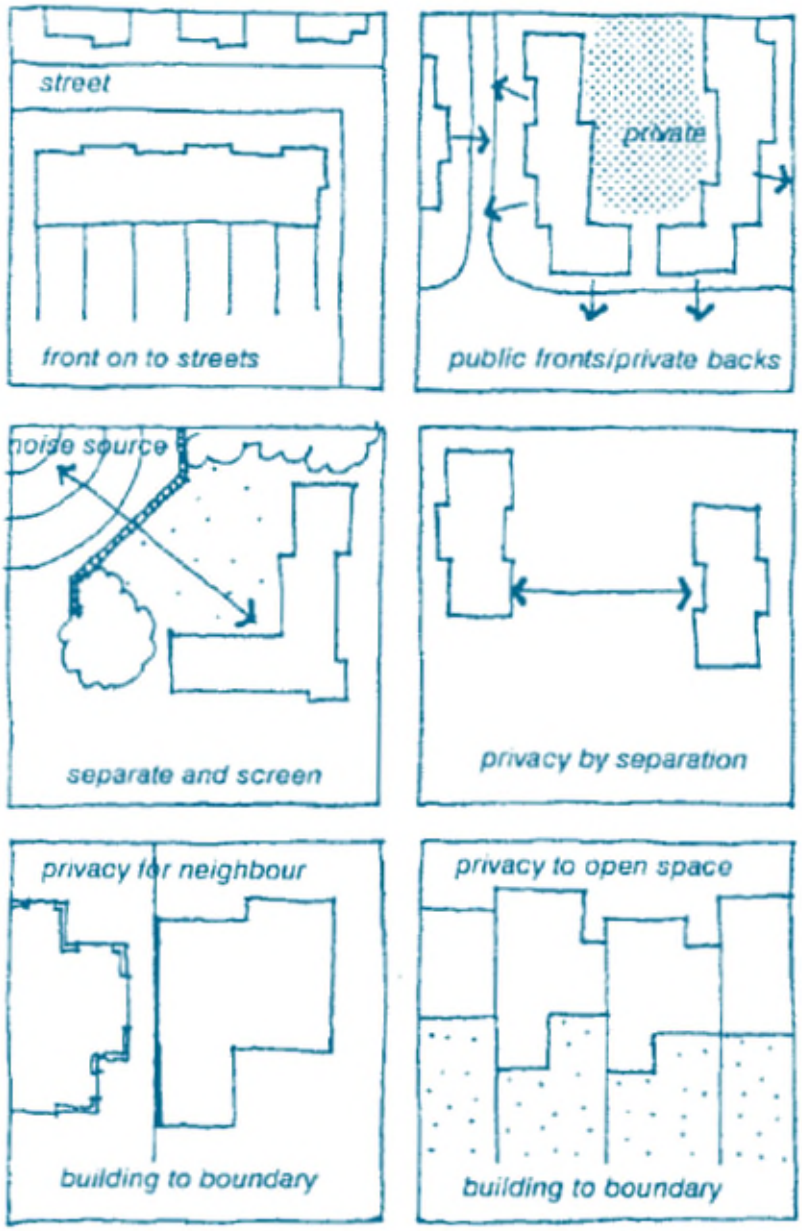
Performance criteria The privacy objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Visual privacy P1 Private open spaces and living rooms of adjacent residential accommodation are protected from direct overlooking by an appropriate layout, screening device and distance. Note: No screening is required if: – Bathrooms, toilets, laundries, storage rooms or other non-habitable rooms have translucent glazing or sill heights of at least 1.5 m. – Habitable rooms having sill heights of 1.5 m or greater above floor level or translucent glazing to any window less than 1.5 m above floor level. – Habitable rooms facing a property boundary have a visual barrier of at least 1.5 m high (fences and barriers other than landscaping are not to be any higher than 1.8 m) and the floor level of the room is less than 0.6 m above the level of the ground at the boundary.	A1.1 Windows of habitable rooms with an outlook to habitable room windows in adjacent development within 10 m: – Are offset a minimum distance of 1 m from the edge of the opposite window in the proposed development; – Have a sill height of 1.5 m above floor level; – Have a fixed obscure glazing in any window pane below 1.5 m above floor level; or – Have screens which obscure the view from habitable room windows, balconies, stairs, landings, terraces and decks or other private, communal or public areas within a development into private open space and/or habitable rooms of existing residential accommodation (see Figure 7). A1.2 Screens are solid, translucent or perforated panels or trellis which: – Have a minimum of 25% openings; – Are permanent and fixed; – Are of durable materials such as galvanised steel, iodised aluminium or treated timber; and – Are painted or coloured to blend in with the surrounding environment (see Figure 7). A1.3 Windows and balconies of residential accommodation shall be designed to prevent overlooking of more than 50% of the private open space of any adjoining residential accommodation (see Figure 7).

Performance criteria The privacy objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Acoustic privacy P2 The transmission of noise to and the impact upon habitable rooms within the proposed development and adjoining and adjacent development is minimised.	A2.1 Living rooms or garages of residential accommodation do not adjoin or abut bedrooms of adjacent residential accommodation. A2.2 The plumbing of residential accommodation is separate and contained sufficiently to prevent transmission of noise. A2.3 Electrical, mechanical or hydraulic equipment or plant generating a noise level no greater than 5dBA above ambient L^{90} sound level at the boundary of the property. A2.4 Dividing walls and floors between residential uses are constructed in order to comply with the requirements of part F5 of the BCA (Class 2 and 3 buildings only). A2.5 Residential accommodation is constructed to ensure habitable rooms are not exposed to noise levels in excess of the standards contained in the relevant Australian Standard(s) including AS 3671 – Road Traffic.

References

- Dubbo LEP 2011;
- AMCORD (1995) Section 5: Site Planning and Building Design;
- BCA; and
- AS 3671 – Roads Traffic - 'Reducing Traffic Noise' (RTA, August 1991).

Figure 7: Diagrams representing visual privacy.



Element 7: Vehicular access and car parking

Objectives

- To provide adequate and convenient parking for residents, visitors and service vehicles;
- To ensure street and access ways provide safe and convenient vehicle access to dwellings and can be efficiently managed; and
- To avoid parking and traffic difficulties in the development and the neighbourhood.

Performance criteria The vehicular access and parking objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Parking provision P1 Car parking is provided according to projected needs, the location of the land and the characteristics of the immediate locality.	A1.1 Dwelling houses and dual occupancy development provide the following vehicle parking: – One bedroom dwelling – one car parking space per dwelling, situated behind the front building set-back; and – Dwelling with two or more bedrooms – two car parking spaces per dwelling. At least one of the required spaces shall be situated behind the front building set-back.
	A1.2 Multi-dwelling housing development provides the following vehicle parking behind the front building set-back: – One bedroom unit – one car parking space per unit; – Two or more bedroom unit – two car parking spaces per unit; and – Visitor parking – one car parking space for every four units or part thereof with a minimum of one car parking space.

Performance criteria The vehicular access and parking objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Design P2 Car parking facilities are designed and located to: – Conveniently and safely serve users including pedestrians, cyclists and vehicles; – Enable efficient use of car spaces and accessways including adequate manoeuvrability for vehicles between the street and the lot; – Conform to the adopted street network hierarchy and objectives of the hierarchy and along with any related local traffic management plans; – Be cost effective; and – Protect the streetscape.	A2.1 The dimensions of car spaces and access comply with Section 3.5 Parking. A2.2 Accessways and driveways are designed to enable vehicles to enter the designated parking space in a single turning movement and leave the space in no more than two turning movements. A2.3 Vehicles in multi-development housing shall enter and exit development sites in a forward direction. A2.4 Where five or more car spaces (or three or more dwellings) are served, or a driveway connects to a distributor road, manoeuvring space is provided to make it unnecessary for cars to reverse on to or off the road. The entrance is at least 5 m wide for a distance of 7 m to allow vehicles to pass each other. A2.5 The design and appearance of garages and carports shall: – Be in line with or behind the alignment of the front façade of the dwelling (noting that they cannot be less than 5.5 m from the front property boundary in the R1 and R2 zones) or 10 m in the RU5 zone; – Garages and carports on secondary frontages of corner allotments may extend beyond the alignment of the secondary façade of the dwelling but shall achieve a minimum 5.5 m set-back from the secondary property boundary (see Figure 4); – Lots with a narrow frontage of 15 m or less have a single width garage/carport; – Large parking areas are broken up with trees, buildings or different surface treatments; – Parking is located so that the front windows of a dwelling are not obscured; – The dwelling design highlights the entry and front rooms rather than the garage; and – Garages are located under the roof of two-storey dwellings (eg terrace houses).

Performance criteria The vehicular access and parking objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Driveways and access points P3 For multi-housing development, driveways and access points are designed for maximum safety to resident motorists, passing motorists and pedestrians.	A3.1 Driveways comply with the following; – Are not less than 3 m wide; – At changes of direction or at intersections, the internal radius of the driveway is at least 4 m; – Where longer than 50 m (eg battle-axe handles) provision for passing is provided; – Where five or more car spaces (or three or more dwellings) are served, or a driveway connects to a distributor road, manoeuvring space is provided to make it unnecessary for cars to reverse on to or off the road. The entrance is at least 5 m wide for a distance of 7 m to allow vehicles to pass each other; – Not within 6 m to a road intersection (see Figure 8). – The access point is located via the minor road where the site is bound by a major and a minor road; – Access points do not conflict with existing vehicle or pedestrian generators; – Access points are located so that stopping sight distances are adequate for the design speed of the road (ie in accordance with AUSTROADS Guidelines 'Guide to Traffic Engineering Practice, Part 5 – Intersections at Grade'); – Flood-free vehicle access is provided; and – Driveway gates do not open across the footpath/public road. A3.2 Where the driveway passes through solid fencing higher than 1.2 m, the fencing is splayed into the property to make pedestrians visible when reversing.

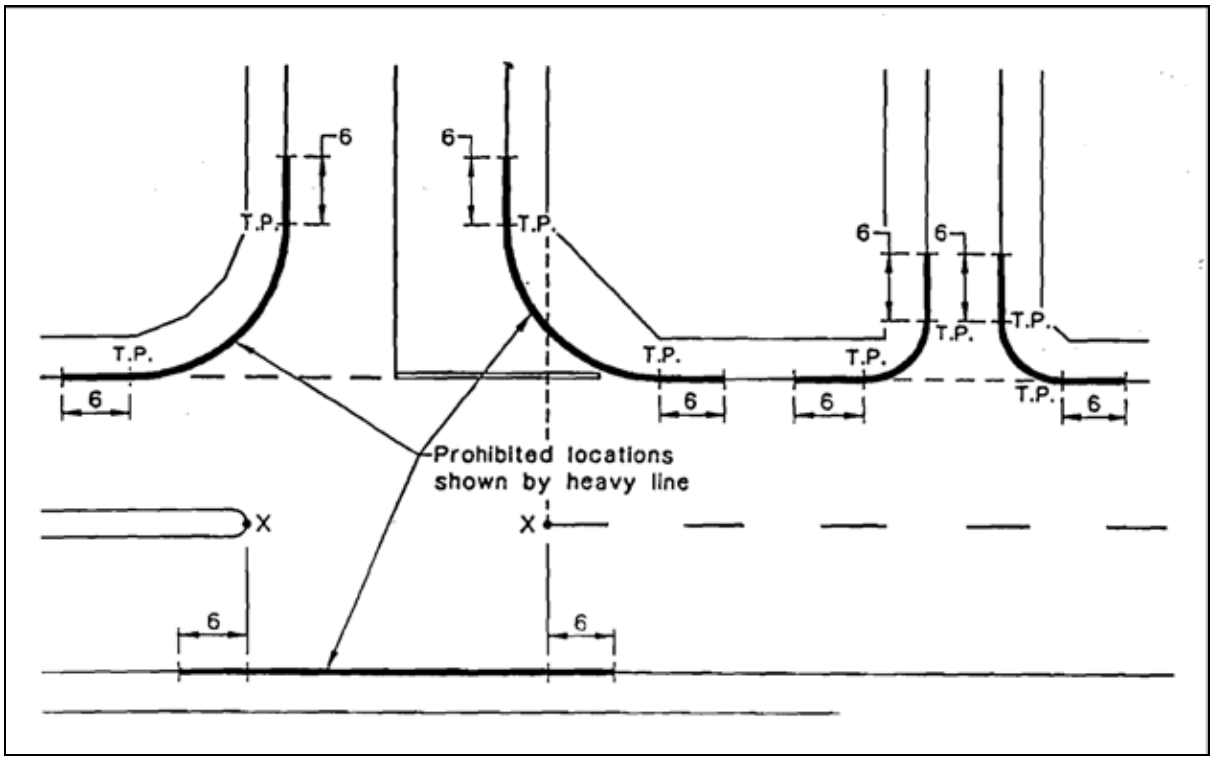
Performance criteria The vehicular access and parking objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Access points RU5 zone P4 Minimise the number of access points, provide safe access, ensure vehicle egress in a forward direction and does not impede the flow of stormwater.	A4.1 All developments have access from a road maintained by Council. Where access is not available such access will be constructed at full cost to the developer in accordance with Council's requirements. A4.2 Culvert pipes are provided where required and accesses are constructed to maintain the flow of stormwater through table drains and other drainage structures.
Access points off highways P5 Development abutting highways (Newell, Mitchell and Golden Highway) minimise the number of access points, provide safe access, ensure vehicle egress in a forward direction and not impede the flow of stormwater.	A5.1 To be undertaken in accordance with the requirements of Roads and Maritime Services (RMS) A5.2 Other road frontages are used if alternatives are available. A5.3 The number of access points onto a highway is not greater than the number of existing access points. A5.4 Culvert pipes are provided where required and accesses are constructed to maintain the flow of stormwater through table drains and other drainage structures.
Security P6 For multi-housing development, open car parking areas and accessways are suitably landscaped to enhance the amenity while providing for the security needs of residents and visitors.	A6.1 Car parking facilities are designed and located so as they: – Are adjacent and convenient to residential uses; – Are secure or allow surveillance from residential accommodations; – Are lit at night; – Are well-ventilated if enclosed; – Do not obscure the view between the street and front windows; – Clearly define any visitor parking; and - Clearly separated from habitable room windows to minimise noise and fumes entering residential accommodation.
Emergency vehicle access P7 Standing and turning areas for service, emergency or delivery vehicles are provided where access to any dwelling from a public street is remote or difficult.	A7.1 Accessways into multi-housing development are designed to cater for an 'AUSTROADS 8.8 m length Design Service Vehicle'.

Performance criteria The vehicular access and parking objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Surface treatment P8 Driveways, car parks and access points are designed in accordance with Section 3.5 Parking.	A8.1 Car spaces, accessway and driveways are formed, defined and drained to a Council drainage system and surfaced with: – An all-weather seal such as concrete, coloured concrete, asphalt or mortared pavers. – Stable, smooth, semi-porous paving material (such as brick, stone or concrete pavers) laid to the paving standard of light vehicle use.
Location of driveways and accessways from residential uses P9 Shared driveways, accessways and car parks of other dwellings are set-back from habitable rooms of adjoining residential uses to enhance resident's privacy.	A9.1 Shared driveways, accessways and car parks of other residential uses are set-back a minimum of 1.5 m from windows to habitable rooms of residential accommodation unless the floor level of the dwelling is at least 1 m above the driveway. The set-back may be reduced to 1.0 m when the driveway etc is bound by a fence of 1.5 m in height.

References

- Council's Section 3.5 Parking;
- AUSTROADS Guidelines 'Guide to Traffic Engineering Practice, Part 5 – Intersections at Grade';
- Aus-Spec (DCC version) Development Series – Design and Development Specification Series – Construction; and
- AMCORD.

Figure 8: Prohibited location of driveways



Note: T.P. – Tangent point in kerb

Element 8: Waste management

Objective

- To ensure waste disposal is carried out in a manner which is environmentally responsible and sustainable.

Performance criteria The waste management objectives may be achieved where:	Acceptable Solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Domestic solid waste	
P1 Domestic solid waste is disposed of in an environmentally responsible and legal manner.	A1.1 Residential accommodation shall participate in Council's garbage and recycling materials collection service. A1.2 Organic waste shall be composted. A1.3 Recycling of wastes such as paper (mulch in garden), plastics, glass and aluminium. A1.4 Reuse of waste such as timber. A1.5 Dispose of waste to a Council-approved waste facility or transfer station.
P2 The amount of liquid waste generated is minimised.	A2.1 The use of dual-flush toilet systems and water saving fittings and appliances.
P3 Where no reticulated sewage system is available, the ability to reuse treated waste water is maximised where there is minimal risk of contamination to the aquifer or ground-water supplies.	A3.1 Subject to site suitability, the use of aerated wastewater treatment systems (AWTS) which enable treated effluent to be used to water trees and gardens. Note 1: AWTS enable treated effluent to be irrigated onto trees, gardens, lawn etc. Treated effluent shall not be used to irrigate passive or active recreation areas or used to grow vegetables or fruit for human consumption. Note 2: Recommended buffer distances for onsite sewage disposal systems are included in the table below.
P4 Adequate space is provided to store waste collection bins in a position which will not adversely impact upon the amenity of the area.	A4.1 Waste collection bins are stored behind the building line.

Recommended Buffer Distances for Onsite Sewage Disposal Systems (Local Government Environment and Health Guidelines: Onsite Sewage Management for Single Households 1998)	
System	**Recommended Buffer Distances**
All land application systems	– 100 m to permanent surface waters (eg river, streams, lakes etc). – 250 m to domestic ground-water well. – 40 m to other waters (eg farm dams, intermittent waterways and drainage channels etc).
Surface spray irrigation	– 6 m if area up-gradient and 3 m if area down-gradient of driveways and property boundaries. – 15 m to dwellings. – 3 m to paths and walkways. – 6 m to swimming pools.
Surface drip and trickle irrigation	– 6 m if area up-gradient and 3 m if area down-gradient of swimming pools, property boundaries, driveways and buildings.
Subsurface irrigation	– 6 m if area up-gradient and 6 m if area down-gradient of swimming pools, property boundaries, driveways and buildings.
Absorption system	– 12 m if area up-gradient and 6 m if area down-gradient of property boundaries. – 6 m if area up-gradient and 3 m if area down-gradient of swimming pools, property boundaries, driveways and buildings.

References

- Dubbo LEP 2011;
- Protection of the Environment Operations Act 1997; and
- Local Government Environment and Health Guidelines: Onsite Sewage Management for Single Households 1998.

Note: No waste is to be disposed of onsite by burial, burning or any other means without the lawful authority of Dubbo City Council and/or the EPA; and

Details of all wastes, their source and their proposed means of disposal are to be submitted to Council with a development application.

It is an offence under the Protection of the Environment Operations Act 1997 to unlawfully dispose of waste on land.

Element 9: Site facilities

Objective

- To ensure that site facilities are functional, readily accessed from dwellings, visually attractive, blend in with the development and street character and require minimal maintenance.

Performance criteria The site facilities objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Mail boxes	
P1 Mail boxes are located for convenient access by residents and the delivery authority.	A1.1 Individual mail boxes are located to each ground-floor entry of residential accommodation or a mail box structure is located close to the major pedestrian entrance to the site.
Storage areas	
P2 Each dwelling within a multi-housing development is provided with adequate storage areas and external clothes drying facilities.	A2.1 A space of 8 m^3 with a minimum horizontal surface area of 6 m^2 per dwelling is set aside exclusively for storage. This space may form part of a carport or garage but shall be dedicated for storage. A2.2 Open air, communal clothes drying facilities are easily accessible to all residents and visually screened from public streets, communal streets and recreational areas.
Security	
P3 Car parking areas and pedestrian access-ways to the entry of multi-housing development are adequately lit at night for safety and security of residents and visitors.	A3.1 Car parking areas and pathways are lit in accordance with AS 1158.
Antennae	
P4 Telecommunications facilities are provided to serve the needs of residents and do not present any adverse visual impacts.	A4.1 The number of television antennae and other receiving structures is kept to a minimum or, where appropriate, a receiver is provided to serve all dwellings within a single building.

References
AMCORD (1995) Section 5: Site Planning and Building Design.

Element 10: Non-residential uses

Objective

- To ensure non-residential development is of a type, scale and character which will maintain an acceptable level of amenity.

Performance criteria The non-residential objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Amenity	
P1 Non-residential use does not result in detrimental impacts to residential amenity having regard to traffic, parking, noise, odour, signage and safety.	A1.1 The scale and character of non-residential buildings is compatible with the residential nature of the locality. A1.2 The level of noise and volume of traffic is not greater than the expected level associated with the regular activities of a residential area. A1.3 Car parking is provided and designed appropriate for the site. A1.4 Traffic can manoeuvre in and out of the site in a forward direction. A1.5 Noise from the development does not exceed the background noise level (LA^{90}) by more than 5dB(A) during approved business hours and does not exceed the background noise level at any frequency outside approved business hours. A1.6 Hours of operation are to be restricted to normal business hours.

Element 11: Signage

Objectives

- The residential character of the locality is maintained; and
- Any signage is appropriate for the locality and does not detract from the development or the street character.

Performance criteria The signage objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Signage P1 Signs are appropriate for the nature of the business and the locality.	A1.1 Signage shall: – Be non-moving; – Relate to the lawful use of the building (except for temporary signs) on which the sign is located; – Not be detrimental to the character and functioning of the building; – Not cover mechanical ventilation inlet or outlet vents; – Not obstruct the sight line of vehicular traffic; – Not obstruct pedestrian traffic; and – Not be illuminated or flashing.
Business identification signs P2 Signs are appropriate for the nature of the business and the locality.	A2.1 Home-based child care, home business, home industry and home occupation development signage shall: – Meet the general requirements for signage (P1); – Have one sign per premises. – Have a maximum area—0.75 m^2; and – Not advertise specific products or brands. Note: Signs meeting the above requirements will not require development approval.
	A2.2 Permissible non-residential development signage shall: – Meet the general requirements for signage (P1); – Have one sign per premises; and – Have a maximum area1.5 m^2. Note: Signs meeting the above requirements will not require development approval.

Performance criteria The signage objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Real estate signs (advertising premises or land for sale or rent) P3 Signs are appropriate for the residential locality and are of a temporary nature.	A3.1 Real estate signage shall: – Meet the general requirements for signage (P1); – Have a maximum area—3 m^2; and – Be removed within seven days after the premises or land is sold or let. Note: Signs meeting the above requirements will not require development approval.
Temporary signs (special events) P4 Signs are appropriate for the residential locality and are of a temporary nature.	A4.1 Temporary (special events) signage shall: – Meet the general requirements for signage (P1); – Have a maximum two signs onsite; – Have a maximum one sign off site, which if located in a road reserve shall be acceptable to the relevant road authority in terms of location, traffic and pedestrian safety; – Have a maximum area 1.5 m^2 and maximum height of 1.5 m; – Not include commercial advertising apart from the name of any event sponsors; and – Not be displayed earlier than one month before or later than two days after the event. Note: Signs meeting the above requirements will not require development approval.

Element 12: Detached development (outbuildings, sheds, garages)

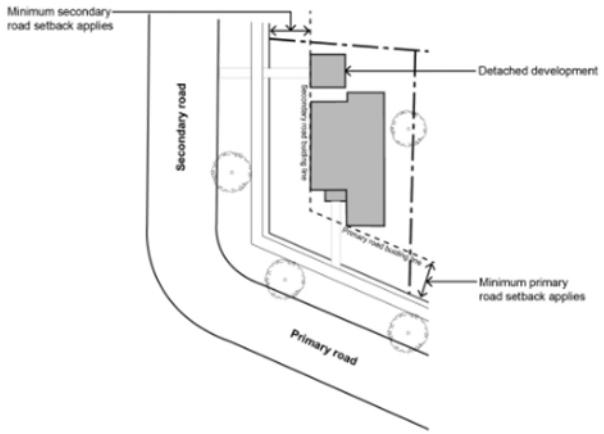
Objectives

- To ensure detached development, outbuildings, sheds and garages integrate with development on site;
- To ensure the development maintains appropriate private open space;
- To ensure the development is of a scale, size and character that is appropriate for the urban environment and the size of the lot; and
- To ensure that the structures do not detrimentally impact upon the amenity of adjoining residents.

<table>
<tr><th>Performance criteria
The signage objectives may be achieved where:</th><th>Acceptable solutions
The acceptable solutions illustrate one way of meeting the associated performance criteria:</th></tr>
<tr><td>P1 Detached development is of a height reflecting its intended use and in keeping with the urban environment.</td><td>A1.1 Detached development has a maximum height of 4.5m above existing ground level.

Note: Building height is defined in the Dubbo Regional LEP 2022.</td></tr>
<tr><td>P2 Detached development has a floor area that is proportionate with the size of the lot, and maintains sufficient private open space</td><td>A2.1 The maximum gross floor (GFA) area of all detached development is the following:

Lot size — Max GFA
200m² - 300m² — 36m²
>300m² - 600m² — 60m²
>600m² - 900m² — 90m²
>900m² - 1500m² — 120m²
>1500m² - 2000m² — 150m²
>2000m² — 180m²

A2.2 Detached development maintains the overall minimum Principal Private Open Space and Private Open Space area in accordance with Element 4: Private open space and landscaping.</td></tr>
<tr><td>P3 Detached development is appropriately sited to minimise impacts on the streetscape.</td><td>A3.1 Detached development is located behind the building line of a dwelling house that is adjacent to any primary road or secondary road.
 

A3.2 Detached development maintains the setback requirements of Element 2</td></tr>
</table>

Performance criteria The signage objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
P4 Detached development is appropriately setback from the side and rear boundaries.	A4.1 Detached development is setback a minimum of the following from the side and rear boundaries: Setback — Wall height 0.5 metres — 2.4 metres 0.9 metres — 2.7 metres 1.5 metres — 3.0 metres 2.1 metres — 3.6 metres Note: Wall in this clause refers to a generally certical external portion of a building that supports the roof structure, and includes a gable end, column or pier. A4.2 Detached development maintains the setback requirements of Element 2.

2.1.2 Residential Design – Residential flat buildings and shop-top housing

This section is designed to encourage 'best practice' solutions and clearly explain Council's requirements for residential flat buildings and shop-top housing development in residential, commercial and village zones where applicable.

The objectives of this section are:

- To facilitate a mix of dwelling sizes complementing the character of the area and that provide accommodation for all sectors of the community; and
- To facilitate medium density residential accommodation in and surrounding the commercial centres, utilising the existing infrastructure and supporting the leisure and entertainment facilities within the central business district.

This chapter lists design elements under the following headings:

Element 1	Streetscape character
Element 2	Building set-backs
Element 3	Solar access
Element 4	Private and communal open space and landscaping
Element 5	Infrastructure
Element 6	Visual and acoustic privacy
Element 7	Vehicular access and car parking
Element 8	Waste management
Element 9	Site facilities
Element 10	Signage

Each design element has been structured so that it contains:

- 'Objectives' describing the required outcomes;
- 'Performance criteria' outlining the range of matters that need to be addressed to satisfy the objectives (ie the performance criteria explains how an objective is to be achieved);

Note: Not all performance criteria will be applicable to every development.

- 'Acceptable solutions' are specific measures which illustrate one way of meeting both the performance criteria and objectives of an element. They are examples only and are not mandatory; and
- 'References' to relevant clauses of the Dubbo LEP 2011, other relevant legislation, Council policies and literature relevant to the design element.

List of 'secondary' Sections

The following Sections provide a guide to matters that may need to be addressed in relation to the proposed development:

- Section 3.1 Access and Mobility;
- Section 3.4 Heritage Conservation; and
- Section 3.5 Parking.

State Environmental Planning Policy 65 – Design Quality of Residential Flat Development

Residential flat building development as defined below is required to achieve design quality in accordance with the design quality principles and have regard to the publication *Residential Flat Design Code* (a publication of the Department of Planning, September 2002).

The design quality principles are:

Principle 1	Context
Principle 2	Scale
Principle 3	Built form
Principle 4	Density
Principle 5	Resource, energy and water efficiency
Principle 6	Landscape
Principle 7	Amenity
Principle 8	Safety and security
Principle 9	Social dimensions and housing affordability
Principle 10	Aesthetics

Note: Class 1a and Class 1b buildings are commonly referred to as *town houses* or *villas* where the dwelling units are side by side rather than on top of each other.

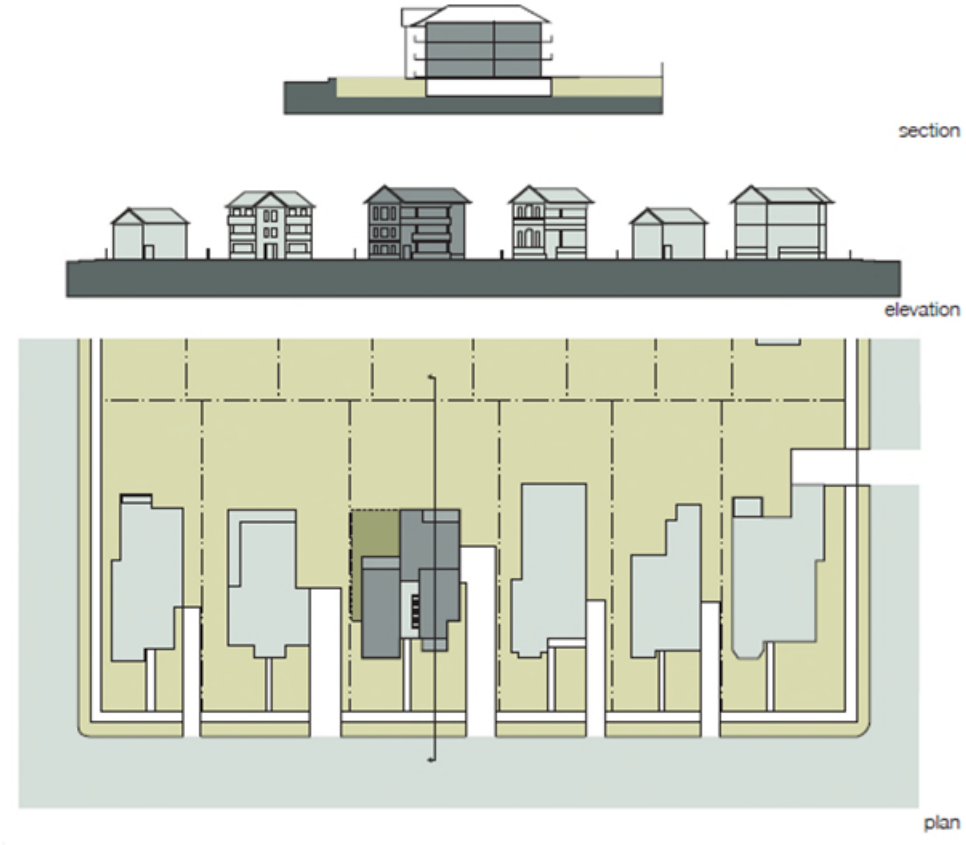


Plate 2: Example of quality residential flat design

Element 1: Streetscape character

Objectives

- To design residential flat building and shop-top housing development to complement existing streetscape and neighbourhood character and in particular areas of identified and valued character including heritage precincts; and
- To design residential flat building and shop-top housing development in keeping with the desired future streetscape and neighbourhood character.

Performance criteria The streetscape character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Building size and orientation P1 Building size shall be consistent with the intentions for the area.	A1.1 Maximum gross floor area is 0.8:1 for residential flat buildings. A1.2 The site area is a minimum of 700 m^2 and has a minimum frontage of 20 m for residential flat buildings. A1.3 The building height at any point is no more than 13 m from ground level to the underside of the ceiling of any habitable room (approximately four-storeys above ground level). A1.4 Walls longer than 10 m are articulated with a variation of not less than 600 mm for a minimum length of 4 m.
Design for safety P2 Development proposals shall be designed incorporating Crime Prevention Through Environmental Design (CPTED) principles. Note: For guidance on assessing the incorporation of crime prevention through environmental design principles, refer to the Crime Prevention Through Environmental Design (CPTED) Planning Scheme Policy.	A2.1 Building design and layout incorporates the following features: – Opportunities for casual surveillance and sightlines (eg windows overlooking parking and communal areas); – Exterior building designs which promote safety (eg clearly visible foyers); – Adequate definition of uses and ownership (eg landscaping to define private and communal space); – Adequate lighting (eg lighting of potential entrapment locations); – Appropriate way-finding mechanisms (eg signage); and – Minimisation of predictable routes and entrapment locations (eg concealed spaces near building entry).

Performance criteria The streetscape character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
P3 Building elevations visually balance the height of the building reducing the appearance of building bulk.	A3.1 Building bulk is reduced by a combination of the following design elements: – Variations in plan shape such as curves, steps, recesses, projections or splays; – Variations in the treatment and patterning of windows, sun protection devices or other elements of a façade; – Elements of a finer scale than the main structural framing. – Balconies, verandahs, terraces or sun shading devices; and – Light coloured materials. A3.2 Elevations show variation in materials, colours and textures between levels. A3.3 Roof design can include pitched, gable or skillion. A3.4 Services structures and mechanical plant are fully screened or designed as part of the building. Note: See Plate 3 for an example of a well-articulated building.
Built form P4 The frontage of buildings and their entries are readily apparent from the street.	A4.1 Buildings parallel to the public street address the street by having a pedestrian entrance and units facing the street. A4.2 Where residential flat building or shop-top housing is situated on corner blocks (where one is not a lane), the development is designed to address each street frontage.
P5 Building height at the street frontage maintains a compatible scale with adjacent development.	A5.1 Differences in building height between existing buildings and new development is not more than one storey. A5.2 Where a building is adjoined on either side by a single storey building, the second storey is set-back a minimum of 3 m from the front of the building to achieve a stepped height.
P6 The development is to be designed to respect and reinforce the positive characteristics of the neighbourhood.	A6.1 In undertaking an analysis of the neighbourhood characteristics, a proponent shall consider: – Built form; – Bulk and scale; – Vegetation; and – Topography.

Performance criteria The streetscape character objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
		A6.2	Design elements to consider include: – Massing and proportions; – Roof form and pitch; – Floor to ceiling height; – Façade articulation and detailing; – Window and door proportions; – Features such as verandahs, eaves and parapets; – Building materials, patterns, textures and colours; – Decorative elements; – Vehicular footpath crossing (location and width); – Fence styles; and – Building set-backs.
P7	In streets which do not have an identified or valued character, new development is designed to be of a residential scale consistent with the character of surrounding development and is detailed to enhance the streetscape.	A7.1	Conformity with the relevant 'Acceptable Solutions'.
P8	Walls visible from the street are adequately detailed for visual interest.	A8.1 A8.2	This may be achieved by recesses, windows, projections or variations of colour, texture or materials. Walls longer than 10 m are articulated with a recess of not less than 600 mm for a minimum length of 4 m.
P9	Garages and parking structures are sited and detailed to ensure they do not dominate the street frontage, integrate with features of the dwelling and do not dominate views of the dwelling from the street.	A9.1 A9.2	Garages and parking areas are not situated in the front set-back. Garages and parking areas can be secured and shall be allocated to each unit in accordance with the parking rate for the development.
Fencing P10	Fencing is consistent with the existing character of the area.	A10.1	Fences should take elements from neighbouring properties where elements are representative of the character of the street.
		A10.2	Fences adjoining heritage-listed properties are constructed of timber palings or other materials associated with the architecture and character of the area.

Performance criteria The streetscape character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
P11 Front fences enable outlook from the development to the street or open space to facilitate surveillance and safety. Front fences provide noise attenuation on main roads or highways roads. Front fences provide security in areas where there is a difference of land use (eg residential and commercial or industrial).	A11.1 Front fences and secondary boundary fences have a maximum height of 1.2 m if solid and less than 50% transparent or 1.5 m if greater than 50% transparent. A11.2 Solid fences to main roads or highways for the purposes of noise attenuation may be considered to a height of 1.8 m provided that: – The fence does not exceed 5 m in length without articulation or detailing to provide visual interest (see Figure 2); – The fence is constructed of materials which are consistent with those used in the development on the site and adjoining developments (other than metal); and – The fence is softened with the use of landscaping. – The fence does not adversely affect vehicular or pedestrian sight distances, especially on corner lots. Note: Schedule 1 – Reducing Traffic Noise provides some technical information on fencing and noise.
P12 Gates are designed to ensure pedestrian and motorist safety. Note: Gates are not permitted to open across the footpath (Clause 21, Roads Regulation 2008).	A12 Where a driveway is provided through a solid fence adequate visibility for the driver is maintained.

References
• Dubbo LEP 2011; • AMCORDS (1995) Section 4.3: 'Streetscape and Neighbourhood Character'; • NSW Heritage Office 'Conservation Areas' and 'In-fill' publications; and • SEPP 65 – Design Quality of Residential Flat Development.

Plate 3: Example of a well-articulated building

Element 2: Building set-backs

Objectives

- To ensure that the set-back of a residential flat building or shop-top housing development from the property boundaries, the height and length of walls are acceptable in the neighbourhood setting; and
- To ensure habitable rooms of dwellings, private open space and communal open space within the development and in adjacent developments receive adequate sunlight and ventilation.

Performance criteria The street set-back objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
P1 The set-back of the development from the front boundary of the allotment is consistent with established set-backs or is consistent with the desired amenity of the locality. Residential development on corner allotments shall address both street frontages. Note: The set-back is measured from the property boundary to the first vertical structural element of the development. No portico, posts, etc shall be any closer than the stated set-back.	A1.1 A minimum set-back of 4.5 m from the front property boundary. The requirement is the same for secondary frontages and the development shall address the secondary frontage. A1.2 In established areas, infill development is to be set-back the average of the adjoining building set-backs if the difference between the set-backs of the adjoining buildings is greater than 2 m (see Figure 3). Alternatively, a development may be progressively stepped as detailed in Figure 3, Scenario 3. A1.3 Residential development is set-back from side and rear boundaries in compliance with the requirements of the BCA.
P2 The set-back of the development from the side boundaries of the allotment is consistent with established set-backs or is consistent with the desired amenity of the locality. Larger buildings address issues of bulk, scale, privacy and solar access. Note: The set-back is measured from the property boundary and the wall face of the development.	A2.1 The side boundary set-back for residential flat buildings is a minimum of: – 1.5 m for a wall up to 4.5 m high; – 2 m for a wall up to 7.5 m high; – 2 m plus 0.5 m for every 3 m (or part of 3 m) over 7.5 m height for a wall over 7.5 m high; and – Less than 1.5 m where the wall is no more than 3.5 m high and no more than 15 m long.

Performance criteria The street set-back objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
	A2.2 The side boundary set-back for shop-top housing has: – A maximum height of 3 m unless it abuts a higher existing or simultaneously constructed wall; – A maximum length of 15 m where it does not abut an existing boundary wall; and – Does not overshadow existing habitable rooms on an adjoining allotment and/or required private open space. Note: Where a wall built to the boundary has a height less than 2 m measured on the adjacent property, it can extend the full length of the boundary less any front or rear boundary set-back. Note: Minimum set-backs do not apply to eaves and sun shading devices.
Fencing P3 Fencing is consistent with the existing character of the area. Note: See Plate 2 photographs.	A3.1 Fences should take elements from neighbouring properties where elements are representative of the character of the street.
P4 Front fences enable outlook from the development to the street or open space to facilitate surveillance and safety. Front fences provide noise attenuation on main roads or highways roads. Front fences provide security in areas where there is a difference of land use (eg residential and commercial or industrial).	A4.1 Front fences for residential flat buildings have a maximum height of 1.2 m if solid or less than 50% transparent. A4.2 Front fences to main roads or highways to a height of 1.8 m may be considered provided that: – The fence does not exceed 5 m in length without articulation or detailing to provide visual interest (see Figure 2); – The fence is constructed of materials which are consistent with those used in the development (not metal) on the site and adjoining developments; and – The fence is softened with the use of landscaping. – The fence does not adversely affect vehicular or pedestrian sight distances, especially on corner lots.
P5 Fencing style and materials reflect the local streetscape and do not cause undue overshadowing of adjoining development.	A5.1 Side fences on corner allotments are set-back and/or articulated to provide for vegetation screening to soften the visual impact of the fence.

Performance criteria The street set-back objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Note: Barbed/razor wire or electrified front fencing in residential areas is not appropriate.	A5.2 Side fences forward of the building line are not constructed of solid metal panels or chain wire fencing (including factory pre-coloured materials). A5.3 Fences adjoining heritage-listed properties are constructed of timber palings or other materials associated with the architecture and character of the area.
P6 Fencing on corner allotments does not impede motorists' visibility at the intersection.	A6.1 Fencing is either splayed, set-back, reduced in height or transparent to maintain visibility for motorists.
P7 Gates are designed to ensure pedestrian and motorist safety. Note: Gates are not permitted to open across the footpath (Clause 21, Roads Regulation 2008).	A7.1 Where a driveway is provided through a solid fence adequate visibility for the driver is maintained.

References
• Dubbo LEP 2011; • Element 3 – Solar Access; • Element 6 – Visual and Acoustic Privacy; • AMCORD (1995) Section 5: Site Planning and Building Design; and • BCA.

Element 3: Solar access

Objectives

- To ensure all development provides an acceptable level of solar access for occupants; and
- To ensure development does not significantly impact the solar access and amenity of adjoining and adjacent allotments.

Performance criteria The solar access objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Solar access P1 Development is designed to ensure solar access is available to habitable rooms, solar collectors (photovoltaic panels, solar hot water systems etc) communal open space and clothes drying facilities. Note 1: Council requires the submission of a shadow diagram to demonstrate the impact of overshadowing on adjoining and adjacent allotments. Shadow diagrams are to be prepared for 9.00 am, 12 noon and 3.00 pm on 22 June. The shadow diagrams are to demonstrate the extent of overshadowing of the proposed and existing development on the subject land and adjacent sites. Note 2: The length of shadows cast by the sun in Dubbo for 22 June are able to be calculated using the information provided at the end of this Element.	A1.1 Residential flat buildings are sited to permit winter sun into habitable rooms and communal open space. A1.2 On east/west orientated lots the set-back on the north-side of the lot is increased to allow for maximum solar access to habitable rooms located on the north-side of the dwelling unit. A1.3 Shop-top housing is designed to provide direct sunlight to habitable rooms and private open space for a minimum of one hour per day, see Figure 6 below. A1.4 A roof area sufficient to meet the space requirements for a solar hot water service is provided where it faces within 20^0 of north and receives direct sunlight between the hours of 9.00 am and 3.00 pm on 22 June. A1.5 Communal outdoor clothes drying areas are located to ensure adequate sunlight and ventilation is provided between the hours of 9.00 am and 3.00 pm on 22 June to a plane of 1 m above the finished ground-level under the drying lines.
P2 Development does not reduce the level of solar access currently enjoyed by adjoining or adjacent allotments.	A2.1 Habitable rooms of adjoining development receive a minimum of two hours solar access between the hours of 9.00 am and 3.00 pm on 22 June. A2.2 Principle private open space of adjoining and adjacent development receives a minimum of two hours solar access over 75% of the area between 9.00 am and 3.00 pm on 22 June.
	A2.3 Landscaping is designed to ensure that when mature, required areas of private open space or established BBQ/pergola areas on adjoining allotments maintain solar access on 22 June in accordance with A2.2.

Performance criteria The solar access objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
		A2.4	The solar impact of development shall be shown with the submission of shadow diagrams taken on 22 June (winter solstice). The shadow diagram shall be prepared in accordance with Figure 6.
P3	Development shall achieve a pleasant, attractive and manageable living environment. Dwellings shall receive daylight and allow passage of cooling breezes through habitable rooms.	A3.1 A3.2 A3.3	The majority of units within a residential flat building or shop-top housing development are orientated to within 20^0 either side of north. Orientation of main living area windows to within 20^0 either side of north is maximised. Window placement and internal layout allows cross-ventilation.
P4	Fenestration and sun control devices shall be used effectively to: – Shade buildings; – Reduce glare; and – Assist in maintaining comfortable indoor temperatures.	A4.1	Effective sun shading devices are provided to windows.

References
• Element 2 – Building Set-backs; • Element 4 – Private Open Space and Landscaping; and • AMCORD (1995) Section 5: Site Planning and Building Design.

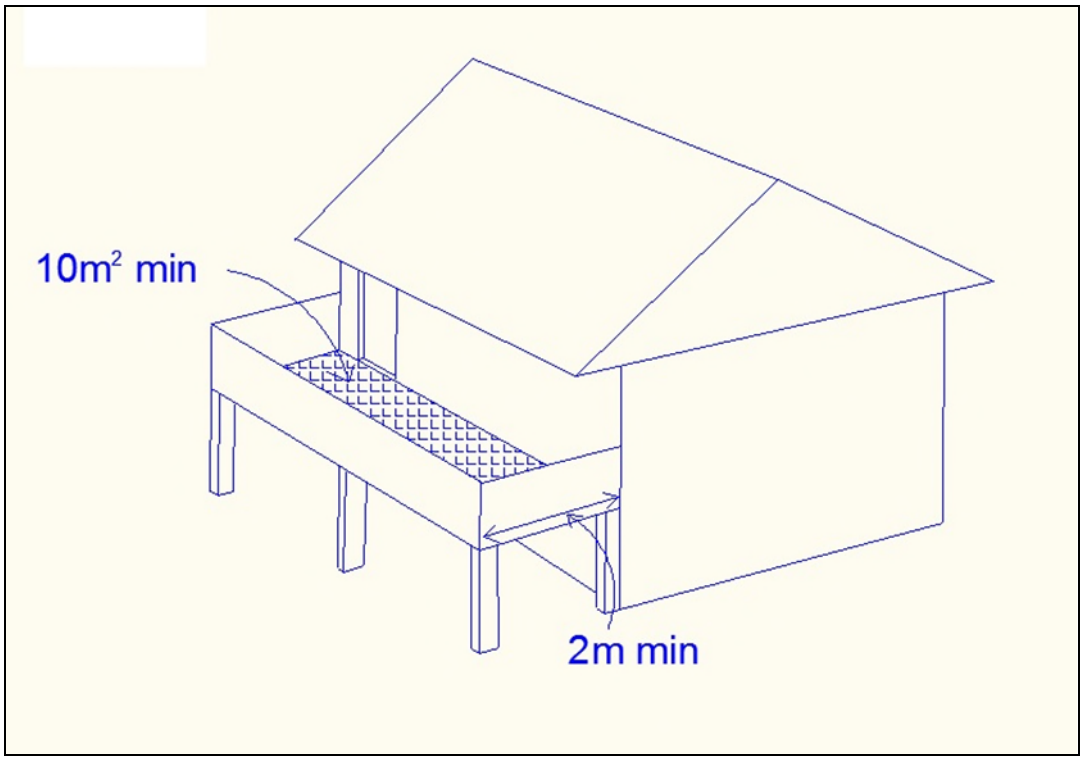
Element 4: Private and communal open space and landscaping

Objectives

- To provide private and communal open space that is well-integrated with the development and is of sufficient area to meet the needs of occupants;
- To provide a pleasant, safe and attractive level of residential amenity; and
- To ensure landscaping is appropriate in nature and scale for the site and the local environment.

Performance criteria The private open space and landscaping objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Private open space	
P1 Private open space is of an area and dimension facilitating its intended use. Note: See Element 3 – Solar Access requirements for private open space development in residential areas.	A1.1 Residential flat buildings and shop-top housing shall have private open space with a minimum area of 10 m^2 and a minimum dimension of 2 m (see Figure 9).
P2 Private open space is easily accessible by the occupants of the development and provides an acceptable level of privacy.	A2.1 All Principle Private Open Space (PPOS) is directly accessible from the main living area. A2.2 Private open space provides for the privacy of occupants and the occupants of adjoining properties.
P3 Communal open space for clothes drying and recreation facilities shall be provided.	A3.1 Communal open space for clothes drying and recreation facilities is provided at the rate of 10 m^2 per unit in residential flat buildings with at least one continuous area a minimum of 50 m^2 (minimum dimension of 4 m). A3.2 Communal open space for clothes drying and recreation facilities is provided at the rate of 5 m^2 per unit in shop-top housing when there is more than 12 units with at least one continuous area a minimum of 50 m^2 (minimum dimension of 4 m).

Figure 9: Private open space above ground level for residential flat buildings and shop-top housing



Performance criteria The private open space and landscaping objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Landscaping	
P3 Landscaping is provided at a scale and density which is appropriate for the development.	A3.1 Landscaping is provided in accordance with the requirements of the Landscaping Schedule (below). A3.2 The height and density of vegetation at maturity will be suitable to screen and soften the development. A3.2 A landscape plan is required to be provided for assessment with residential flat building or shop-top housing developments.
P4 Landscaping is located to not impact infrastructure, development on the site or development neighbouring the site.	A4.1 Species are selected and located taking into consideration the size of the root zone of the tree at maturity and the likelihood of potential for the tree to shed/drop material. A4.2 Species are selected and located to ensure that the amenity of adjoining and adjacent properties is not impacted (see Element 3 – Solar Access).
P5 The development includes landscaping that contributes to a pleasant and safe environment and integrates well with the neighbourhood.	A5.1 Landscape design allows the overlooking of the street and pedestrian entry areas. A5.2 Landscape design emphasises a clear pedestrian entry point.
P6 The location, height, extent and materials of retaining walls are designed to minimise	A6.1 Combined height of a retaining wall and fence does not exceed 2 m.

Performance criteria The private open space and landscaping objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
	visual impact.	A6.2	Retaining walls are set-back from any boundary and are stepped or terraced so that landscaping can soften visual impact.
P7	Landscaping is undertaken in an environmentally sustainable manner which limits the time and costs associated with maintenance. Landscaping is consistent with the established landscape character of the area and accommodates and retains existing vegetation including street trees.	A7.1 A7.2 A7.3 A7.4 A7.5 A7.6 A7.7	Existing native trees are retained where possible. Species selected are suitable for the local climate. Species selected require a minimal amount of watering (Waterwise Garden). Landscaping does not impact ground-water levels by over-watering resulting in ground-water level increases or the pollution of waters. Landscaping is provided with a timed watering system and moisture meter to determine if watering is required. Sensors are used to control watering systems (see also Element 9 – Site Facilities). Street trees are provided in accordance with the requirements of Council's Parks and Landcare Division generally and Council's Tree Planting Standards (Appendix A).

Landscaping schedule

A landscape plan is required to be submitted with development applications for residential flat building or shop-top housing developments. The standard of landscape plan is based on Category 2. The table shown below specifies the level of information required to be included for Category 2 landscape plans:

Category number	Minimum information standard
2	A separate landscape plan and planting schedule including the following: 1. Location of landscaping on the site. 2. Scientific name of all plant material. 3. Height and characteristics of plant material at maturity. 4. Status of landscaping at planting. 5. Specification of a maintenance regime. 6. Specification of irrigation systems for maintenance of landscaping referencing Council's current standards. 7. Specification that a horticultural professional will supervise implementation of the works in the landscape plan. 8. The plan shall be drawn to a recognised scale such as 1 to 100. The landscape plan and supporting information shall be prepared by a suitably qualified and experienced horticultural professional or landscape architect.

The table provided below details the type of development and the category of landscape plan required to be provided to Council at the time of lodgement of a development application:

Development type	Landscape plan category
Residential flat building	2
Shop-top housing	2

Note: Please discuss the development with Council's Building and Development Services Section.

References

- Element 3 – Solar Access;
- Element 9 – Site Facilities; and
- The Tree Booklet – All you need to know about planting and caring for trees in Dubbo (published by Dubbo City Council).

Element 5: Infrastructure

Objectives

- To encourage residential development in areas where it can take advantage of existing physical and social infrastructure;
- To ensure infrastructure has the capacity or can be economically extended to accommodate new residential development;
- To efficiently provide development with appropriate physical services; and
- To minimise the impact of increased stormwater run-off to drainage systems.

Performance criteria The infrastructure objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
P1	Residential development shall not overload the capacity of public infrastructure including reticulated services, streets, open space and human services.	A1.1	Physical infrastructure is provided by the proponent in accordance with Council's adopted version of NAT-SPEC and relevant policies.
P2	Design and layout of residential development provides space (including easements) and facilities to enable efficient and cost-effective provision of telecommunication services.	A2.1	Development is connected to a telecommunication system provided in accordance with the requirements of the appropriate authority.
P3	The development is connected to reticulated sewerage, water supply and electricity systems and to gas where available.	A3.1	Development is connected to Council's reticulated water supply, stormwater drainage and sewerage system to Council's requirements (including separate water meters where the development is to be subdivided).
P4	In areas where drainage infrastructure has little or no excess capacity, development which would generate stormwater run-off beyond that equivalent to 35% site cover (or beyond that presently generated by the site if greater) should provide for stormwater drainage mitigation or upgrading of the local drainage system.	A4.1 A4.2 A4.3	Onsite stormwater detention shall be provided with delayed release into the stormwater system. Minimal impervious areas shall be provided. An onsite water recycling system shall be provided.

References
• Dubbo LEP 2011; • AMCORD (1995) Section 2: Physical Infrastructure; • Dubbo City Council's Section 94 Contribution Plan for Open Space and Recreation Facilities, Urban Roads and Stormwater Drainage; • Dubbo City Council's Section 64 Contribution Policy for Water and Sewerage; and • Dubbo City Council's Urban Areas Development Strategy.

Element 6: Visual and acoustic privacy

Objectives

- To limit overlooking of private open space and views into neighbouring development;
- To substantially contain noise within each unit and to limit noise from communal areas or shared facilities affecting nearby dwellings; and
- To protect internal living and sleeping areas from inappropriate levels of external noise.

Performance criteria The privacy objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Visual privacy	
P1 Private open space and living rooms of adjacent residential accommodation are protected from direct overlooking by an appropriate layout, screening devices and distance. Note: No screening is required if: – Bathrooms, toilets, laundries, storage rooms or other non-habitable rooms have translucent glazing or sill heights of at least 1.5 m; – Habitable rooms having sill heights of 1.5 m or greater above floor level or translucent glazing to any window less than 1.5 m above floor level; and – Habitable rooms facing a property boundary have a visual barrier of at least 1.5 m high (fences and barriers other than landscaping are not to be any higher than 1.8 m) and the floor level of the room is less than 0.6 m above the level of the ground at the boundary.	A1.1 Windows of habitable rooms with an outlook to habitable room windows in adjacent development within 10 m: – Are offset a minimum distance of 1 m from the edge of the opposite window in the proposed development; – Have a sill height of 1.5 m above floor level; – Have a fixed obscure glazing in any window pane below 1.5 m above floor level; or – Have screens which obscure the view from habitable room windows, balconies, stairs, landings, terraces and decks or other private, communal or public areas within a development into private open space and/or habitable rooms of existing residential accommodation (see Figure 7). A1.2 Screens are solid, translucent or have perforated panels or trellis which: – Have a minimum of 25% openings; – Are permanent and fixed; – Are of durable materials such as galvanised steel, iodised aluminium or treated timber; and – Are painted or coloured to blend in with the surrounding environment (see Figure 8). A1.3 Windows and balconies of residential accommodation shall be designed to prevent overlooking of more than 50% of the private open space of any adjoining residential accommodation (see Figure 7).

Performance criteria The privacy objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria	
P2	Screening and partial enclosure of balconies is provided to ensure the privacy of residents is maintained. Screening and partial enclosure of balconies integrates with the design of the building.	A2.1	Screening of balconies is limited to the side and rear boundaries and the sides of balconies between those units where needed to prevent noise and overlooking of other units or dwellings and recreation areas. Street frontages of balconies may be screened or enclosed by shutters, glazing, louvres, or similar permanent structures to a maximum height of 1.5 m.
Acoustic privacy P3	The transmission of noise to and the impact upon habitable rooms within the proposed development and adjoining and adjacent development is minimised.	A2.1 A2.2 A2.3 A2.4 A2.5	Living rooms or garages of residential accommodation do not adjoin or abut bedrooms of adjacent residential accommodation. The plumbing of residential accommodation is separate and contained sufficiently to prevent transmission of noise. Electrical, mechanical or hydraulic equipment or plant generating a noise level no greater than 5dBA above ambient L^{90} sound level at the boundary of the property. Dividing walls and floors between residential uses are constructed in order to comply with the requirements of Part F5 of the BCA. Residential accommodation is constructed to ensure habitable rooms are not exposed to noise levels in excess of the standards contained in the relevant Australian Standard(s) including AS 3671 – Road Traffic.
P4	Noise from the development shall not adversely affect existing or likely future residential development on adjacent land.	A4.1 A4.2	Vehicle movement areas are located a minimum of 3 m from any adjoining dwellings or are provided with acoustic screening to the boundary. Any air conditioning plant is located towards the centre of the site.
P5	Exposure of residential development to noise shall be minimised.	A5.1	Noise impacts on units located within 150 m of a business centre, industrial area, rail corridor, classified road or within a noise exposure contour of 20 ANEF or greater are mitigated to comply with the NSW 'Noise Guide for Local Government'.

References

- Dubbo LEP 2011;
- AMCORD (1995) Section 5: Site Planning and Building Design;
- BCA; and
- AS 3671 – Roads Traffic - 'Reducing Traffic Noise' (RTA, August 1991).

Element 7: Vehicular access and car parking

Objectives

- To provide adequate and convenient parking for residents, visitors and service vehicles;
- To ensure street and accessways provide safe and convenient vehicle access to units and can be efficiently managed; and
- To avoid parking and traffic difficulties in the development and the neighbourhood.

Performance criteria	Acceptable solutions
The vehicular access and parking objectives may be achieved where:	The acceptable solutions illustrate one way of meeting the associated performance criteria:

Performance criteria The vehicular access and parking objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Parking provision P1 Car parking is provided according to projected needs, the location of the land and the characteristics of the immediate locality.	A1.1 Residential flat building or shop-top housing developments provide the following vehicle parking: – One bedroom unit – one car parking space per unit, situated behind the front building set-back. - Unit with two or more bedrooms – two car parking spaces per unit, situated behind the front building set-back. – Visitor parking – one car parking space for every four units or part thereof with a minimum of one car parking space.
Design P2 Car parking facilities are designed and located to: – Conveniently and safely serve users including pedestrians, cyclists and vehicles; – Enable efficient use of car spaces and accessways including adequate manoeuvrability for vehicles between the street and the lot; – Conform to the adopted street network hierarchy and objectives of the hierarchy and along with any related local traffic management plans; and – Be cost effective.	A2.1 The dimensions of car spaces and access comply with Section 2.6 Parking. A2.2 Accessways and driveways are designed to enable vehicles to enter the designated parking space in a single turning movement and leave the space in no more than two turning movements. A2.3 Vehicles shall enter and exit development sites in a forward direction.
	A2.4 The design and appearance of parking shall: – Form an integral part of the building (ie beneath the building); – The building design highlights both the pedestrian entry (with connection between the foyer and the footpath) and the access to the parking area; and – Partially excavated parking areas are less obvious, secure, naturally ventilated and raise the ground floor units above natural ground level.

Performance criteria The vehicular access and parking objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Driveways and access points P3 Driveways and access points are designed for maximum safety to resident motorists, passing motorists and pedestrians.	A3.1 Driveways comply with the following: – Are not less than 3 m wide; – At changes of direction or at intersections the internal radius of the driveway is at least 4 m; – Where longer than 50 m (eg battle-axe handles) provision for passing is provided; – Where five or more car spaces are served or a driveway connects to a distributor road, manoeuvring space is provided to make it unnecessary for cars to reverse on to or off the road. The entrance is at least 5 m wide for a distance of 7 m to allow vehicles to pass each other; – Not within 6 m to a road intersection (see Figure 8); – The access point is located via the minor road where the site is bound by a major and a minor road; – Access points do not conflict with existing vehicle or pedestrian generators; – Access points are located so that stopping sight distances are adequate for the design speed of the road (ie in accordance with AUSTROADS 'Guide to Traffic Engineering Practice, Part 5 – Intersections at Grade'); and
	– Flood-free vehicle access is provided; and – Driveway gates do not open across the footpath/public road. A3.2 Where the driveway passes through solid fencing higher than 1.2 m, the fencing is splayed into the property to make pedestrians visible when reversing.
Access points P4 Development abutting highways (Newell, Mitchell and Golden Highway) minimises the number of access points, provides safe access and ensures vehicle egress in a forward direction.	A4.1 Other road frontages are used if alternatives are available. A4.2 The number of access points onto a highway is not greater than the number of existing access points.

Performance criteria The vehicular access and parking objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
P5 Vehicle parking design and location shall minimise impacts on neighbouring dwellings. Noise disturbance shall be mitigated by parking area location and fencing.	A5.1 Vehicle parking is: – Screened to minimise reflection of car headlights onto windows and attenuate noise; – Lit at night; and – Separated from habitable windows to minimise noise, fumes and disturbance. A5.2 Vehicle parking is designed and located: – Below the building so they are not visually dominant from a public street; and – To be compatible with overall building design in terms of height, roof form, detail, material and colours. A5.3 The location of visitor parking is discernible from the street. A5.4 Acoustic screening is provided next to any vehicle movement or parking area along the side or rear boundary or a 1.2 m wide vegetated buffer is provided next to any vehicle movement or parking area along the side or rear boundary.
Emergency vehicle access P6 Standing and turning areas for service, emergency or delivery vehicles are provided.	A6.1 Accessways into residential flat buildings or shop-top housing are designed to cater for an 'AUSTROADS 8.8 m length Design Service Vehicle'.
Surface treatment P7 Driveways, car parks and access points are designed in accordance with Section 2.6 Parking.	A7.1 Car spaces, accessways and driveways are formed, defined and drained to a Council drainage system and surfaced with: – An all-weather seal such as concrete, coloured concrete, asphalt or mortared pavers; and – Stable, smooth, semi-porous paving material (such as brick, stone or concrete pavers) laid to the paving standard of light vehicle use.

References

- Council's Section 3.5 Parking;
- AUSTROADS Guide to Traffic Engineering Practice, Part 5 – Intersections at Grade;
- Aus-Spec (DCC version) Development Series – Design and Development Specification Series – Construction; and
- AMCORD.

Element 8: Waste management

Objective

- To ensure waste disposal is carried out in a manner which is environmentally responsible and sustainable.

Performance criteria The waste management objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Domestic solid waste	
P1 Domestic solid waste is disposed of in an environmentally responsible and legal manner.	A1.1 Residential accommodation shall participate in Council's garbage and recycling materials collection service. A1.2 Organic waste shall be composted. A1.3 Recycling of wastes such as paper (mulch in garden), plastics, glass and aluminium. A1.4 Reuse of waste such as timber. A1.5 Disposal of waste to a Council-approved waste facility or transfer station.
P2 The amount of liquid waste generated is minimised.	P2.1 The use of dual-flush toilet systems and water saving fittings and appliances.
P3 Adequate space is provided to store waste collection bins in a position which will not adversely impact upon the amenity of the area.	P3.1 Waste collection bins are stored behind the building line.

References
• Dubbo LEP 2011; • Protection of the Environment Operations Act 1997; and • Local Government Environment and Health Guidelines: Onsite Sewage Management for Single Households 1998.

Element 9: Site facilities

Objective

- To ensure that site facilities are functional, easily accessed from the units, visually attractive, blend in with the development and street character and require minimal maintenance.

Performance criteria The site facilities objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Mail boxes	
P1 Mail boxes are located for convenient access by residents and the delivery authority.	A1.1 A mail box structure is located at the major pedestrian entrance to the site.
Storage areas	
P2 Units are provided with adequate storage areas and external clothes drying facilities.	A2.1 A space of 8 m^3 with a minimum horizontal surface area of 6 m^2 per unit is set aside exclusively for storage. A2.2 For residential flat buildings, open air, communal clothes drying facilities are easily accessible to all residents and visually screened from public streets and recreational areas.
Security	
P3 Car parking areas and pedestrian access-ways to the entry of the building are adequately lit at night for safety and security of residents and visitors.	A3.1 Car parking areas and pathways are lit in accordance with Australian Standard AS 1158.
Antennae	
P4 Telecommunications facilities are provided to serve the needs of residents and do not present any adverse visual impacts.	A4.1 The number of television antennae and other receiving structures is kept to a minimum or where appropriate, a receiver is provided to serve all dwellings within a single building.
Design	
P5 Proposals shall be designed to incorporate graffiti prevention measures.	A5.1 Building design and layout provide for a non graffiti-friendly development, structure and layout by incorporating the following features where practical: – Access control measures of vegetation, fencing, lighting or sprinklers; – Designs with an absence of 'natural ladders'; – Minimal unbroken vertical surface areas; and – Graffiti-deterrent surface treatments.

References
AMCORD (1995) Section 5: Site Planning and Building Design.

Element 10: Signage

Objectives

- That the character of the locality is maintained; and
- That any signage is appropriate for the locality and blends in with the development and street character.

Performance criteria The signage objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Signage P1 Signs are appropriate for the nature of the business and the locality.	A1.1 Signage shall: – Be non-moving; – Relate to the lawful use of the building (except for temporary signs) on which the sign is located; – Not be detrimental to the character and functioning of the building; – Not cover mechanical ventilation inlet or outlet vents; – Not obstruct the sight line of vehicular traffic; – Not obstruct pedestrian traffic; and – Not be illuminated or flashing.
Business identification signs P2 Signs are appropriate for the nature of the business and the locality.	A2.1 Home-based child care, home business, home industry and home occupation development signage shall: – Meet the general requirements for signage (P1); – Have one sign per premises; – Have a maximum area of 0.5 m^2; – Not advertise specific products or brands. A2.2 Permissible non-residential development signage shall: – Meet the general requirements for signage (P1); – Have one sign per premises; and – Have a maximum area of 1 m^2. Note: Signs meeting the above requirements will not require development approval.

Performance criteria The signage objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Real estate signs (advertising premises or land for sale or rent). P3 Signs are appropriate for the residential locality and are of a temporary nature.	A3.1 Real estate signage shall: – Meet the general requirements for signage (P1); – Have a maximum area of 3 m^2; and – Be removed within seven days after the premises or land is sold or let. Note: Signs meeting the above requirements will not require development approval.

2.1.3 Subdivision controls

This section is designed to encourage 'best practice' solutions to subdivision design. The achievement of pleasant, safe and functional subdivision is the main objective of subdivision design.

This section lists subdivision design elements under the following headings:

Element 1	Neighbourhood design
Element 2	Lot layout
Element 3	Public open space and landscaping
Element 4	Infrastructure
Element 5	Street design and road hierarchy
Element 6	Pedestrian and cycle links
Element 7	Stormwater management
Element 8	Water quality management

Each design element has been structured so that it contains:

- 'Objectives' for each design element that describe the required outcomes;
- 'Performance criteria' which outlines the range of matters which shall be addressed to satisfy the objectives (ie the performance criteria explains how an objective is to be achieved);

Note: Not all performance criteria will be applicable to every development.

- 'Acceptable Solutions' which are specific measures which illustrate one way of meeting both the performance criteria and objectives of an element. They are examples only and are not mandatory; and
- 'References' to relevant clauses of the Dubbo LEP 2011, other relevant legislation, Council policies and literature relevant to the design element.

Element 1: Neighbourhood design

Introduction

Successful neighbourhoods have a sense of community, are designed to promote social interaction, are pleasant and have a high level of safety for residents and visitors. Good neighbourhood design assesses how the residents will interact within the neighbourhood and considers the street and pedestrian networks in addition to housing.

Objectives

- To provide neighbourhoods that offer opportunity for social interaction;
- To encourage neighbourhood designs that are aesthetically pleasing and cater for a broad diversity of housing needs;
- The neighbourhood design ensures motor vehicles do not dominate the neighbourhood; and
- To encourage walking and cycling.

Performance criteria The neighbourhood design objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
P1	Street design and lot density minimises motor vehicle use and promote walking and cycling.	A1.1	Recreational areas, shops and facilities are located within walking distance (400 m) of residences.
P2	Natural and cultural features in the area are emphasised and enhanced in the neighbourhood design.	A2.1	Watercourses, natural vegetation and heritage items are retained and emphasised in the design.
P3	The layout provides for community focal points and public open space that promotes social interaction and caters for a range of uses by the community.	A3.1	If the subdivision is located in an Urban Release Area under the provisions of the Dubbo LEP 2011, the design of the subdivision complies with the relevant Residential Release Strategy.
P4	Neighbourhood densities are closer to public transport nodes, neighbourhood centres and the like.	A4.1	If the subdivision is located in an Urban Release Area under the provisions of Dubbo LEP 2011, the design of the subdivision complies with the relevant Residential Release Strategy.
P5	Neighbourhood design provides for passive surveillance of residences and public areas to enhance personal safety and minimise the potential for crime.	A5.1	Battle-axe lots are minimised in the subdivision design.
P6	Street networks provide good external connections for local vehicle, pedestrian and cycle movements. Their design promotes functional movement while limiting speed and detours through traffic.	A6.1 A6.2 A6.3	Refer to Element 5 – Street Design and Road Hierarchy. If the subdivision is located in an Urban Release Area under the provisions of Dubbo LEP 2011, the design of the subdivision complies with the relevant Residential Release Strategy. Any cul-de-sac provided within a subdivision shall not have any more than ten (10) allotments.

References
• Dubbo LEP 2011; and • AMCORD (1995) Section 1: Neighbourhood Planning and Movement Networks.

Element 2: Lot layout

Introduction

Lot layout cannot be seen in isolation from its later use. The arrangement of future dwellings will have an important influence on the quality of the neighbourhood that develops and should be considered as part of the lot design. Lot layout needs to be read in conjunction with Section 2, Element 3 – Solar Access.

Objective

- To provide a range of lot sizes to suit a variety of household types and requirements whilst considering the surrounding established area.

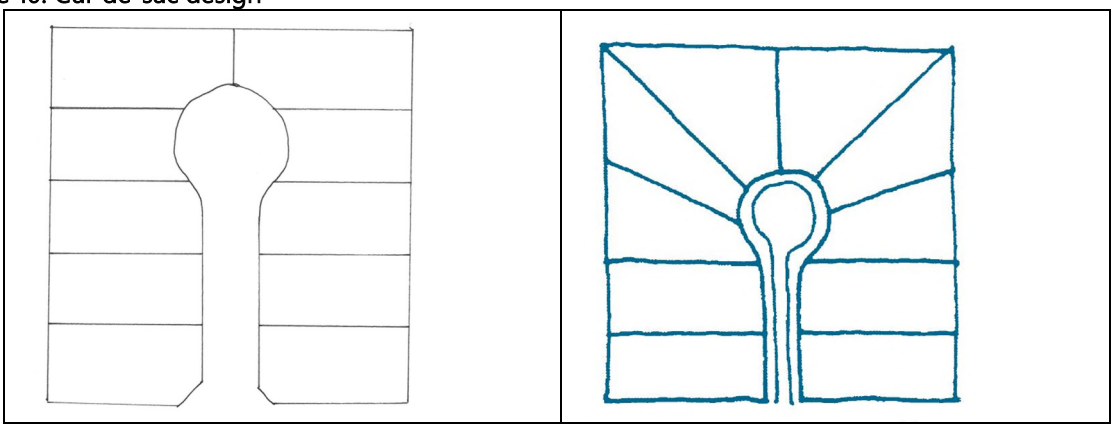
Performance criteria The lot layout objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Size	
P1 Lots are of appropriate area and dimensions for the siting and construction of a dwelling and ancillary outbuildings, the provision of private outdoor open space, convenient vehicle access and parking.	A1.1 Lot size complies with Dubbo LEP 2011. A1.2 Lot size and dimensions take into account the slope of the land and minimise earthworks/retaining walls associated with dwelling construction. A1.3 Lot size and dimensions enable residential development to be sited to: – Protect natural or cultural features; – Acknowledge site constraints including soil erosion and bushfire risk; and – Retain special features such as trees and views (developers are encouraged to identify significant trees at subdivision stage and ensure provision of an adequate building envelope). A1.4 Cul-de-sacs are minimised within subdivisions (see Figure 10). A cul-de-sac shall have no more than ten (10) allotments. A1.5 Battle-axe subdivisions provide a minimum width of 4.3 m (ie 2.5 m wide driveway plus 900 mm on both sides to a boundary fence). A1.6 In the **RU5 zone** lots are of the same configuration as the traditional subdivision layout and the individual lots have the same width and depth.

Performance criteria The lot layout objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
User requirements P2 Lot frontages are orientated to enable maximum residential security.	A2.1 Lot frontages are orientated toward streets and open spaces so that personal and property security, deterrence of crime, vandalism and surveillance of footpaths and public open space are facilitated.
Solar access P3 Lots are orientated and have dimensions to allow adequate solar access.	A3.1 Lots are orientated so that one axis is within 30^0 east or 20^0 west of true north. Note: – North-facing slopes improve opportunities for solar access; – Small lots are best suited to north-facing slopes with gradients of less than 15%; – South-facing slopes reduce solar access; and – Large lots/lowest densities are therefore best suited to south-facing slopes.
Transport links P4 The design and location of transport links and access facilitates pedestrian and cyclist activity and the use of public transport.	A4.1 Footpaths are provided and designed to access public transport routes. A4.2 Subdivision design includes: – Clearly marked bicycle networks; – Marked kerbside bike lanes; and – Dedicated cycle ways and links to city-wide cycle ways.

References

- AMCORD (1995) Section 2: Site Planning and Building Design;
- Dubbo LEP 2011; and
- Urban Areas Development Strategy.

Figure 10: Cul-de-sac design



Functional lot layout

Awkward and inefficient lot layout

Element 3: Public open space and landscaping

Objectives

- To provide public open space that meets user requirements for outdoor recreational social activities;
- To provide landscaping that contributes to the identity and environmental health of the community; and
- To ensure that streetscape components do not detrimentally affect solar access to individual dwellings.

Performance criteria The public open space and landscaping objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
P1	Public open space provides opportunities for: – Recreation - both active and passive forms. – Conservation - protection or integration of natural features and cultural sites. – Amenity - greening of the urban environment and a spatial setting for housing. – Utility - stormwater management, buffers between different land uses and repair of degraded land.	A1.1 A1.2 A1.3 A1.4 A1.5	Provision and location of public open space complies with the requirements of the Dubbo City Park and Open Space System Plan. Public open space infrastructure is provided in accordance with the requirements of Council's Parks and Landcare Services Division. Drainage systems are integrated into public open space. Walking and cycling trails are developed along drainage networks incorporated into public open space. Watercourses will be retained in new urban release areas to benefit the preservation of animal and bird habitats.
P2	Public open space provides adequate facilities to meet the needs of the community as reflected by indicators such as population density and demographic structure.	A2.1	Linkage of public open space into a legible network.
Dedication, embellishment and maintenance			
P3	Land dedicated to Council for the purpose of open space/public reserve shall be of a satisfactory standard to facilitate its use for open space purposes in accordance with Council's requirements. The land shall be maintained to ensure that it is sufficiently established and to Council's satisfaction.	A3.1 A3.2	The location of land dedicated shall be in accordance with Council's Defined Asset Management Plan (DAMP). A condition of consent and/ or a Deed of Agreement shall require the proponent to maintain the subject land in accordance with the standard included in Schedule 4 of Council's DAMP. Note: This applies only to residential subdivisions where "District level" or above public open space is dedicated to Council.

Performance criteria The public open space and landscaping objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
	A3.3 "District level" or above public open space shall be maintained by the developer for a minimum period of 10 years from the date of dedication to Council. A3.4 The costs and expenses incurred with the maintenance of the land shall be borne by the proponent during the ten (10) year period specified in A3.3. A3.5 In the event that the proponent transfers, leases or otherwise disposes of the land, any transferee, lessee or assignee (other than Council) will enter into a legally binding agreement to maintain the land as previously agreed. A3.6 Council shall be indemnified to the full extent permitted by law from any claim, action, liability or suit resulting from any accident, damage, loss, death or injury occurring upon the land.
Landscaping – general P4 Landscaping is designed and located to not negatively impact on the built infrastructure.	A4.1 Landscaping is provided in accordance with the requirements of a landscaping schedule (below) that has been approved by Council's Parks and Landcare Services Division.
P5 Landscaping is undertaken in an environmentally sustainable manner which limits the time and costs associated with maintenance.	A5.1 Existing native trees are retained wherever possible. A5.2 Species selected are suitable for the local climate. A5.3 Species selected require a minimal amount of watering. A5.4 Landscaping does not impact ground-water levels by encouraging over-watering resulting in ground-water level increases or the pollution of waters.
Street trees P6 Street trees are selected to provide summer shading while not impeding solar access to dwellings in winter.	A6.1 Street trees are provided in accordance with the requirements of Council's Parks and Landcare Services Division generally and Council's Tree Planting Standards (Appendix A). A6.2 In the **RU5 zone** two street trees are provided at the frontage of each allotment. A6.3 Deciduous trees are selected where shadows adversely impact solar access.

Performance criteria The public open space and landscaping objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
	A6.4 Taller tree species are planted on the northern side of east-west aligned streets, shorter species are planted on the southern side. A6.5 Indigenous species or species with a proven tolerance to the local climate and conditions that preserve solar access of adjoining properties are provided A6.6 Plantings with low maintenance and low water consumption are provided. A6.7 Evergreen species for windbreaks and planting along the south or west side of the area are protected against wind.
Security and surveillance P7 A clear relationship between public open space and adjoining land is established by appropriate treatment including alignment, fencing, landscaping and lighting.	A7.1 Parks include provision for lighting where appropriate in accordance with Australian and New Zealand Standard AS/NZ 1158.1. A7.2 Lots do not back onto public open space. A7.3 Parks are located so that at least 50% of their perimeter length has frontage to a public road.
Fencing P8 Avoidance of continual lengths of solid fencing along open space areas for security, surveillance, aesthetics and ease of maintenance.	A8.1 For any private allotment having a boundary with an area of public open space, open style fencing, low hedges or permeable vegetation shall be provided along the boundary.

References
• Dubbo City Council's Section 94 Plan for Open Space and Recreation Facilities; • Urban Areas Development Strategy; • Recreational Areas Strategy; • SEDA NSW Energy Smart Homes Model Policy; • AS 1158.1 (1986); and • Dubbo City Council's Parks and Landcare Division – list of recommended plantings for the Dubbo district.

Landscaping schedule

A landscape plan is required to be submitted with development applications for subdivision developments requiring or proposing the dedication of land to Council. The standard of landscape plan is based on Category 2. The table shown below specifies the level of information required to be included for Category 2 landscape plans:

Category number	Minimum information standard
2	A separate landscape plan and planting schedule including the following: 1. The land to be dedicated to Council and the location of the landscaping on that site. 2. Scientific name of all plant material. 3. Height and characteristics of plant material at maturity. 4. Status of landscaping at planting. 5. Specification of a maintenance regime. 6. Specification of irrigation systems for maintenance of landscaping referencing Council's current standards. 7. Planting specifications showing staking, hole preparation, depth and root control devices. 8. Provision for mulching. 9. Specification that a horticultural professional will supervise implementation of the works in the landscape plan. 10. The plan shall be drawn to a recognised scale. The landscape plan and supporting information shall be prepared by a suitably qualified and experienced horticultural professional or landscape architect.

Element 4: Infrastructure

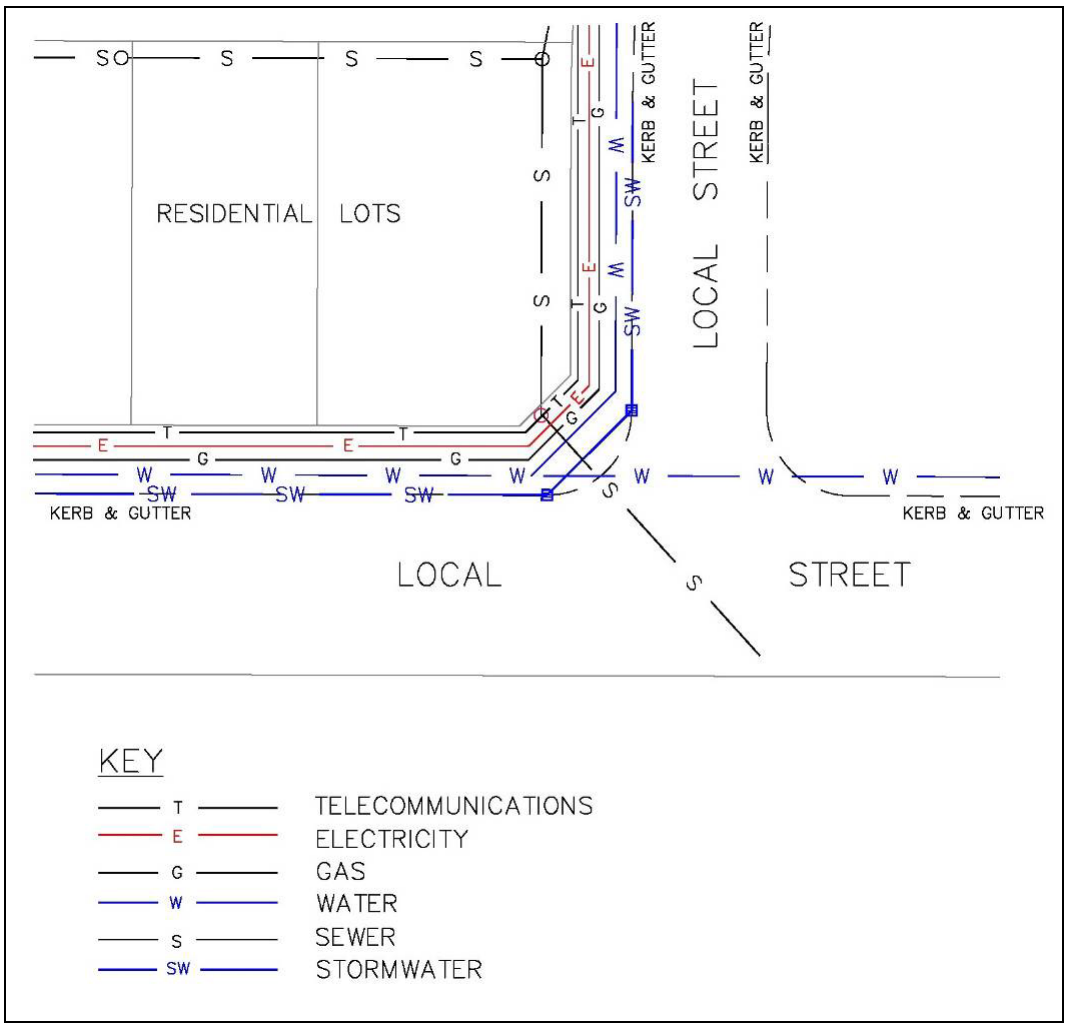
Objectives

- To ensure residential areas are serviced with essential services in a cost-effective and timely manner; and
- To ensure residential areas are adequately serviced with water and sewerage infrastructure.

Performance criteria The infrastructure objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Utilities	
P1 Design and provision of utility services including sewerage, water, electricity, gas, street lighting and communication services are cost-effective over their life-cycle and incorporate provisions to minimise adverse environmental impact in the short and long term.	A1.1 The design and provision of utility services conforms to the requirements of the relevant service authorities. A1.2 Water and sewerage services are to be provided to each allotment at the full cost of the developer. A1.3 Water and sewerage services are to be designed and constructed in accordance with the requirements of NAT-SPEC (DCC version) Development Specification Series – Design and Development Specification Services – Construction. A1.4 Electricity supply is provided via underground trenching in accordance with the requirements of the energy supply authority.
Common trenching	
P2 Compatible public utility services are located in common trenching in order to minimise the land required and the costs for underground services.	A2.1 Services are located next to each other in accordance with Council's policy for trenching allocation in footways (Standard Drawing 5268).
Availability of services	
P3 Water supply and sewerage networks are available, accessible, easy to maintain and are cost-effective based on life-cycle costs.	A3.1 Council will not consent to the subdivision of land until adequate water supply and facilities for sewage and drainage are available or until arrangements satisfactory to Council have been made for the provision of such supply and facilities. A3.2 Development is to be carried out within the water supply and sewer catchments as described by Council's Section 64 Policy for Water and Sewerage. Note: Where water and/or sewer are available, any new allotments will be connected to the system. Where not available refer to A3.1.

References
• Australian Rainfall and Runoff (1987); • Aus-Spec (DCC version) Development Specification Series – Design and Development Specification Series – Construction; and • AMCORD (1995) Part 3: Stormwater and Integrated Catchment Management Standard Diagram 5268.

Figure 11: Typical service plan



Element 5: Street design and road hierarchy

Objectives

- To ensure streets fulfil their designated functions within the street network;
- To facilitate public utility services;
- Encourage street designs that accommodates drainage systems; and
- Create safe and attractive street environments.

Performance criteria The street design and road hierarchy objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Function and width	
P1 The street reserve width is sufficient to cater for all street functions, including: – Safe and efficient movement of all users, including pedestrians and cyclists; – Provision for parked vehicles; – Provision for landscaping; and – Location, construction and maintenance of public utilities.	A1.1 The road hierarchy complies with the relevant Residential Release Strategy. A1.2 The road hierarchy is designed and constructed in accordance with Aus-Spec (DCC version). A1.3 Road reserve widths are in conformity with the Dubbo Road Transportation Strategy to 2045. A1.4 Road layouts ensure connectivity between adjoining residential estates is maintained for both vehicular and pedestrian movement.
P2 The verge width is sufficient to provide for special site conditions and future requirements.	A2.1 The verge width is increased where necessary to allow space for: – Larger scale landscaping; – Indented parking; – Future carriageway widening; – Retaining walls; – Cycle paths; and – Overland flow paths.
Design for safety	
P3 Street design caters for all pedestrian users including the elderly, disabled and children by designing streets to limit the speed motorists can travel.	P3.1 The length of straight streets are limited to between 200m to 250 m for a control speed of 50 km/hr. P3.2 Incorporating speed control devices (mostly for redesigning existing streets) such as: – Horizontal deflection devices: – Roundabouts; – Slow points; – Median islands; – Street narrowing; – Vertical deflection devices; – Speed humps and dips; and – Raised platforms at pedestrian crossings or thresholds.

Performance criteria The street design and road hierarchy objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Driveway access	
P4 Driveway egress movements do not create a safety hazard.	A4.1 Motorists can enter or reverse from a residential lot in a single movement. A4.2 Motorists enter and leave medium density and non-residential developments in a forward motion. A4.3 Lot design enables driveways on major collector streets and streets which carry more than 3,000 vpd to be designed to promote forward movement of vehicles across the verge.
Geometric design	
P5 Bus routes have a carriageway width that: – Allows for the movement of buses unimpeded by parked cars; – Safely accommodates cyclists; and – Avoids cars overtaking parked buses.	A5.1 The geometry of streets identified as bus routes provides suitable turning, stopping sight distance, grade and parking for buses.
P6 Geometric design for intersections, roundabouts and slow points is consistent with the vehicle speed intended for each street.	A6.1 Sufficient area is provided at the head of cul-de-sacs for waste disposal vehicles to make a three-point turn.
On-street parking	
P7 Car parking is provided in accordance with projected needs which are determined by: – The number and size of probable future dwellings; – The car parking requirements of likely future residents; – Availability of public transports. – Likely future onsite parking provisions; – Locations of non-residential uses such as schools and shops; and – The occasional need for overflow parking.	A7.1 One on-street parking space is to be provided per dwelling. These are to be located against the kerb or in pairs in parking bays constructed within the verge, located within 60 m of each allotment.
Design	
P8 Car parking is designed and located to: – Conveniently and safely serve users, including pedestrians, cyclists and motorists; – Enable efficient use of car spaces and accessways including adequate manoeuvrability between the street and lots; – Fit in with any adopted street network and hierarchy objectives and any related traffic movement plans; – Be cost effective; and – Achieve relevant streetscape objectives.	

References
• AMCORD (1995) Part 1: Neighbouring Planning and Movement Networks 'Residential Standards Manual' published by the Local Government Association of NSW and Shires Association of NSW 1982; • AS 1428 – Design for Access and Mobility; and • Aus-Spec (DCC version) Development Specification Series – Design, and Development Specification Series – Construction.

Element 6: Pedestrian and cycle links

Objective

- To encourage walking and cycling by providing safe and convenient movement networks to points of attraction and beyond the development.

Performance criteria The pedestrian and cycle links objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Planning	
P1 The residential street and path network provides a network of pedestrian and cyclist routes, with connections to adjoining streets, open spaces and activity centres.	A1.1 Where a Traffic Calming Plan or an approved Pedestrian and Cyclist Plan exist, pedestrian and cyclist paths are provided in accordance with that Plan. A1.2 Pedestrian and cycle paths are provided in accordance with Council's Strategic Open Space Master Plan. A1.3 A network of footpaths and cycle routes is provided that accounts for: – The need to encourage walking and cycling; – Likely users (eg school children, parents with prams, the aged and people with disabilities, commuter and recreational cyclists); – Opportunities to link open space networks and community facilities including public transport, local activity centres, schools and neighbouring shopping centres; – Topography; and – Cyclist and pedestrian safety.
Location and design P2 The alignment of paths allows safe and convenient use by pedestrians and cyclists and is varied to preserve trees and other significant features. A focus on vistas and landmarks adds visual interest where they exist.	There is no applicable Acceptable Solution to this Performance Criteria.
P3 Footpaths and cycle ways are well-lit and located where there is casual surveillance.	P3.1 Lighting conforms to AS/NZ 1158.1.
P4 Footpaths or shared paths are designed and constructed at appropriate widths, longitudinal gradient and sight distance to cater for the number of projected pedestrians and cyclists and user types (eg the aged, the very young, people with prams and people with disabilities).	A4.1 Collector streets on which there is access to lots or where there is a planned pedestrian or cyclist path are provided with a separate path on each side clear of the carriageway pavement.

Performance criteria The pedestrian and cycle links objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
		A4.2	A pedestrian (only) footpath, where required, is 1.2 m wide and is constructed of concrete or paving block for the full width and is located central to the existing or proposed kerb. Shared pedestrian and cyclist paths shall be 2.5 metres in width.
		A4.3	Footpaths are widened to full width in the vicinity of meeting points, schools, shops and other activity centres.
		A4.4	Maximum longitudinal gradient of cycle paths is no greater than that at any adjacent street pavement.
P5	Provision is made for the location of seats in appropriate places.	A5.1	Seats to be provided in accordance with the requirements of Council's Parks and Landcare Division.
P6	There is adequate provision for passing with paths widened at potential conflict points or junctions on high-use facilities to allow for passing of pedestrians/cyclists.	A6.1	Paths are widened at potential conflict points or junctions in areas of high use such as schools, corner stores etc (see above).
Safe crossings			
P7	Safe street crossings are provided for all street users with safe sight distances and adequate pavement markings, warning signs and safety rails (where appropriate for cyclists).	A7.1	Where traffic volumes exceed 3,000 vpd or speeds exceed 50 km/hr, safe crossings are created with the use of pedestrian refuges, slow points, thresholds or other appropriate mechanisms (eg Figure 12).
		A7.2	Pram and wheelchair crossings are provided at all kerbs and are adequately designed for this purpose as well as assisting sight-impaired people.
Construction			
P8	Pedestrian and cyclist paths are constructed to provide a stable surface for projected users and is easily maintained.		

References
• AMCORD (1995) Section 1: Neighbourhood Planning and Movement Networks; • Aus-Spec (DCC version) Development Specification Series – Design and Development Specification Series – Construction; and • AS/NZ 1158.1. – Lighting for Roads and Public Spaces.

Figure 12: Traffic calming devices

Element 7: Stormwater management

Objectives

- To provide major and minor drainage systems which:
  - Adequately protect people and the natural and built environments to an acceptable level of risk and in a cost effective manner in terms of initial costs and maintenance; and
  - Contribute positively to environmental enhancement of catchment areas.
- To manage any water leaving the site (during construction and operation) with stormwater treatment measures.

Performance criteria The stormwater management objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
P1	Post development peak flows (up to 100 year ARI storm events) are limited to 'pre-development' levels.	A1.1 A1.2	Water sensitive urban design or onsite bio-retention in the form of rain gardens, swales and absorption trenches are amalgamated into the design of the road network. In areas where there is high salinity, infiltration shall not be used.
P2	The stormwater drainage system has the capacity to safely convey stormwater flows resulting from the relevant design storm under normal operating conditions, taking partial minor system blockage into account.	A2.1 A2.2	The design and construction of the stormwater drainage system is in accordance with the requirements of Australian Rainfall and Runoff 1987 and Aus-Spec (DCC version) Development Specification Series – Design and Development Specification Series – Construction. Construction Certificate plans for subdivisions shall show all minor and major stormwater systems clearly defined and identified. Minor systems for residential areas are designed to cater for the 1 in 100 year storm event. These systems are to be evident as 'self-draining' without impacting on flooding of residential houses etc.
P3	Natural streams and vegetation are retained wherever practicable and safe, to maximise community benefit.	A3.1	Natural streams and vegetation are incorporated into the stormwater drainage system for the subdivision and open space requirements.
P4	The stormwater system/drainage network is designed to ensure that there are no flow paths which would increase risk to public safety and property.	A4.1	While addressing the statutory requirements stated above, the incorporation of sports grounds and other less flood-sensitive land uses into the drainage corridor and the appropriate placement of detention basins.
P5	The system design allows for the safe passage of vehicles at reduced speeds on streets which have been affected by run-off from the relevant design storm.	A5.1	The system allows for the safe passage of vehicles at reduced speeds on streets which have been affected by run-off from a 20% AEP event.

Performance criteria The stormwater management objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Site drainage	
P6 Subdivision design and layout provides for adequate site drainage.	A6.1 Where site topography prevents the discharge of stormwater directly to the street gutter or a Council controlled piped system, inter-allotment drainage is provided to accept run-off from all existing or future impervious areas that are likely to be directly connected. A6.2 The design and construction of the inter-allotment drainage system are in accordance with the requirements of Australian Rainfall and Runoff (1987) and Aus-Spec (DCC version) Development Specification Series – Design and Development Specification Series – Construction.
Flooding	
P7.1 Where residences (new or existing) are proposed in flood-affected areas, these shall be protected from flood waters. P7.2 Flood-ways are developed in a manner which ensures that there is a low risk of property damage.	A7.1 Ground floors of residences are located at or above the 'flood planning level' to provide protection to life and property in accordance with the accepted level of risk.

References

- Australian Rainfall and Runoff 1987;
- Aus-Spec (DCC version) Development Specification Series – Design and Development Specification Series – Construction; and
- AMCORD (1995) Part 3: Stormwater and Integrated Catchment Management.

Element 8: Water quality management

Objective

- To provide water quality management systems which:
  - Ensure that disturbance to natural stream systems is minimised; and
  - Stormwater discharge to surface and underground receiving waters, during construction and in developing catchments, does not degrade the quality of water in the receiving areas.

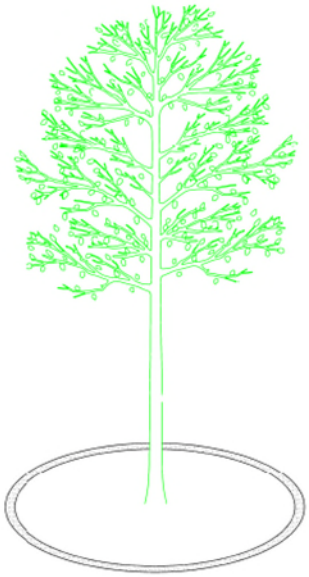
Performance criteria The water quality management objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:	
P1	Adequate provision is made for measures during construction to ensure that the land form is stabilised and erosion is controlled.	A1.1	An Erosion and Sediment Control Plan is prepared by properly qualified personnel using the 'Blue Book – Managing Urban Stormwater: Soils and Construction' and provided to Council.
P2	The system design optimises the interception, retention and removal of water-borne pollutants through the use of appropriate criteria prior to their discharge to receiving waters.	A2.1	The Erosion and Sediment Control Plan is to comply with the document 'Managing Urban Stormwater: Soils and Construction', produced by NSW Department of Housing.
P3	The system design minimises the environmental impact of urban run-off on surfaces receiving water quality and on other aspects of the natural environment, such as creek configuration and existing vegetation, by employing techniques which are appropriate and effective in reducing run-off and pollution travel.	A3.1	Water pollution control ponds or wetlands are developed (where appropriate) for final treatment before discharge to the wider environment and should be sited to minimise impacts on the natural environment.
		A3.2	Sensors are used to control watering systems.

References
• AMCORD (1995) Part 3: Stormwater and Integrated Catchment Management; • 'Blue Book – Managing Urban Stormwater: Soils and Construction' NSW Department of Housing; and • Any subsequent Council policies in relation to salinity.

Appendix A: Tree planting standards

DUBBO
CITY COUNCIL
TECHNICAL SERVICES DIVISION

TREE PLANTING STANDARDS



PLAN SHEET INDEX

SHEET 1 - COVER SHEET

SHEET 2 - TREE>45 L POT SIZE

SHEET 3 - TREES IN ROAD PAVEMENT (SHEET 1)

SHEET 4 - TREES IN ROAD PAVEMENT (SHEET 2)

SHEET 5 - TREES IN TURF WITH FOOT PATH

SHEET 6 -TREES IN TURF NO FOOT PATH

SHEET 7 - STREET TREES IN MASS PLANTING AND MALLS

SHEET 8 - TREES IN CENTRAL MEDIAN STRIPS WITH INNER KERB

SHEET 9 - TREES IN CENTRAL MEDIAN STRIPS WITH GARDEN

THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN COMPLIED WITH IN RESPECT TO THIS PROJECT.
NOT REQUIRED
PLANNING OFFICER DATE
APPROVED
MANAGER TECHNICAL SUPPORT DATE

SURVEY DATE
DESIGN DATE
DRAWING DATE 12/2011
CHECKED
SENIOR DESIGN ENGINEER DATE 12/2011

F:\SURVEY FILES
DESIGN FILES
DRAWING FILES

SCALES: NOT TO SCALE

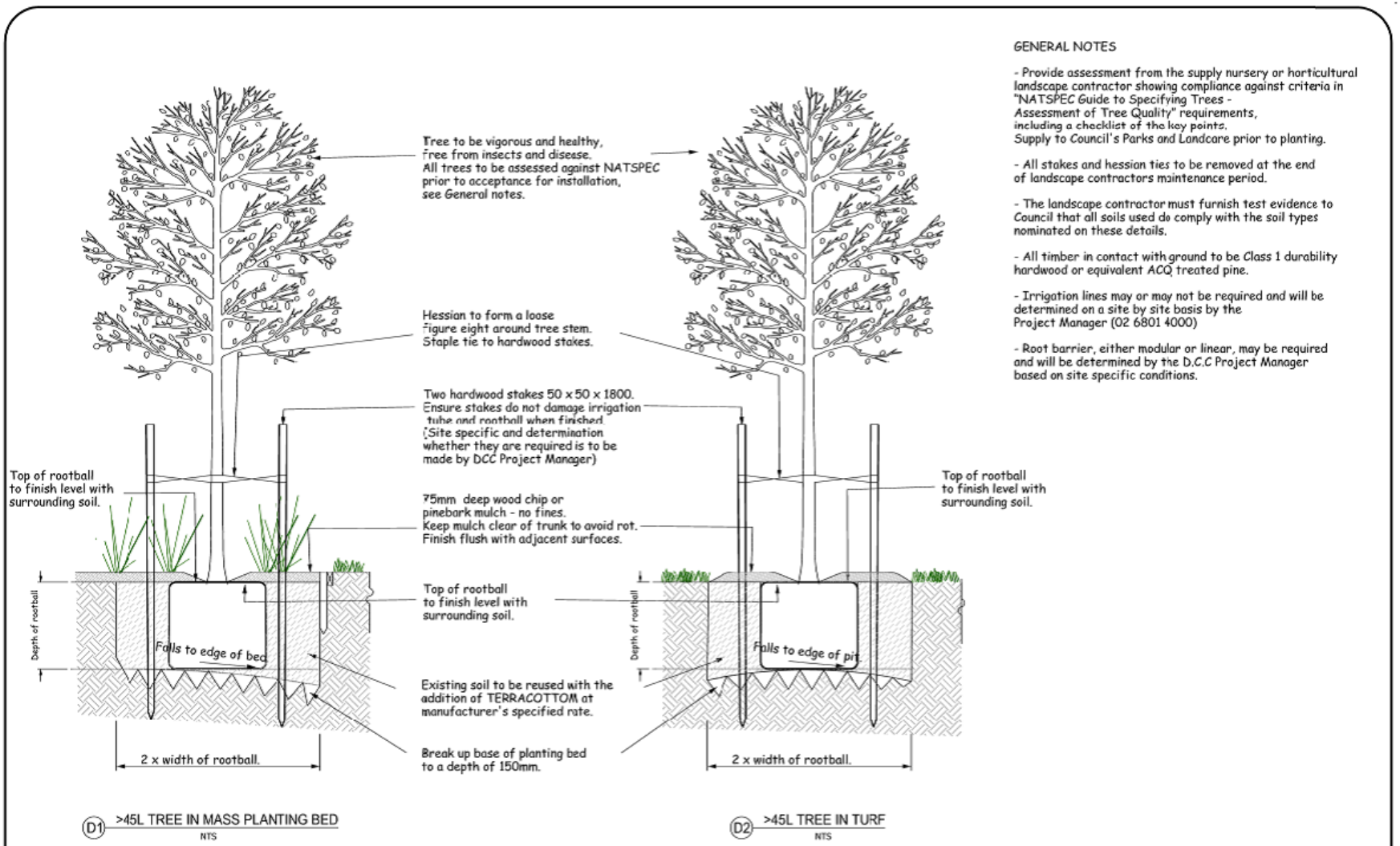
No. DATE APPD DETAILS OF AMENDMENTS

DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION

DRAWING TITLE: COVER SHEET

JOB: TREE PLANTING STANDARDS

SHEET No. 1 OF 9 SHEETS
PLAN NO. P 6639


GENERAL NOTES
- Provide assessment from the supply nursery or horticultural landscape contractor showing compliance against criteria in "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council's Parks and Landcare prior to planting.
- All stakes and hessian ties to be removed at the end of landscape contractors maintenance period.
- The landscape contractor must furnish test evidence to Council that all soils used do comply with the soil types nominated on these details.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent ACQ treated pine.
- Irrigation lines may or may not be required and will be determined on a site by site basis by the Project Manager (02 6801 4000)
- Root barrier, either modular or linear, may be required and will be determined by the D.C.C Project Manager based on site specific conditions.
Tree to be vigorous and healthy, free from insects and disease. All trees to be assessed against NATSPEC prior to acceptance for installation, see General notes.
Hessian to form a loose figure eight around tree stem. Staple tie to hardwood stakes.
Two hardwood stakes 50 x 50 x 1800. Ensure stakes do not damage irrigation tube and rootball when finished (Site specific and determination whether they are required is to be made by DCC Project Manager)
Top of rootball to finish level with surrounding soil.
75mm deep wood chip or pinebark mulch - no fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Top of rootball to finish level with surrounding soil.
Depth of rootball
Falls to edge of bed
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specified rate.
Break up base of planting bed to a depth of 150mm.
2 x width of rootball.
D1 >45L TREE IN MASS PLANTING BED
NTS
Top of rootball to finish level with surrounding soil.
Depth of rootball
Falls to edge of pit
2 x width of rootball.
D2 >45L TREE IN TURF
NTS
NOT REQUIRED
SURVEY DATE
DESIGN DATE
DRAWING DT DATE 07/2011
CHECKED
Mark Stacey DATE 12/2011
SENIOR DESIGN ENGINEER
P:\SURVEY FILES
DESIGN FILES
DRAWING FILES
SCALES
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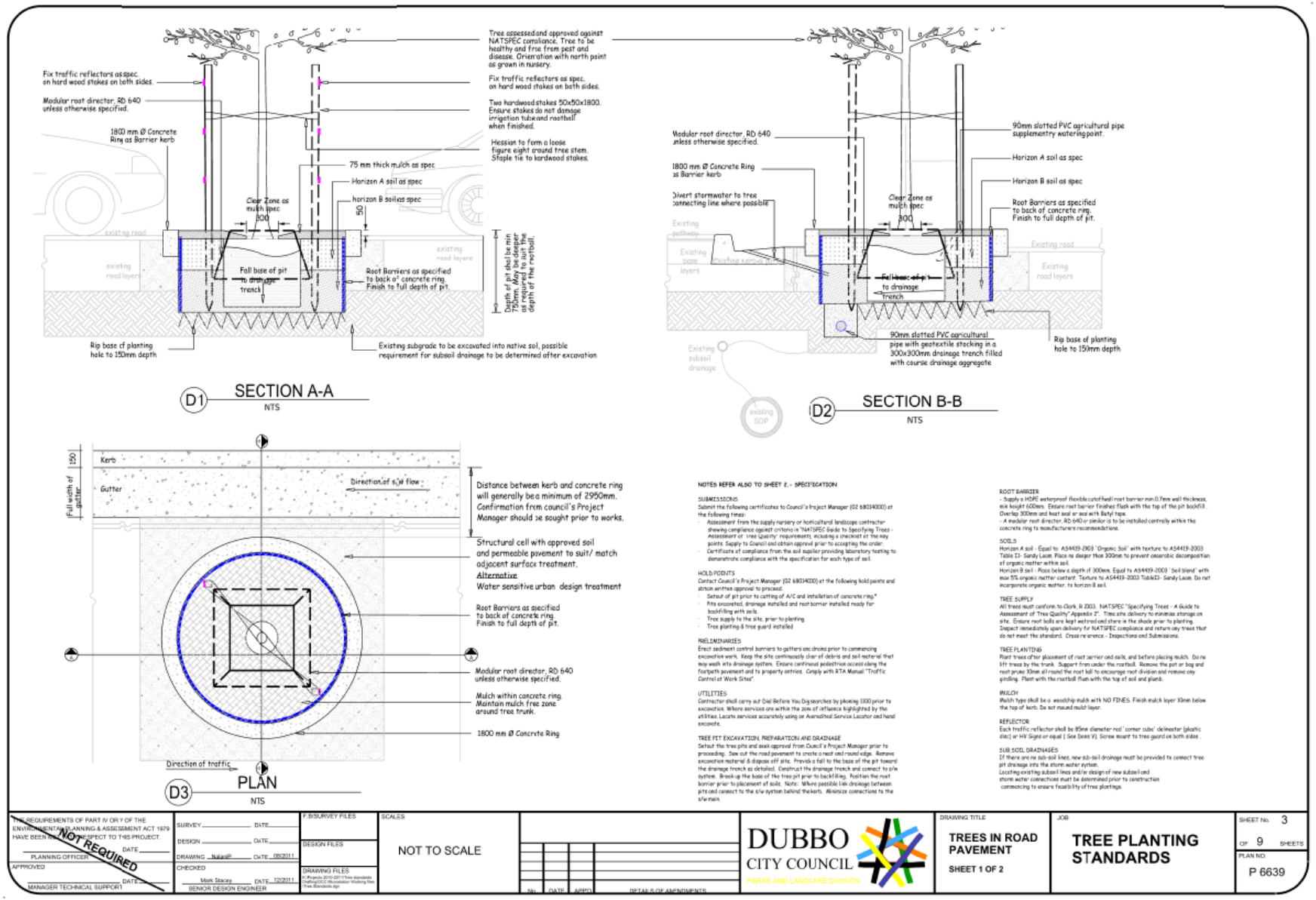
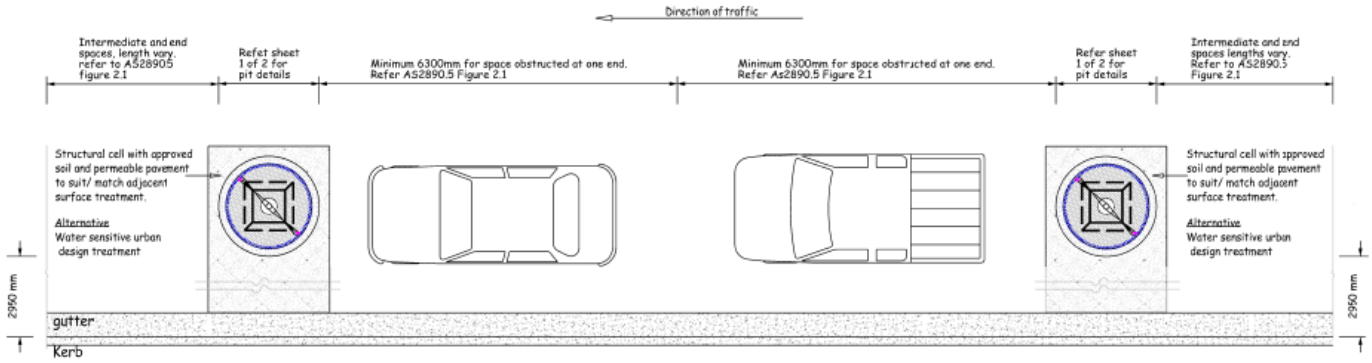
No. DATE AGR'D DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREE > 45 L POT SIZE
JOB
TREE PLANTING STANDARDS
SHEET No. 2
OF 9 SHEETS
PLAN NO.
P 6639


Tree assessed and approved against NATSPEC compliance. Tree to be healthy and free from pest and disease. Orientation with north point as grown in nursery.
Fix traffic reflectors as spec. on hard wood stakes on both sides.
Modular root director, RD 640 unless otherwise specified.
Two hardwood stakes 50x50x1800. Ensure stakes do not damage irrigation tube and rootball when finished.
1800 mm Ø Concrete Ring as Barrier kerb
Hessian to form a loose figure eight around tree stem. Staple tie to hardwood stakes.
75 mm thick mulch as spec
Horizon A soil as spec
horizon B soil as spec
Clear Zone as mulch spec 300
50
existing road
existing road layers
Fall base of pit to drainage trench
Root Barriers as specified to back of concrete ring. Finish to full depth of pit.
Depth of pit shall be min 750mm. May be deeper as required to suit the depth of the rootball.
Rip base of planting hole to 150mm depth
Existing subgrade to be excavated into native soil, possible requirement for subsoil drainage to be determined after excavation
D1 SECTION A-A
NTS
Modular root director, RD 640 unless otherwise specified.
90mm slotted PVC agricultural pipe supplementry watering point.
1800 mm Ø Concrete Ring as Barrier kerb
Horizon A soil as spec
Horizon B soil as spec
Divert stormwater to tree connecting line where possible
Root Barriers as specified to back of concrete ring. Finish to full depth of pit.
Clear Zone as mulch spec 300
Existing pathway
Existing base layers
Existing road
Existing road layers
Fall base of pit to drainage trench
90mm slotted PVC agricultural pipe with geotextile stacking in a 300x300mm drainage trench filled with course drainage aggregate
Rip base of planting hole to 150mm depth
Existing subsoil drainage
existing SOP
D2 SECTION B-B
NTS
150
Full width of gutter
Kerb
Gutter
Direction of s/w flow
Distance between kerb and concrete ring will generally be a minimum of 2950mm. Confirmation from council's Project Manager should be sought prior to works.
Structural cell with approved soil and permeable pavement to suit/ match adjacent surface treatment.
Alternative
Water sensitive urban design treatment
Root Barriers as specified to back of concrete ring. Finish to full depth of pit.
Modular root director, RD 640 unless otherwise specified.
Mulch within concrete ring. Maintain mulch free zone around tree trunk.
1800 mm Ø Concrete Ring
Direction of traffic
D3 PLAN
NTS
NOTES REFER ALSO TO SHEET 2. - SPECIFICATION
SUBMISSIONS
Submit the following certificates to Council's Project Manager (02 68034000) at the following times:
- Assessment from the supply nursery or horticultural landscape contractor showing compliance against criteria in "NATSPEC Guide to Specifying Trees - Assessment of tree Quality" requirements, including a checklist of the key points. Supply to Council and obtain approval prior to accepting the order.
- Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.
HOLD POINTS
Contact Council's Project Manager (02 68034000) at the following hold points and obtain written approval to proceed:
- Setout of pit prior to cutting of A/C and installation of concrete ring."
- Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.
- Tree supply to the site, prior to planting.
- Tree planting & tree guard installed
PRELIMINARIES
Erect sediment control barriers to gutters and drains prior to commencing excavation work. Keep the site continuously clear of debris and soil material that may wash into drainage system. Ensure continuous pedestrian access along the footpath pavement and to property entries. Comply with RTA Manual "Traffic Control at Work Sites".
UTILITIES
Contractor shall carry out Dial Before You Dig searches by phoning 1300 prior to excavation. Where services are within the zone of influence highlighted by the utilities. Locate services accurately using an Accredited Service Locator and hand excavate.
TREE PIT EXCAVATION, PREPARATION AND DRAINAGE
Setout the tree pits and seek approval from Council's Project Manager prior to proceeding. Saw cut the road pavement to create a neat and round edge. Remove excavation material & dispose off site. Provide a fall to the base of the pit toward the drainage trench as detailed. Construct the drainage trench and connect to s/w system. Break up the base of the tree pit prior to backfilling. Position the root barrier prior to placement of soils. Note: Where possible link drainage between pits and connect to the s/w system behind the kerb. Minimize connections to the s/w main.
ROOT BARRIER
- Supply a HDPE waterproof flexible cutoff wall root barrier min 0.7mm wall thickness, min height 600mm. Ensure root barrier finishes flush with the top of the pit backfill. Overlap 300mm and heat seal or use with Butyl tape.
- A modular root director, RD 640 or similar is to be installed centrally within the concrete ring to manufacturers recommendations.
SOILS
Horizon A soil - Equal to AS4419-2003 'Organic Soil' with texture to AS4419-2003 Table D- Sandy Loam. Place no deeper than 300mm to prevent anaerobic decomposition of organic matter within soil.
Horizon B soil - Place below a depth of 300mm. Equal to AS4419-2003 'Soil blend' with max 5% organic matter content. Texture to AS4419-2003 TableD- Sandy Loam. Do not incorporate organic matter to horizon B soil.
TREE SUPPLY
All trees must conform to Clark, R 2003, NATSPEC "Specifying Trees - A Guide to Assessment of Tree Quality" Appendix 2". Time site delivery to minimize storage on site. Ensure root balls are kept watered and store in the shade prior to planting. Inspect immediately upon delivery for NATSPEC compliance and return any trees that do not meet the standard. Cross reference - Inspections and Submissions.
TREE PLANTING
Plant trees after placement of root barrier and soils, and before placing mulch. Do not lift trees by the trunk. Support from under the rootball. Remove the pot or bag and root prune 10mm all round the root ball to encourage root division and remove any girdling. Plant with the rootball flush with the top of soil and plumb.
MULCH
Mulch type shall be a woodchip mulch with NO FINES. Finish mulch layer 10mm below the top of kerb. Do not mound mulch layer.
REFLECTOR
Each traffic reflector shall be 85mm diameter red 'corner cube' delineator (plastic disc) or Hi Signs or equal (See Detail V). Screw mount to tree guard on both sides .
SUB SOIL DRAINAGES
If there are no sub-soil lines, new sub-soil drainage must be provided to connect tree pit drainage into the storm water system.
Locating existing subsoil lines and/or design of new subsoil and storm water connections must be determined prior to construction commencing to ensure feasibility of tree plantings.
THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN MET WITH RESPECT TO THIS PROJECT.
NOT REQUIRED
PLANNING OFFICER DATE
APPROVED
MANAGER TECHNICAL SUPPORT DATE
SURVEY DATE
DESIGN DATE
DRAWING Natasi DATE 08/2011
CHECKED
Mark Stacey DATE 12/2011
SENIOR DESIGN ENGINEER
F:\SURVEY FILES
DESIGN FILES
DRAWING FILES
SCALES
NOT TO SCALE
No. DATE APP'D DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREES IN ROAD PAVEMENT
SHEET 1 OF 2
JOB
TREE PLANTING STANDARDS
SHEET No. 3
OF 9 SHEETS
PLAN NO.
P 6639



TYPICAL PLAN - TREE IN ROAD PAVEMENT

NTS

DESIGN NOTES

GENERAL-This detail is typical only and may require adjustment for site specific situations. This detail is intended as a design tool to assist designers to setout trees in their site masterplan. It is not intended as a construction detail.
For all proposals to plant trees in the street, installation must demonstrate compliance with the following issues:
HYDRAULIC FLOWS - seek advice from a civil engineer to check that the setout will not impede hydraulic flows along the gutter. Site specific calculations are required for this purpose and engineering certification shall be submitted with the DA/CC.
UTILITIES - The presence and location of underground services varies greatly from site to site and can affect the feasibility and design of tree planting in streetscapes. Many services are not located in accordance with standard allocations. Additional services may be present that are not documented. To check the feasibility of proposed tree locations contact Dial Before You Dig 1100 to determine service locations. Site specific service location shall also be carried out by an accreditec service locater to more accurately check the site conditions. Contact council or utilities providers for a list of accredited locaters.
Document utilities locations with the DA/CC documentation to demonstrate the feasibility of proposals. Comply with clearances by utilities providers. Do not locate tree pits where they will interfere with power lines or other utilities.
SUBSOIL DRAINAGE
The locations of subsoil drainage and stormwater pits is required to determine suitable connections for pit drainage. If there are no existing sub-soil lines, new sub-soil drainage must be provided to connect tree pit drainage into the storm water system. Locating existing subsoil lines and/or design of new subsoil and storm water connections must be determined prior to construction commencing to ensure feasibility of tree plantings. Ensure that s/w mains are sealed in accordance with the relevant Australia Standard/s. Where possible minimise connections to the stormwater drains.
TRAFFIC ISSUES - Do not set out street trees in taxi stands, bus stops, loading zones, and slip lanes, driveways, pedestrian kerb ramps, etc. Do not locate street trees where they may interfere with traffic sight lines eg. on the approach side of pedestrian blisters or driveways. Comply with Figure 3.3 AS2890.2 for sight line clearances. Ensure reflectors are located on both sides of the tree guard adjacent to the travel lane and on both sides of the tree guard. Line markings are desirable to highlight the presence of the tree plantings as traffic obstacles. They may be deleted if approved in consultation with Council's traffic officer.

PARKING - Check the setout of carparking spaces before locating street trees and locate tree pits to minimise loss of on-street parking spaces. Where additional space is available without loss of parking or where parking is not a major issue, the length of the tree pit may be increased. Where parking setout is not parallel with the kerb, adjust the detail to provide alternative pit designs and setout to suit the site parking arrangements. Comply with the requirements of AS2890.5 On-street Parking.
TREE GUARD ORIENTATION - Where tree guards with decorative panels are proposed, orientate the tree guard with panels perpendicular to the kerb.
TREE SPECIES SELECTION NOTES
Developer must submit a detailed landscape plan of the proposed sub-division to Dubbo City Council for approval. Species must be identified by botanical nomenclature.
Contact DCC Parks and Landcare on 68014000 to determine whether proposed species are relevant to the site.
Weed species should always be avoided in any location.
Avoid the selection of very large trees for confined streetscape situations unless additional tree pit preparation work is carried out or a large verge area is available, well clear of all infrastructure (eg. kerb and gutter, footpath and services).
Avoid the selection of trees that grow in naturally moist situations as these can be shallow rooting, unless pit preparation works are justified in the landscape report.

The 2950mm distance between the kerb and the concrete ring edge allows the D.C.C streetsweeper through.

THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN COMPLIED WITH IN RESPECT TO THIS PROJECT.
NOT REQUIRED
PLANNING OFFICER DATE
APPROVED
MANAGER TECHNICAL SUPPORT DATE

SURVEY DATE
DESIGN DATE
DRAWING Natasjé DATE 12/2011
CHECKED
Mark Stacey DATE 12/2011
SENIOR DESIGN ENGINEER

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DESIGN FILES
DRAWING FILES
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SCALES
NOT TO SCALE

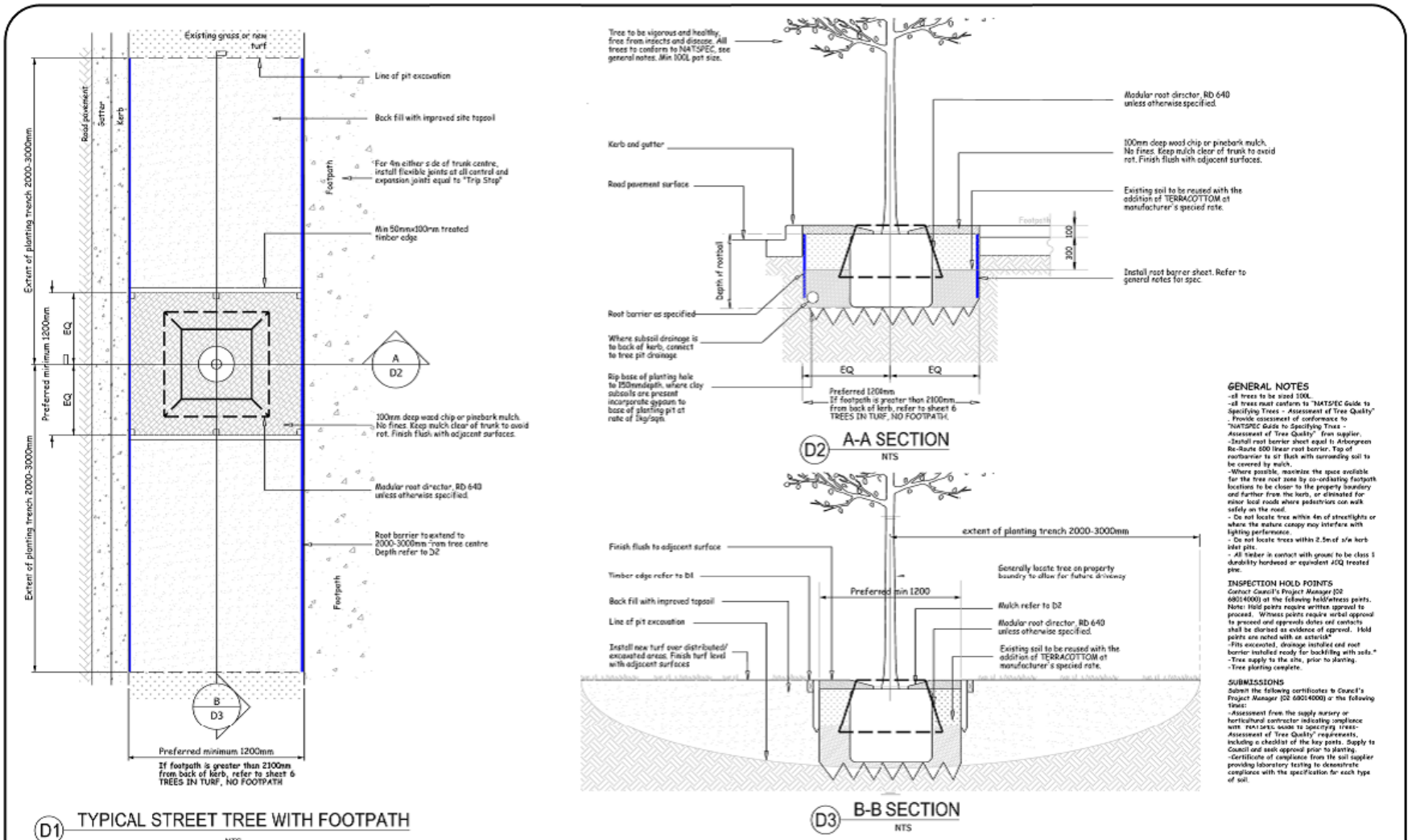
No. DATE APP'D DETAILS OF AMENDMENTS

DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION

DRAWING TITLE
TREES IN ROAD PAVEMENT
SHEET 2 OF 2

JOB
TREE PLANTING STANDARDS

SHEET No. 4
OF 9 SHEETS
PLAN NO.
P 6639


Existing grass or new turf
Line of pit excavation
Back fill with improved site topsoil
*For 4m either side of trunk centre, install flexible joints at all control and expansion joints equal to "Trip Stop"
Min 50mmx100mm treated timber edge
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Modular root director, RD 640 unless otherwise specified.
Root barrier to extend to 2000-3000mm from tree centre Depth refer to D2
Extent of planting trench 2000-3000mm
Preferred minimum 1200mm
EQ
Road pavement
Gutter
Kerb
Footpath
A
D2
B
D3
If footpath is greater than 2100mm from back of kerb, refer to sheet 6 TREES IN TURF, NO FOOTPATH
Tree to be vigorous and healthy, free from insects and disease. All trees to conform to NATSPEC, see general notes. Min 100L pot size.
Kerb and gutter
Road pavement surface
Root barrier as specified
Where subsoil drainage is to back of kerb, connect to tree pit drainage
Rip base of planting hole to 150mmdepth, where clay subsoils are present incorporate gypsum to base of planting pit at rate of 1kg/sqm
Depth of rootball
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
Install root barrier sheet. Refer to general notes for spec.
300
100
Preferred 1200mm
If footpath is greater than 2100mm, from back of kerb, refer to sheet 6 TREES IN TURF, NO FOOTPATH.
Finish flush to adjacent surface
Timber edge refer to D1
Back fill with improved topsoil
Line of pit excavation
Install new turf over distributed/ excavated areas. Finish turf level with adjacent surfaces
extent of planting trench 2000-3000mm
Preferred min 1200
Generally locate tree on property boundry to allow for future driveway
Mulch refer to D2
Modular root director, RD 640 unless otherwise specified.
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
GENERAL NOTES
-all trees to be sized 100L.
-all trees must conform to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality"
- Provide assessment of conformance to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" from supplier.
-Install root barrier sheet equal to Arborgreen Re-Route 600 linear root barrier. Top of rootbarrier to sit flush with surrounding soil to be covered by mulch.
-Where possible, maximize the space available for the tree root zone by co-ordinating footpath locations to be closer to the property boundary and further from the kerb, or eliminated for minor local roads where pedestrians can walk safely on the road.
- Do not locate tree within 4m of streetlights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 2.5m of s/e kerb inlet pits.
- All timber in contact with ground to be class 1 durability hardwood or equivalent ACQ treated pine.
INSPECTION HOLD POINTS
Contact Council's Project Manager (02 68014000) at the following hold/witness points. Note: Hold points require written approval to proceed. Witness points require verbal approval to proceed and approvals dates and contacts shall be diarised as evidence of approval. Hold points are noted with an asterisk*
-Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.*
-Tree supply to the site, prior to planting.
-Tree planting complete.
SUBMISSIONS
Submit the following certificates to Council's Project Manager (02 68014000) at the following times:
-Assessment from the supply nursery or horticultural contractor indicating compliance with "NATSPEC Guide to Specifying Trees- Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and seek approval prior to planting.
-Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.
D1 TYPICAL STREET TREE WITH FOOTPATH
NTS
D2 A-A SECTION
NTS
D3 B-B SECTION
NTS
THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN CONSIDERED WITH RESPECT TO THIS PROJECT.
NOT REQUIRED
PLANNING OFFICER
APPROVED
MANAGER TECHNICAL SUPPORT
SURVEY
DESIGN
DRAWING
CHECKED
Mark Stacey
SENIOR DESIGN ENGINEER
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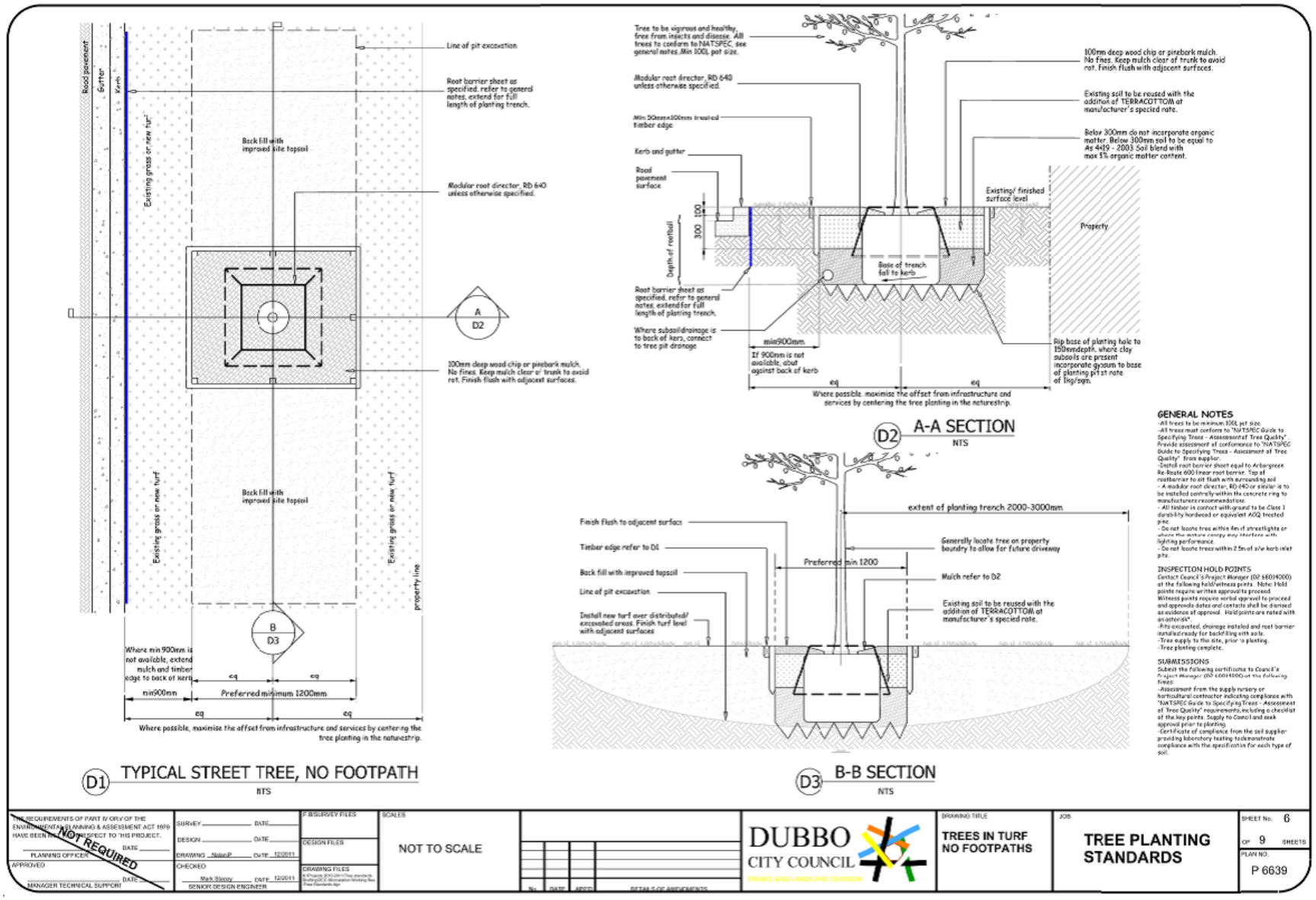
DESIGN FILES
DRAWING FILES
SCALES:
NOT TO SCALE
DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREES IN TURF (WITH FOOTPATH)
JOB
TREE PLANTING STANDARDS
SHEET No. 5
OF 9 SHEETS
PLAN NO.
P 6639


Road pavement
Gutter
Kerb
Existing grass or new turf
Line of pit excavation
Root barrier sheet as specified, refer to general notes, extend for full length of planting trench.
Back fill with improved site topsoil
Modular root director, RD 640 unless otherwise specified.
A
D2
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
property line
B
D3
Where min 900mm is not available, extend mulch and timber edge to back of kerb
min900mm
Preferred minimum 1200mm
eq
Where possible, maximise the offset from infrastructure and services by centering the tree planting in the naturestrip.
D1 TYPICAL STREET TREE, NO FOOTPATH
NTS
Tree to be vigorous and healthy, free from insects and disease. All trees to conform to NATSPEC, see general notes. Min 100L pot size.
Modular root director, RD 640 unless otherwise specified.
Min 50mm x 100mm treated timber edge
Kerb and gutter
Road pavement surface
Depth of rootball
100
300
Root barrier sheet as specified, refer to general notes, extend for full length of planting trench.
Where subsoil drainage is to back of kerb, connect to tree pit drainage
min900mm
If 900mm is not available, abut against back of kerb
Existing/ finished surface level
Base of trench fall to kerb
Property
Rip base of planting hole to 150mmdepth, where clay subsoils are present incorporate gypsum to base of planting pit at rate of 1kg/sqm.
100mm deep wood chip or pinebark mulch. No Fines. Keep mulch clear of trunk to avoid rot. Finish Flush with adjacent surfaces.
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
Below 300mm do not incorporate organic matter. Below 300mm soil to be equal to As 4419 - 2003 Soil blend with max 5% organic matter content.
Where possible, maximise the offset from infrastructure and services by centering the tree planting in the naturestrip.
D2 A-A SECTION
NTS
extent of planting trench 2000-3000mm
Finish Flush to adjacent surface
Timber edge refer to D1
Back fill with improved topsoil
Line of pit excavation
Install new turf over distributed/ excavated areas. Finish turf level with adjacent surfaces
Preferred min 1200
Generally locate tree on property boundry to allow for future driveway
Mulch refer to D2
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
D3 B-B SECTION
NTS
GENERAL NOTES
-All trees to be minimum 100L pot size.
-All trees must conform to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality". Provide assessment of conformance to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" from supplier.
-Install root barrier sheet equal to Arborgreen Re-Route 600 linear root barrier. Top of rootbarrier to sit flush with surrounding soil
- A modular root director, RD 640 or similar is to be installed centrally within the concrete ring to manufacturers recommendations.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent ACQ treated pine.
- Do not locate tree within 4m of streetlights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 2.5m of s/w kerb inlet pits.
INSPECTION HOLD POINTS
Contact Council's Project Manager (02 68014000) at the following hold/witness points. Note: Hold points require written approval to proceed. Witness points require verbal approval to proceed and approvals dates and contacts shall be diarised as evidence of approval. Hold points are noted with an asterisk*.
-Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.
-Tree supply to the site, prior to planting.
-Tree planting complete.
SUBMISSIONS
Submit the following certificates to Council's Project Manager (02 68014000) at the following times:
-Assessment from the supply nursery or horticultural contractor indicating compliance with "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and seek approval prior to planting.
-Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.
THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN DETERMINED WITH RESPECT TO THIS PROJECT.
NOT REQUIRED
PLANNING OFFICER
DATE
APPROVED
MANAGER TECHNICAL SUPPORT
SURVEY
DESIGN
DRAWING Nolan/P DATE 12/2011
CHECKED
Mark Storey DATE 12/2011
SENIOR DESIGN ENGINEER
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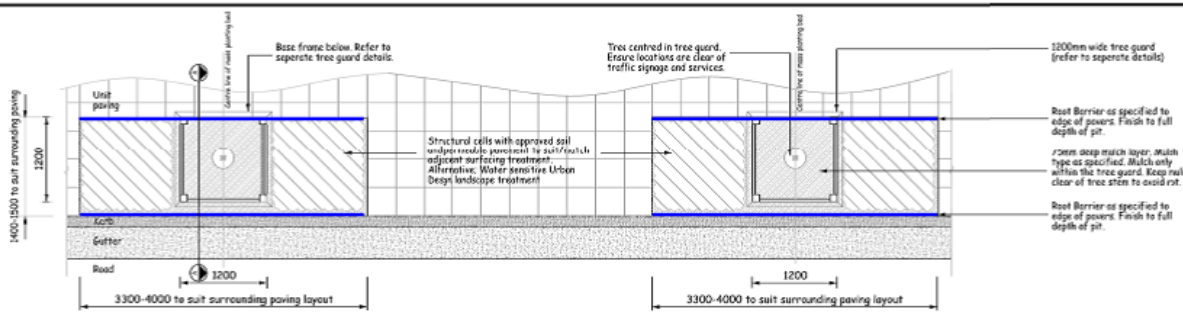
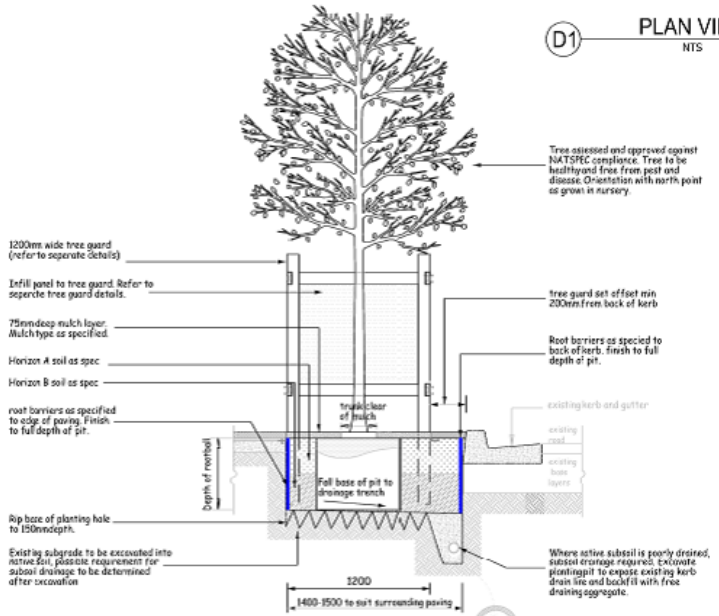
DESIGN FILES
DRAWING FILES
SCALES
NOT TO SCALE
No. DATE APP'D DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREES IN TURF NO FOOTPATHS
JOB
TREE PLANTING STANDARDS
SHEET No. 6
OF 9 SHEETS
PLAN NO.
P 6639



D1 PLAN VIEW
NTS



D2 AA- TYPICAL SECTION
NTS

DESIGN NOTES

CONSTRUCTION NOTES

DIAL BEFORE YOU DIG

Contractor shall carry out Dial Before You Dig searches by phoning 1100 prior to excavation. Where planting may be within the zone of influence highlighted by the utilities, locate services accurately using an Accredited Service Locater . Contact Councils Project Manager (02 68044000) if tree locations conflict with services.

SUBMISSIONS

Submit the following certificates to Council's Project Manager (02 68044000) at the following times:

-Assessment from the supply nursery or horticultural landscape contractor showing compliance against criteria in "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and obtain approval prior to ordering.

-Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.

GENERAL-This detail is typical only and may require adjustment for site specific situations. Do not scale off the drawing, dimensions take precedence over scaled measurements.

UTILITIES - The presence and location of underground services varies greatly from site to site and can affect the feasibility and design of tree planting in streetscapes. Many services are not located in accordance with standard allocations. Additional services may be present that are not documented. The locations of subsoil drainage and stormwater pits are required to determine suitable connections for pit drainage.Designers must check the feasibility of proposed tree locations and contact Dial Before You Dig 1100 to determine service locations. Where planting may be within the zone of influence highlighted by the utilities, locate services accurately using an Accredited Service Locator . Comply with clearances required by utilities providers. Do not locate tree pits where they will interfere with power lines or other utilities.

TRAFFIC ISSUES - Do not set out street trees in taxi stands, bus stops, loading zones, and slip lanes, driveways, pedestrian kerb ramps, etc. Do not locate street trees where they may interfere with traffic sight lines eg. on the approach side of pedestrian blisters or driveways. Comply with Figure 3.3 AS2890.2 for sight line clearances. All existing traffic signage to be reinstated at the completion of works to the same location unless otherwise agreed. Contact Council regarding any conflicts with proposed street tree locations and traffic signage.

TREE GUARDS - Type of tree guard to be determined by the Project Manager (Parks and Landcare) on a site by site basis. Where tree guards with decorative panels are proposed, orientate the treeguard with panels perpendicular to the kerb.

TREE SPECIES SELECTION NOTES

Plantings must be in accordance with the Greening Plan of Dubbo/Street Tree master plan, but Council will consider alternative species but this option must be well supported with a clear link to site and precinct landscape vision explaining the reasoning. In environmentally sensitive areas, eg. adjoining water courses, the lake, coastal environments or bushland, local indigenous species should always be preferenced. Contact D.C.C Landscape Architects on 68044000 to determine whether guidelines are relevant to the site.Weed species should always be avoided in any location.Avoid the selection of very large trees for confined streetscape situations unless additional tree pit preparation work is carried out or along verge area is available, well clear of all infrastructure (eg. kdg, footpath and services).

WITNESS & HOLD POINTS

Contact Council's Project Manager (02 68044000) at the following hold points. Note: Hold points require written approval to proceed.

-Tree pit setout

-Pits excavated, drainage installed and root barrier installed ready for backfilling with soils*

-Tree supply to the site, prior to planting.

-Tree planting & tree guard installed *

PRELIMINARIES

Erect sediment control barriers to gutters and drains prior to commencing excavation work. Keep the site continuously clear of debris and soil excherial that may wash into drainage system. Ensure continuous pedestrian access along the footpath pavement and to property entries. Comply with RTA Manual "Traffic Control at Work Sites".

TREE PIT EXCAVATION, PREPARATION AND DRAINAGE

Setout the tree pits and seek approval from Council's Project Manager prior to proceeding. Saw cut the road pavement to create a neat and square edge. Remove excavation material & dispose off site. Provide a fall to the base of the pit toward the drainage trench as detailed. Construct the drainage trench and connect to s/w system. Break up the base of the tree pit prior to backfilling. Position the root barrier prior to placement of soils. Note: Where possible link drainage between pits and connect to the s/w system behind the kerb. Minimize connections to the s/w main.

ROOT BARRIER

Supply a MOPE UV stabilised root barrier min 0.7mm wall thickness, min height ±20mm. Ensure root barrier finishes flush with the top of the pit backfill and top to ensure the barrier finishes minimum 100mm above the base of the pit. Overlap 300mm and heat seal or seal with Butyl tape.

SOILS

Horizon A soil - Equal to AS4419-2003 'Organic Soil' with texture to AS4419-2003 Table 2) - Sandy Loam. Placeno deeper than 300mm to prevent anaerobic decomposition of organic matter within soil.

Horizon B soil - Place below a depth of 300mm. Equal to AS4419-2003 'Soil blend' with max 5% organic matter content. Texture to AS4419-2003 Table2) - Sandy Loam. Do not incorporate organic matter to horizon B soil.

TREE SUPPLY

All trees must conform to Clark, R 2003. NATSPEC "Specifying Trees - A Guide to Assessment of Tree Quality" Appendix 2". Time site delivery to minimize storage on site. Ensure root balls are kept watered and store in the shade prior to planting. Inspect immediately upon delivery for NATSPEC compliance and return any trees that do not meet the standard. (Last reference - Inspection and Submissions

TREE PLANTING

Plant trees after placement of root director and soils, and before placing mulch. Do not lift trees by the trunk. Support from under the rootball. Remove the pot or bag and root prune 30mm all round the root ball to encourage root division. Plant with the rootball flush with the top of soil and plumb.

MULCH

Mulch type shall be a woodchip mulch with NO FINES. Finish mulch to be flush with surrounding pavement. Do not mound mulch layer.

THE REQUIREMENTS OF PART IV OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN ~~NOT~~ REQUIRED WITH RESPECT TO THIS PROJECT.
PLANNING OFFICER DATE
APPROVED
MANAGER TECHNICAL SUPPORT DATE

SURVEY DATE
DESIGN DATE
DRAWING NatashP DATE 09/2011
CHECKED
Mark Stacey DATE 12/2011
SENIOR DESIGN ENGINEER

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DESIGN FILES
DRAWING FILES

SCALES: NOT TO SCALE

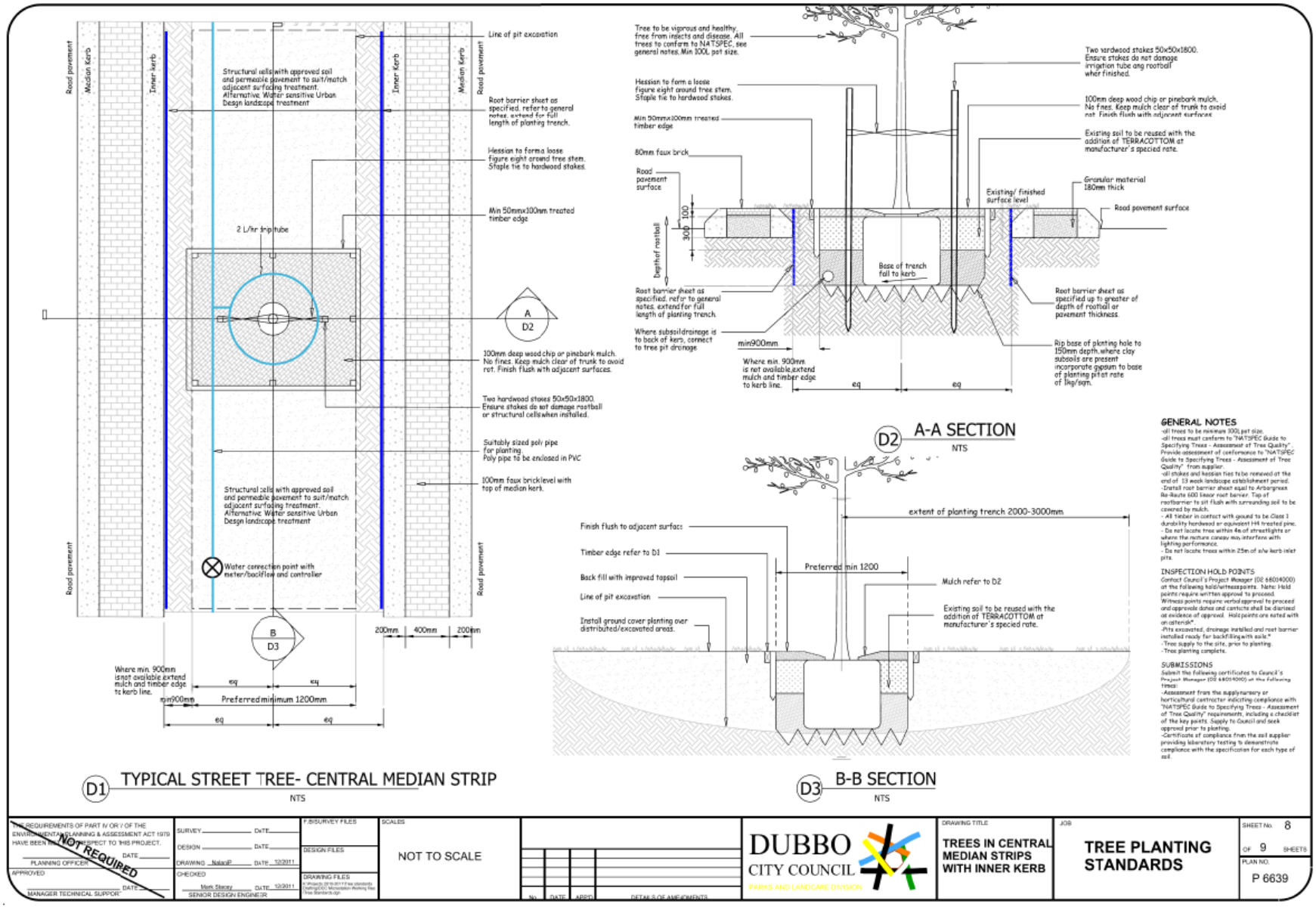
No.	DATE	APPD	DETAILS OF AMENDMENTS

DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION

DRAWING TITLE: STREET TREES IN MASS PLANTING AND MALLS

JOB: TREE PLANTING STANDARDS

SHEET No. 7 OF 9 SHEETS
PLAN NO. P 6639


Road pavement
Median Kerb
Inner kerb
Line of pit excavation
Structural cells with approved soil and permeable pavement to suit/match adjacent surfacing treatment. Alternative: Water sensitive Urban Design landscape treatment
Root barrier sheet as specified. refer to general notes. extend for full length of planting trench.
Hessian to form a loose figure eight around tree stem. Staple tie to hardwood stakes.
Min 50mmx100mm treated timber edge
2 L/hr trip tube
A
D2
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Two hardwood stakes 50x50x1800. Ensure stakes do not damage rootball or structural cells when installed.
Suitably sized poly pipe for planting. Poly pipe to be enclosed in PVC
100mm faux brick level with top of median kerb.
Water connection point with meter/backflow and controller
B
D3
200mm
400mm
200mm
Where min. 900mm is not available extend mulch and timber edge to kerb line.
min900mm
Preferred minimum 1200mm
eq
Tree to be vigorous and healthy free from insects and disease. All trees to conform to NATSPEC, see general notes. Min 100L pot size.
Hessian to form a loose figure eight around tree stem. Staple tie to hardwood stakes.
Min 50mmx100mm treated timber edge
80mm faux brick
Road pavement surface
Two hardwood stakes 50x50x1800. Ensure stakes do not damage irrigation tube and rootball when finished.
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
Granular material 180mm thick
Existing/ finished surface level
Road pavement surface
100
300
Depth of rootball
Base of trench fall to kerb
Root barrier sheet as specified. refer to general notes. extend for full length of planting trench.
Root barrier sheet as specified up to greater of depth of rootball or pavement thickness.
Where subsoil drainage is to back of kerb, connect to tree pit drainage
min900mm
Where min. 900mm is not available,extend mulch and timber edge to kerb line.
Rip base of planting hole to 150mm depth, where clay subsoils are present incorporate gypsum to base of planting pit at rate of 1kg/sqm.
eq
D2 A-A SECTION
NTS
extent of planting trench 2000-3000mm
Finish flush to adjacent surfacs
Timber edge refer to D1
Back fill with improved topsoil
Line of pit excavation
Install ground cover planting over distributed/excavated areas.
Preferred min 1200
Mulch refer to D2
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
GENERAL NOTES
-all trees to be minimum 100L pot size.
-all trees must conform to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality". Provide assessment of conformance to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" from supplier.
-all stakes and hessian ties to be removed at the end of 13 week landscape establishment period.
-Install root barrier sheet equal to Arborgreen Re-Route 600 linear root barrier. Top of rootbarrier to sit flush with surrounding soil to be covered by mulch.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent H4 treated pine.
- Do not locate tree within 4m of streetlights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 2.5m of s/w kerb inlet pits.
INSPECTION HOLD POINTS
Contact Council's Project Manager (02 68034000) at the following hold/witness points. Note: Hold points require written approval to proceed. Witness points require verbal approval to proceed and approvals dates and contacts shall be diarised as evidence of approval. Hold points are noted with an asterisk*.
-Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.*
-Tree supply to the site, prior to planting.
-Tree planting complete.
SUBMISSIONS
Submit the following certificates to Council's Project Manager (02 68034000) at the following times:
-Assessment from the supply nursery or horticultural contractor indicating compliance with "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and seek approval prior to planting.
-Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.
D1 TYPICAL STREET TREE- CENTRAL MEDIAN STRIP
NTS
D3 B-B SECTION
NTS
THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN MET IN RESPECT TO THIS PROJECT.
NOT REQUIRED
DATE
PLANNING OFFICER
APPROVED
DATE
MANAGER TECHNICAL SUPPORT
SURVEY
DATE
DESIGN
DATE
DRAWING NalaciP
DATE 12/2011
CHECKED
Mark Stacey
DATE 12/2011
SENIOR DESIGN ENGINEER
F:\SURVEY FILES
DESIGN FILES
DRAWING FILES
SCALES
NOT TO SCALE
No. DATE ABBR DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREES IN CENTRAL MEDIAN STRIPS WITH INNER KERB
JOB
TREE PLANTING STANDARDS
SHEET No. 8
OF 9 SHEETS
PLAN NO.
P 6639

2.2 Commercial Development and Subdivision

2.2.1 Introduction

The city of Dubbo is a progressive inland city with a well-defined service role in the surrounding region. In promoting the city as a place for commercial development, the provision and protection of appropriate land and the ready supply of supporting infrastructure is a priority.

Commercial land use zones are located throughout the city and located to best suit the needs of business and those of their customers and employees. Commercially-zoned land within the city is comprised of the following zones:

- B1 Neighbourhood Centre;
- B2 Local Centre;
- B3 Commercial Core;
- B4 Mixed Use;
- B5 Business Development;
- B6 Enterprise Corridor;
- B7 Business Park; and
- RU5 Village Zone
- SP3 Tourist.

Commercial activity is also carried out in the RU5 Village zone including the villages of Ballimore, Eumungerie and Wongarbon.

Council is committed to the facilitation of commercial development that is:

- Compatible with the surrounding locality;
- Accessible;
- Well-designed; and
- Functional.

The benefits of well-planned commercial development are:

- Increased retail activity, greater product diversity (higher order) and further employment;
- A reduction in the expenditure on social and physical infrastructure (traffic, water, sewer, electricity);
- A better use of existing infrastructure (B3 Commercial Core);
- Buildings are more energy-efficient and less expensive to run;
- Environmental assets are promoted (Macquarie River) and protected; and
- Protection of amenity and health.

2.2.2 The context of this section

Council in 1996 adopted the Commercial Areas Development Strategy (CADS) as a component of the Urban Areas Development Strategy (UADS). The CADS provides a robust hierarchy of commercial and retail areas in the city with the Central Business District being the primary commercial area of the city and the wider region.

The CADS was reviewed by Council in 2009 and 2010. This review concluded that the commercial hierarchy is robust and responds to the current and future commercial land use demands of the city.

The Dubbo Local Environmental Plan (LEP) 2011 implements the commercial hierarchy through the suite of land use zones contained in the LEP.

This Section provides detailed development requirements for development undertaken in areas of the city zoned for commercial or business purposes.

2.2.3 Land to which the section applies

This Section applies to all land zoned for commercial or business purposes in Dubbo LEP 2011 and as stated in section 2.2.1 of this section.

Objectives

This Section has the following objectives:

- Provide guidance to developers in the design of development proposals situated in the commercial zones and the submission of development applications;
- Reinforce and supplement the aims, objectives and development controls contained in Dubbo LEP 2011;
- Provide detailed development controls where needed to facilitate development;
- Clarify the intent of the zones and the location of various land uses;
- Ensure proposed commercial development is appropriate to the zone;
- Improve the quality and solar access of commercial buildings; and
- Assist professionals, technicians and trades persons by providing relevant information and resources.

2.2.4 Commercial zones

The Dubbo Local Environmental Plan 2011 includes nine commercial or business zones allowing for a variety of land use opportunities in numerous locations across the city. The following sections provide information detailing the extent of commercial and business zones and referred to as follows:

- Tamworth Street
- Boundary Road
- Myall Street
- Bourke Street
- Minore Road
- Victoria Street

2.2.4.1 B1 Neighbourhood Centre zone

Land zoned B1 Neighbourhood Centre is located in various areas around the city and comprises existing and new areas catering for the daily needs of people who live and work in the local area. The B1 Neighbourhood Centre zone is generally located in residential areas.

Photograph 1: Tamworth Street Neighbourhood Centre

2.2.4.2 B2 Local Centre zone

Land zoned B2 Local Centre is in one location within the city, namely the Orana Mall Marketplace (corner Cobra Street and Wheelers Lane) and comprises an existing shopping centre which caters for the retail needs of people who live and work in both the local and regional area. It has a number of large department stores but is predominantly retail in nature.

Photograph 2: Orana Mall

2.2.4.3 B3 Commercial Core zone

Land zoned B3 Commercial Core is the Dubbo Central Business District (CBD), being the historical centre of Dubbo and containing high level (commercial, retail, office, business, professional services, government offices, entertainment, dining etc) commercial and business activities. The CBD caters for the needs of people who live and work in both the local and regional area, plus the travelling public.

Photograph 3: B3 zone along Cobra Street (commercial/tourist activities)

2.2.4.4 B4 Mixed Use zone

Land zoned B4 Mixed Use is located to the east of the Dubbo CBD and is situated between Darling, Fitzroy, Talbragar and Cobra Streets. Due to the proximity of the area to the CBD, it is the intent of the zone to permit compatible small scale business, office, retail and other land uses, taking advantage of the close proximity of the CBD.

Clause 7.11 of the Dubbo LEP 2011 places limitations on the size of these activities to ensure that the cottage scale amenity of the area remains and the commercial activities do not dominate the locality.

Photograph 4: Wingewarra Street dwelling houses located close to the CBD

2.2.4.5 B5 Business Development zone

Land zoned B5 Business Development is located in various areas around the city, namely: Whylandra Street (corner Mansour Street); Cobbora Road (between Fitzroy Street and the railway line); Cobra Street (between the railway line and Hawthorn Street); and BlueRidge Estate.

This zone is predominantly utilised for bulky goods retailing, having good visibility and vehicle access and being located along the main roads through the city.

Photograph 5: New development in the B5 zone (BlueRidge Estate)

2.2.4.6 B6 Enterprise Corridor zone

Land zoned B6 Enterprise Corridor is located in various areas around the city, namely: Bourke Street (North Dubbo); Victoria Street (West Dubbo); Erskine Street (between Brisbane and Fitzroy Street); Wheelers Lane (between Birch Avenue and Orana Mall); and Cobra Street (backing onto Mumford Crescent).

The zone permits a range of land uses and is located along the main roads of the city. A number of the current land uses in this zone are motor vehicle-orientated and light commercial.

Photograph 6: Car yards along Bourke Street (Newell Highway)

2.2.4.7 B7 Business Park zone

Land zoned B7 Business Park is located at the BlueRidge Estate and has been located to encourage high technology industries and those industries with large staffing requirements (eg call centres) and the like.

Photograph 7: BlueRidge Business Park, East Dubbo

2.2.4.8 RU5 Village zone

Land zoned RU5 Village is located in the villages of Ballimore, Eumungerie and Wongarbon.

The zone permits a wide range of commercial land uses. With recent infrastructure works at Ballimore and Wongarbon and the Dubbo LEP 2011 permitting additional dwelling houses surrounding the villages, it is envisaged that an increase in population in these areas will provide those additional goods and services.

Photograph 8: Wongarbon Village

2.2.4.9 SP3 Tourist zone

Land zoned SP3 Tourist is located along Cobra and Whylandra Streets and comprises motels and food and drink premises, together with tourist enterprises in and around the Taronga Western Plains Zoo.

Tourism is an important factor in the economy of Dubbo and an opportunity exists for the city to respond to the needs of the travelling public and visitors with quality accommodation, goods and services, and attractions. The Cobra Street and Whylandra Street precincts largely cater for the accommodation and goods and services aspect, while the Camp Road precinct caters more for attractions with the potential for tourist accommodation and other new attractions.

Photograph 9: Taronga Western Plains Zoo

2.2.5 Development controls

In preparing a development application it is necessary to address some important principles.

This section is designed to encourage 'best practice' solutions and clearly explains Council's requirements for commercial and business development throughout the city.

This section lists design elements under the following headings:

Element 1: Set-backs;
Element 2: Building design;
Element 3: Landscaping;
Element 4: Vehicular access and parking;
Element 5: Fencing and security;
Element 6: Design for access and mobility;
Element 7: Waste management;
Element 8: Soil, water quality and noise management;
Element 9: Signage and advertising;
Element 10: Services; and
Element 11: Ancillary residential uses.

Each design element has been structured so that it contains:

- Objectives for each design element which describe the required outcomes;
- Performance criteria – which outline the range of matters required to be addressed to satisfy the objectives (ie the performance criteria explains how an objective is to be achieved);

Note: Not all performance criteria will be applicable to every development. In submitting a development application, a proponent shall indicate those criteria relevant to the particular development.

- *'Acceptable solutions'* (are) specific measures which illustrate a way of meeting both the performance criteria and the objectives of an element. They are examples only and are not mandatory; and
- References refer to relevant clauses of Dubbo LEP 2011, other legislation, Council policies and literature relevant to the design element.

Element 1: Set-backs

Objectives

- To ensure that adequate area is available to accommodate landscaping as appropriate;
- To reduce the visual impact of large commercial developments on the streetscape; and
- To reduce the impact upon adjoining non-commercial development where applicable.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Front (road) and side set-backs P1 Set-backs respect and complement the existing streetscape and the desired future character of the locality.	A1.1 **B1 zone** - the ground floor of buildings is generally located on the front boundary through provision of a zero set-back. The front boundary set-back for the second storey of development is 3 m. The side boundary set-back is a zero set-back except where development adjoins residential development, the side boundary set-back shall be at least 3 m at the first floor level and above. These set-backs do not apply to land adjacent to a heritage item. A1.2 **B2 zone** - buildings are generally located to avoid traffic conflicts and provision of facilities for delivery and service vehicles. Buildings provide adequate set-backs to ensure adequate areas are provided for landscaping features on the land. A1.3 **B3 zone** - the ground floor, first floor and second floor of buildings are generally located on the front boundary through provision of a zero set-back. The front boundary set-back for the fourth storey of development is 3 m and shall increase by 3 m for each additional three storeys to a maximum of 12 m. The side boundary set-back of development is a zero set-back at ground floor level and at least 3 m at first floor level and above. This set-back does not apply to land adjacent to a heritage item. A1.4 **B4 zone** - buildings are to maintain existing set-backs to front and side boundaries of development on the land or neighbouring development if there is no development on the land.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
	A1.5 **B5, B6, B7 and SP3 zones** - buildings should be set-back to provide suitable landscaping and vehicle parking with a minimum set-back of 5 m (10 m where fronting a highway). A1.6 **RU5 zone** – development should be provided with set-backs which reflect the adjoining properties, whether they be commercial or residential in nature. A1.7 The set-backs stated above are subject to variation based on any potential overshadowing impacts of development to adjoining development. Detailed overshadowing diagrams prepared for 9.00 am, 12 noon and 3.00 pm on 22 June may be required to be provided to Council with any development application for construction of any building in any business or commercial zone. A1.8 Irrespective of front and side setbacks as above, the bulk, size, shape etc of a building is not to impede the desired sight-lines for vehicles/drivers at intersections, particularly in sections of road with laneways intersecting.
Rear set-backs P2 Rear set-backs provide access, reduce adverse impacts on adjoining properties, allow for servicing of development and comply with the requirements of the Building Code of Australia (BCA).	A2.1 **B1, B2, B3 and RU5 zones** – set-backs of buildings shall be of sufficient size to ensure development can be adequately serviced without impacting operations of adjoining development. A2.2 **B4 zone** - buildings are to maintain the existing residential set-backs and shall provide a rear boundary set-back of at least 10 m. A2.3 **B5, B6 and B7 zones** - buildings have a rear set-back allowing for the servicing needs of development and to not impact operations of adjoining development. A2.4 **SP3 zone** - development which adjoins residential development, buildings are set-back at least 10 m. A2.5 Buildings are set-back to meet the requirements of the BCA.

Element 2: Building design

Objectives

- To promote functional commercial and business development that makes a positive contribution to the streetscape;
- To promote commercial and business development that complements and enhances the visual amenity of the surrounding area; and
- To ensure buildings are oriented towards streets and adjoining or adjacent open space.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Building design P1 Buildings are designed to integrate with the streetscape and be compatible with the surrounding locality.	A1.1 Building facades adopt a contemporary appearance relating to the function of the building and the characteristics of surrounding development in the locality. A1.2 Development on corner sites shall incorporate splays, curves, building entries and other architectural elements to reinforce the corner as a land mark feature of the street. A1.3 Building design addresses the 'Safer By Design' guidelines.
Architectural interest P2 Commercial and business development is designed to contribute positively to the streetscape.	A2.1 Architectural features should be included in the design of new buildings to provide for more visually interesting precincts. These may include: – Elements which punctuate the skyline; – Distinctive parapets or roof forms; – Visually interesting façades; – Architectural emphasis in the built form; and – A variety of window treatments. A2.2 Building facades shall be articulated by use of colour, arrangement of elements or by varying materials. A2.3 The pedestrian entrance point to buildings must be clearly delineated through variation in the building façade and the provision of different textures and materials.
Building height P3 Building height is consistent with the scale appropriate to the location of the land.	A3.1 Building height in the **B1, B4, RU5** and **SP3** (along Cobra and Whylandra Streets) does not generally exceed two storeys. A3.2 Buildings do not overshadow adjoining or adjacent development on 22 June.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
	A3.3 If business or commercial development adjoins or is within a reasonable proximity to residential or other sensitive development, overshadowing diagrams are to be prepared and provided to Council for 9.00 am, 12 noon and 3.00 pm on 22 June (winter solstice).
Security	
P4.1 Building design allows surveillance of streets and open spaces.	A4.1 Buildings address the street and open spaces (where applicable) to allow surveillance. Pedestrian entrance points directly face streets.
P4.2 Secure and accessible vehicle parking is provided onsite for the use of tenants and visitors.	A4.2 The parking area shall be well-lit and easily accessible. Parking for dwellings shall be allocated and secure.
Building materials	
P5 The form, colours, textures and materials of buildings should enhance the quality and character of the commercial or business precinct.	A5.1 External walls and roofing materials are to be of a non-reflective material, such as brick, concrete block, rendered concrete or masonry, metal or fibre cement cladding systems or pre-coloured metal sheeting. A5.2 All external building materials including roofing shall be of a neutral colour appropriate to the site and the surrounding locality. A5.3 Large expansive blank walls over 15 m in length without articulation are not permitted.

References
'Safer by Design' guidelines - NSW Police Force

Element 3: Landscaping

Objectives

- To provide attractive landscapes which reinforce the function of the street, enhance the amenity of commercial buildings and preserve significant stands of trees or natural vegetation, and
- To provide a park environment and soften the visual impact of buildings.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Site planning P1 Landscaping is considered as a component of the site planning process and reflects the zone and scale of development.	A1.1 Landscape plan prepared in accordance with the information provided below is provided to Council for consideration for any new development over 300m² in gross floor area, subject to it being located within the **B1, B2, B3, B4, B5, B6, B7** and **SP3** zones. Note: Check with Council prior to the preparation of a landscape plan as to the exact nature of landscaping required.
Existing trees and shrubs P2 Development is designed to maximise the number of trees retained onsite.	A2.1 Where there are existing trees onsite, the building design provides for their protection. A2.2 Buildings, driveways and service trenches are located outside the dripline of existing trees and shrubs. A2.3 During site work and construction, protective measures will be required around trees to be retained. Details illustrating these measures shall be in accordance with AS4970-2009 and are required with the landscape plan at the development application stage. A2.4 Street trees are provided in accordance with the requirements of Council's Parks and Landcare Services Division generally and Council's Tree Planting Standards (Appendix A). Note: Where Council agrees that it is not possible or practicable to retain existing trees, two advanced trees of the same species or a species agreed to by Council's Director Parks and Landcare Services are to be planted.
Visual amenity P3 Landscaping is used to soften the impact of buildings, as a screen for visual intrusions, to screen parking areas and for recreation space.	A3.1 Landscaping is provided in front set-back areas to soften the appearance of buildings and improve the streetscape. A3.2 Landscaping includes species that will grow to a height consistent with the height and scale of the building.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
	A3.3 For developments facing a road, public open space or nearby residential area trees with a mature height of at least 8.0 m are to be planted. Trees shall be a minimum 1.5 m in height at planting and be sourced from NatSpec accredited suppliers or equivalent. A3.4 Where car parking is visible from a road, for every 10 to 12 car parking spaces, landscaping bays (1.5 m x 5.5 m) are to be provided and appropriately-sized trees and ground cover planted within each bay. A3.5 Landscaping addresses the 'Safer By Design' guidelines. A3.6 Species selection is to be sympathetic to existing plantings found within the precinct and in accordance with the Urban Tree Strategy.
Water efficiency P4 Landscaping shall use indigenous endemic species of a low water demand. Non endemic species will be considered where they have a proven high tolerance to heat and a low water requirement.	A4.1 Landscaping design shall incorporate known water efficient species that are suitable to Dubbo's climate and which will not cause damage to adjacent buildings or driveways. A4.2 Adequately fixed underground watering equipment shall be installed in all landscaped areas. A4.3 Water sensitive urban design shall be incorporated into landscape plans as deemed appropriate.
Protection of built infrastructure P5 Landscaping shall not have detrimental impacts on existing infrastructure.	A5.1 The landscaping design shall incorporate elements (such as root barriers or appropriate species) that prevent the damage of the built infrastructure. A5.2 Trees are to be planted in accordance with the Dubbo City Council Tree Planting Standards.

Commercial and business development landscaping requirements

A landscape plan and planting schedule shall include the following:

1. Location of landscaping on the site.
2. Scientific name of all plant material.
3. Height and characteristics of plant material at maturity.
4. Status of landscaping at planting.
5. Protection of existing trees (as relevant) in accordance with AS4970-2009.
6. Details of structural elements preventing damage to the built infrastructure.
7. Specification of a maintenance regime.
8. Specification of irrigation systems for maintenance of landscaping, referencing current Council standards.
9. Specification that a horticultural professional will supervise implementation of the works in the landscape plan.
10. The plan shall be drawn to a recognised scale such as 1 to 100.

The landscape plan and supporting information shall be prepared by a suitably qualified and experienced landscape or horticultural professional.

References
'Safer by Design' guidelines - NSW Police Force

Element 4: Vehicular access and parking

Objectives

- To ensure vehicle access to and from a development is adequate, safe and direct; and
- To provide sufficient, convenient and functional parking and loading/unloading areas.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Ingress and egress P1 Ingress and egress points are located and sized to facilitate the safe and efficient movement of vehicles to and from the site.	A1.1 Vehicle access driveways are not within 6 m of an intersection or break in a median strip except where the median break in question has been specifically designed to facilitate such access. A1.2 Ingress and egress points are constructed in accordance with Council Standard 5211 and 5235 at a width determined by the turning path of design vehicle using Austroads – Design Vehicles and Turning Path Templates with a desirable minimum radius (Turning Speed 5-15 kph). Note: The design vehicle used to determine the width of the ingress, egress, driveways, accessways and manoeuvring areas is to be the largest vehicle likely to enter the site. A1.3 Ingress and egress points are signposted. A1.4 Where separate ingress and egress points are proposed, the ingress point is the first point reached when approaching the site by road from the side of the road upon which the development is located. A1.5 Where a separate ingress and egress point are provided, they shall be separated by a minimum distance of 3 m. A1.6 All vehicles must enter and exit the site in a forward direction.
Accessways P2 Accessways and driveways are sized to facilitate the safe and efficient movement of vehicles to, from and within the site.	A2.1 Driveways have a minimum width of: – 6 m where separate ingress and egress is provided; and – 8 m where a combined ingress and egress is provided. A2.2 The grade of all accessways, driveways and manoeuvrability areas comply with AS/NZS 2890.1 and AS 2890.2. Note: The dimensions mentioned are a minimum only. It is still required that the width be suitable given the turning path of the required design vehicle. A2.3 Internal accessways, manoeuvring areas etc are provided with directional signposting and line marking.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
	A2.4 All internal accessways are of a width and geometry to facilitate the safe and efficient movement of the design vehicle. A2.5 All vehicles are able to enter and leave the site in a forward direction.
Car parking P3.1 Car parking does not adversely impact upon the visual amenity of the site and the locality.	A3.1 Where car parking is to be located forward of the building line, it is provided in accordance with the following: – Is not located within 3 m of the property boundary; and – Is screened by landscaping.
P3.2 Car parking is conveniently located and easily accessed.	A3.2 Visitor car parking is conveniently located adjacent to the main visitor's entrance to the building.
P3.3 Car parking areas are designed to facilitate the safe movement of vehicles and provide a sufficient number of spaces for the projected needs of the development.	A3.3 Parking areas and numbers are provided and designed in accordance with Chapter 3.5 Parking.
P3.4 Car parking is provided at a rate suitable to the proposed development.	A3.4 Manoeuvring areas are provided to ensure that the design vehicle can enter and leave in a forward direction.
Loading/unloading and manoeuvring areas P4 Facilities are provided onsite for the loading and unloading of goods.	A4.1 Onsite loading and unloading areas are provided. A4.2 No loading or unloading is undertaken on a footpath, public road, laneway or service road. A4.3 Loading or unloading areas are designed and provided to facilitate use by the design vehicle. A4.4 Vehicle manoeuvring must be undertaken in a forward direction.
Sealing and drainage P5 All driveways, car parks, loading, unloading, manoeuvring areas etc are appropriately drained and sealed.	A5.1 All areas are sealed in accordance with Chapter 3.5 Parking. A5.2 All sealed areas are drained to Council's stormwater system.
	A5.3 No surface drainage is discharged across Council's footpath or any reserve.

References

- AS/NZS 2890.1 Parking Facilities – Off-Street Car Parking and AS 2890.2 Parking Facilities – Off-Street Commercial Vehicle Facilities;
- Design Vehicles and Turning Path Templates – AUSTROADS 1995; and
- DCP 2011 Chapter 2.6 Parking.

Element 5: Fencing and security

Objectives

- To minimise the visual impact of fencing to the locality; and
- To provide security to commercial development.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Fencing and screen walls P1 Fencing and screen walls do not adversely impact upon the visual amenity of the area. Fencing and screen walls provide suitable security for commercial developments and properties.	A1.1 Fencing exceeding 900 mm in height is not provided forward of the front building line. A1.2 Fencing does not exceed a maximum height of 1.8 m. A1.3 Barbed wire fencing shall not be provided. A1.4 Fencing evident from a public place shall be: - Powder-coated black of a suitably high-quality design; - As visually unobtrusive as possible; and - Where physically possible, softened with a high standard of landscaping. A1.5 Access gates shall be set back from the public roadway a sufficient distance to allow a vehicle to stand without hindering vehicular or pedestrian traffic on the public road whilst the gate is opened or closed. A1.6 Security gates associated with any fencing are not to open outwards onto any public place.
Security grilles P2 Shopfront security grilles do not adversely impact upon the visual amenity and passive surveillance of the area.	A2.1 Security grilles shall be permeable (see-through). Note: Solid shutters on front windows and doors are not permissible. A2.2 Security grilles shall be discreet, have minimal visual impact and shall not dominate the shopfront.

Photograph 10: Security grille type which is considered to detract from the business and the street

Photograph 11: Permeable security grille, provides security and visibility

Element 6: Design for access and mobility

Objective

- To ensure that all developments, where appropriate, are designed and constructed to provide access and mobility for people with disabilities.

Performance criteria The objective may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Access and Mobility	
P1 Development provides an appropriate level of access and facilities for persons with a disability.	A1.1 Development is designed in accordance with Chapter 3.1 Access and Mobility.

References
• Disability Discrimination Act 1992 and Disability Access to Premises Buildings – Standards 2010; • Anti-Discrimination Act 1977; and • Building Code of Australia.

Element 7: Waste management

Objective

- To provide for an efficient and environmentally responsible means of storage and/or disposal of waste and recyclable products.

Performance criteria The objective may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Garbage	
P1 The capacity, size, construction and placement of solid waste, liquid waste and recyclable storage facilities is determined according to estimated amounts of waste and recyclables generated, safe means of collection, cleanliness and unobtrusive effects on the building and neighbourhood.	A1.1 Solid waste, liquid waste and recyclable storage facilities are sized appropriately and located behind the building line. A1.2 Sufficient space is provided on site for the loading and unloading of wastes. This activity is not to be undertaken on any public place. A1.3 Ready access to commercial waste containers by collectors and collection vehicles within close proximity to street frontages shall be provided and screened with landscaping and vegetation.
Liquid trade waste	
P2 Liquid trade waste requirements for development are considered and provided for.	A2.1 The development has a Liquid Trade Waste approval in place from Council and/or the Office of Environment and Heritage.
Excavated material	
P3 Excavated material, demolition and builder's waste is disposed of in an environmentally-sustainable manner.	A3.1 Sites for disposal of excavated material, demolition and builder's waste are to be nominated by the developer at the time of lodgement of a development application.

Note

Council may levy trade waste special rates and charges in addition to general sewerage rates and charges for acceptance of trade waste into the sewer and fix fees or charges for regulatory and other services in accordance with the Revenue Policy set out in the Council's Management Plan. Applicants wishing to discharge trade waste must enter into a service contract with Council which will set out the conditions associated with the discharge of trade waste to the sewer.

References

- Office of Environment and Heritage (Disposal of Excavated Materials);
- Dubbo City Council - Trade Waste Policy;
- Protection of the Environment Operations Act 1997; and
- Liquid Trade Regulation Guidelines: April 2009.

Element 8: Soil, water quality and noise management

Objectives

- To minimise soil erosion and sedimentation by minimising land disturbances and the provision of control measures at the source;
- To retard the flow of water into the natural drainage system and mitigate impacts from stormwater run-off; and
- To protect the surrounding area from unnecessary noise.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Soil erosion	
P1 Adequate provision is made for measures during construction to ensure that the land form is stabilised and erosion is controlled.	A1.1 An Erosion and Sediment Control Plan is prepared by an appropriately qualified professional, addressing the existing site, the proposed development (works) and the protection of the environment, adjoining properties and infrastructure (road reserve, waterways and stormwater systems). A1.2 The Erosion and Sediment Control Plan shall comply with the Office of Environment and Heritage's '*Managing Urban Stormwater: Soils and Construction'*.
Stormwater quality	
P2.1 The stormwater system design optimises the interception, retention and removal of water-borne pollutants through the use of appropriate criteria prior to their discharge to receiving waters.	A2.1 Adequate pollution interception, first-flush systems are in place to comply with the Office of Environment and Heritage's '*Stormwater First-Flush Pollution'*. A2.2 Water sensitive urban design shall be undertaken in accordance with Chapter 3.5 Parking, Section 3.4 Internal drainage of paved areas and water sensitive urban design.
P2.2 The stormwater system design minimises the environmental impact of urban run-off on other aspects of the natural environment (creeks and vegetation) by employing techniques which are appropriate and effective in reducing run-off and pollution.	A2.3 Development minimises earthworks (cut and fill). Where excavation works are intended to be undertaken, development applications may be required o be accompanied by: – Geotechnical report evaluating site stability; – Schedule of earth works (cut and fill); and – Details of construction techniques. A2.4 Gross Pollutant Traps (GPT's) are installed to intercept litter washed into the drainage system from car park and hardstand areas.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Stormwater management	
P3.1 Drainage from development site is not in excess of drainage from the site during its pre-development state.	A3.1 The stormwater discharge for development sites does not exceed the five year ARI storm event. Typically, an onsite stormwater detention system will be required to reduce the volume of stormwater discharge.
P3.2 Ground floors of commercial buildings are located above the 1% ARI flood level to provide protection to property in accordance with the accepted level of risk.	A3.2 Onsite stormwater and drainage control shall be designed for the 20 year ARI storm. Trunk drainage systems shall provide for the 20 year ARI event with overland flow paths designed for the 1% ARI storm event. A3.3 Stormwater should be gravity drained to Council's stormwater system which may require inter-allotment drainage.
Noise management	
P4.1 Hours of operation are restricted to avoid any noise nuisance on surrounding residential areas.	A4.1 The operation of commercial activities in the **RU5, B1, B3** and **B4** zones shall not exceed the requirements as stated in the Protection of the Environment Operations Act 1997.
P4.2 Development is designed to minimise the potential for offensive noise to be generated.	A4.2 Noise levels should not exceed the requirements of the Protection of the Environment Operations Act 1997.
P4.3 Noise control measures for any particular source should take account of all potentially affected points.	A4.3 Sources of noise such as garbage collection, machinery, parking areas and air conditioning plants should be sited away from adjoining properties and where necessary, be screened by walls or other acoustical treatments.

References

- Office of Environment and Heritage's Managing Urban Stormwater: Soils and Construction;
- Office of Environment and Heritage's guideline Stormwater First-Flush Pollution;
- Protection of the Environment Operations Act 1997;
- Noise Guide for Local Government; and
- NSW Environmental Criteria for Road Traffic Noise.

Element 9: Signage and advertising

Objective

- To ensure building identification signs and business identification signs are compatible with the character and function of commercial precincts and surrounding areas.

Performance criteria The objective may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Role, function and location P1 Signs reflect the role and function of commercial premises.	A1.1 Signs are incorporated into the architecture of the building (ie located in recessed panels in the parapet or façade or on purpose-made structures which relate to the style and materials of the building).
Signage P2 Signs are appropriate for the nature of the business and the locality.	A2.1 Signage shall: – Be non-flashing; – Relate to the lawful use of the building or site (except for temporary signs) on which the sign is located; – Not be detrimental to the character and functioning of the building; and – Not cover mechanical ventilation inlet or outlet vents.
Business identification signs P3 Signs are appropriate for the nature of the business and the locality. Note: Signs meeting the A3.5 requirements will not require development consent.	A3.1 Signage shall: – Meet the general requirements for signage (P2); – Have one sign per premises; – Not be illuminated; and – Not be flashing. A3.2 One business identification sign (being a flush wall sign) may be placed on each facade fronting a public road. The sign shall be no greater than 5 m^2 in area and shall not be higher than the facade on which it is mounted. A3.3 For single occupancy sites in the **B5, B6** and **B7** zones, one free-standing sign may be constructed within the front landscaped area. The sign shall not exceed 2 m^2 in area or 1.5 m in height. A3.4 On multiple occupancy sites in the **B5, B6** and **B7** zones, one directory board sign may be constructed within the front landscaped area. The sign shall not exceed 3 m^2 in area and 2 m in height.

Performance criteria The objective may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
	A3.5 On multiple occupancy sites (other than in the **B1, B2** or **B3** zones), one business identification sign (being a flush wall sign) may be placed on the facade of a unit. The sign shall be no greater than 5 m^2 in area and shall not be higher than the facade on which it is mounted.
Real estate signs (advertising premises or land for sale or rent). P4 Signs are appropriate for the commercial locality and are of a temporary nature. Note: Signs meeting the A4.1 requirements will not require development consent.	A4.1 Real estate signage shall: – Meet the general requirements for signage (P2); – Have a maximum area of 4.5 m^2; – Be removed within seven days after the premises or land is sold or let; and – Not be illuminated or flashing.
Temporary signs (special events) P5 Signs are appropriate for the commercial locality and are of a temporary nature. Note: Signs meeting the A5.1 requirements will not require development approval.	A5.1 Temporary signs (special events) signage shall: – Meet the general requirements for signage (P2); – Have a maximum two signs on site; – Have a maximum one sign off site; – Have a maximum area of1.5 m^2; and maximum height of 1.5 m; – Not include commercial advertising apart from the name of any event sponsors; – Not be displayed more than 28 days before and removed within 14 days after the event; – Not obstruct the sight line of vehicular traffic; and – Not be illuminated or flashing.

References
• State Environmental Planning Policy (Exempt and Complying Development Codes) 2008; and • State Environmental Planning Policy No 64 – Advertising and Signage.

Element 10: Services

Objectives

- To encourage commercial development in areas where it can take advantage of existing physical and social infrastructure;
- To ensure infrastructure has the capacity or can be adapted to accommodate new commercial development;
- To efficiently provide developments with appropriate physical services; and
- To minimise the impact of increased stormwater run-off on drainage systems.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Infrastructure	
P1 That commercial development will not overload the capacity of public infrastructure, including water, sewer, electricity, natural gas, roads, stormwater etc. The design and layout of commercial development provides space and facilities to enable efficient and cost-effective provision of reticulated services.	A1.1 The development is connected to a reticulated electricity system, gas (where available) and is appropriate (or addresses) the immediate road and stormwater systems. A1.2 Development may need to address easements affecting the site to ensure that orderly development occurs and problems are not exacerbated. A1.3 The development is connected to Council's reticulated water supply, stormwater drainage and sewerage system to Council's requirements (including separate water meters where the development is to be subdivided). A1.4 The development is connected to Essential Energy's reticulated system to the authority's requirements. A1.5 The development is connected to a telecommunication system to the appropriate authority's requirements.
P2 In areas where drainage infrastructure has little or no excess capacity, development which would generate stormwater run-off beyond that presently generated by the site shall provide for stormwater drainage mitigation or upgrading of the local drainage system.	A2.1 This may be achieved by: – Constructing onsite stormwater detention with delayed release into the stormwater system; – Designing the site to minimise impervious areas and; – Incorporating an onsite water recycling system.

Note
Where connection to the water supply is required, the appropriate fee shall be paid to Council to enable the provision of a water meter and connection.

References
• Dubbo City Council's Section 94 Contribution Plan for Open Space and Recreation Facilities, Urban Roads and Stormwater Drainage; • Dubbo City Council's Section 94 Contribution Policy for Water and Sewerage; and • Dubbo City Council's Review of Urban Areas Development Strategy, 1995-2015 Discussion Paper.

Element 11: Ancillary residential uses

Objective

Where residential development is permitted within the commercial zones or dwelling houses exist, the objective is to provide an appropriate level of amenity and services for those residents.

Performance criteria The objective may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Shop-top housing	
P1 Shop-top housing is to be integrated into the development, having direct access from the street frontage.	A1.1 Dwelling units are located in a manner that does not impede the commercial functioning of the site and provides quality amenity and passive surveillance.
P2 Dwelling units are designed to afford privacy (visual and acoustic).	A2.1 Windows facing buildings or overlooking buildings are screened. A2.2 Private open space (balconies) is screened to provide privacy for the occupant. A2.3 Acoustic privacy is provided, through design, construction, double glazing etc.
Car parking	
P3 Adequate car parking is provided for the residential component of the site.	A3.1 Car parking is provided in accordance with Chapter 3.5 Parking. A3.2 Undercover car parking is provided, adjacent to the residence and is accessed via the main entry/exit point.
Private open space	
P4.1 Private open space (balconies/ terraces) is provided to allow for recreation and entertaining.	A4.1 Generally, a balcony shall be provided to the street, though a larger terrace would be suitable provided the orientation of the balcony was north facing. Balconies shall have a minimum area of 10 m^2 with a minimum dimension of 2.0 m, leading from habitable area.
P4.2 There shall generally be 2 areas of private open space, in order for some natural sunlight to enter the dwelling unit.	Terraces shall have a minimum area of 20 m^2 with a minimum dimension of 4.0 m, leading from a habitable area.

Note

Roof-top communal areas are not generally encouraged.

References

- NSW Industrial Noise Policy; and
- Building Code of Australia.

2.2.6 Subdivision controls

This section is designed to encourage 'best practice' solutions to subdivision design. The achievement of pleasant, safe and functional commercial subdivision for owners and customers is the main objective of good subdivision design.

This section lists subdivision design elements under the following headings:

Element 1: Lot size and dimensions (consolidation)

The design element has been structured so that it contains:

- Objectives for the design element, describing the required outcomes;
- Performance criteria which outlines the range of matters which shall be addressed to satisfy the objectives (ie the performance criteria explain how an objective is to be achieved);

Note: Not all performance criteria will be applicable to every development.

- Acceptable solutions are one way of meeting the performance criteria and therefore the objective(s) of the element; and
- References refer to relevant clauses of the Dubbo LEP 2011, other relevant legislation, Council policies and literature relevant to the design element.

Element 1: Lot size and dimensions (consolidation)

Objectives

- To provide suitable site areas for buildings, vehicle manoeuvring, car parking and landscaping;
- To provide commercial estates with allotments of sufficient size to accommodate future potential uses; and
- To encourage consolidation of land in the B3 Commercial Core zone to provide larger single development sites.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Minimum lot size P1 Lots are of an adequate size for the location of buildings, manoeuvring and parking of vehicles and landscaping.	A1.1 Properties in the B3 zone shall be given parking bonuses for consolidation of allotments. – Two or more allotments with a combined area greater than 1000 m² and an average width of 15 m shall receive a 10% car parking reduction; – Two or more allotments with a combined area greater than 1500 m² and an average width of 20 m shall receive a 15% car parking reduction; and – Two or more allotments with a combined area greater than 2000 m² and an average width of 30m shall receive a 20% car parking reduction.
Isolation P2 Commercial properties shall not be isolated as a result of a development or subdivision. Note: Council will not refuse an application simply because an owner (who will be isolated) refuses to sell. Council has no power to make any owner sell their property.	P2.1 Developers shall make a genuine attempt not to exclude (isolate) any property when undertaking a development or subdivision. Should the owner refuse to consolidate, documents detailing the negotiations shall be submitted to Council with any application. Additionally, Council will write to the owner as part of the development assessment process to ascertain the willingness of an owner to participate in such a venture.

Note
Allotments must be in differing ownership (no similar parties) prior to the date DCP 2013 was adopted.

2.3 Industrial Development and Subdivisions

2.3.1 Introduction

Industrial zoned land in the city is generally located along major road and rail transport routes, and to the north of the city.

Council is committed to the facilitation of industrial development that is compatible with the surrounding locality, accessible, well-designed and functional.

The context of this Section

In 2007 Council adopted the Review of Urban Areas Development Strategy 1995-2015 Discussion Paper which examined the operation of the land use strategies and the availability of industrial zoned land for a variety of activities.

IN2 Light Industrial zone

Land zoned IN2 Light Industrial caters for a range of light industrial development which does not interfere with the amenity of the surrounding area.

The IN2 Light Industrial zone abuts a wide range of land use zones: residential; business; private and public open space; infrastructure; rural; environmental; and heavy industrial.

IN3 Heavy Industrial zone

Land within the IN3 Heavy Industrial zone caters for a wide range of industrial uses which may involve environmental impact. Potential off-site impacts are to be managed via appropriate controls to ensure development does not impact adjoining land.

Land zoned IN3 Heavy Industrial is located on the periphery of the city in areas such as Cooreena Road near the airport, the Boothenba Road-Purvis Lane area to the north of the city, and to the north and west of the Brocklehurst area.

2.3.2 Land to which this chapter applies

This Section applies to all land zoned IN2 Light Industrial and IN3 Heavy Industrial in the Dubbo LEP 2011.

Objectives

- Provide guidance to developers in the design of development proposals situated in the light and heavy industrial zones for the submission of development applications;
- Reinforce and supplement the aims, objectives and development controls contained in Dubbo LEP 2011;
- Provide detailed development controls where needed to facilitate development;
- To improve the quality and solar access of industrial buildings and allotments;
- Assist professionals, technicians and trades persons by providing relevant information and resources; and

2.3.3 Development controls

In preparing a development application it is necessary to address some important principles.
This section is designed to encourage 'best practice' solutions and clearly explains Council's requirements for development in the IN2 and IN3 zones.

This section lists design elements under the following headings:

Element 1: Set-backs;
Element 2: Building design;
Element 3: Landscaping;
Element 4: Vehicular access, parking and hard stands areas;
Element 5: Fencing;
Element 6: Design for access and mobility;
Element 7: Waste management;
Element 8: Soil and water quality and noise management;
Element 9: Signage;
Element 10: Services; and
Element 11: Ancillary residential uses.

Each design element has been structured so that it contains:

- Objectives for each design element which describe the required outcomes;
- Performance criteria – which outline the range of matters which shall be addressed to satisfy the objectives (ie the performance criteria explains how an objective is to be achieved);

Note: Not all performance criteria will be applicable to every development.

- 'Accepted Solutions' are specific measures which illustrate a way of meeting both the performance criteria and the objectives of an element. They are examples only and are not mandatory; and
- References refer to relevant clauses of the Dubbo LEP 2011, other legislation, Council policies and literature relevant to the design element.

Element 1: Set-backs

Objectives

- To ensure that adequate area is available to accommodate landscaping and access to and around the site;
- To reduce the visual impact of industrial development on the streetscape; and
- To ensure there is emergency vehicle access at side boundaries.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Front/road set-backs	
P1 Front set-backs complement the streetscape and allow for landscaping and open space between buildings.	A1.1 Buildings are set-back a minimum distance of 10 m from the front boundary where the allotment fronts a local road. A1.2 Buildings are set-back a minimum distance of 20 m from the front boundary where the allotment fronts a classified road.
Side and rear set-backs	
P2 Side and rear set-backs provide emergency services access, reduce adverse impacts on adjoining properties and comply with the Building Code of Australia.	A2.1 On corner allotments, buildings are set-back a minimum distance of 6 m from the boundary on the minor frontage. A2.2 Buildings are set-back to meet the requirements of the BCA.

Element 2: Building design

Objectives

- To promote industrial development which is functional and makes a positive contribution to the streetscape;
- To promote industrial development that does not adversely impact upon the visual amenity of the surrounding area; and
- To ensure buildings are oriented towards streets and adjoining or adjacent open space.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Building design P1 Buildings are designed to integrate with the streetscape and be compatible with their surroundings.	A1.1 Facades adopt a contemporary appearance relating to the function of the building.
Architectural interest P2 Industrial development is designed to contribute positively to the streetscape.	A2.1 Architectural design features should be included in the design of new buildings to provide for more visually interesting precincts. These may include: – Elements which punctuate the skyline; – Parapets and roof forms that architecturally integrate into the design of the main building; – Visually interesting façade; – Architectural emphasis in the built form; and – A variety of window treatments. A2.2 Other features encouraged include: – Balustrades; – Pergolas; – Expressed structure; – Glazed skylights; – Sun shading devices; and – Distinctive entries. A2.3 The front façade (returning 10 m) should not be metal or colorbond construction. Use of masonry, textured concrete or concrete block, render, brick or other earthen material is strongly encouraged.
Building height P3 Building height is maintained at a scale appropriate to the location of the IN2 and IN3 Industrial zones.	P3.1 Building height shall not generally exceed three (3) storeys. P3.2 Building height does not adversely impact on the visual amenity of the locality or the city. P3.3 Building height does not result in the unreasonable loss of solar access to adjoining and adjacent properties between the hours of 9.00 am and 3.00 pm on 22 June.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Ancillary uses P4.1 Ancillary uses are designed, constructed and located in a sympathetic manner which enhances the visual amenity of the development. P4.2 Ancillary office space is designed to be integral to the industrial development.	A4.1 Showroom display areas, offices, staff amenities and other low-scale building elements are located at the front of the premises and constructed in brick and masonry materials.
Security P5 Building design facilitates surveillance of streets and open spaces.	A5.1 Buildings address the street and open spaces (where applicable) to allow surveillance.
Building materials P6 The form, colours, textures and materials of buildings should enhance the quality and character of the industrial precinct.	A6.1 External walls and roofing materials are to be of a non-reflective material, such as brick; concrete block, rendered concrete or masonry, metal or fibre cement cladding systems, or pre-coloured metal sheeting. A6.2 All external building materials including roofing shall be of a neutral colour appropriate to the site that promotes the sense of a unified, planned industrial park. A6.3 High-contrast, white, bright and reflective surfaces are not encouraged.

Photograph 1: Modern masonry office with front façade of material other than metal

Photograph 2: This modern three-story building illustrates the architectural concept of expressed structure. The sloping columns and braces provide both the gravity and lateral support for the structure. The structure is cast-in-place concrete.

Element 3: Landscaping

Objectives

- To provide attractive landscapes which reinforce the function of the street, enhance the amenity of industrial buildings and preserve significant stands of trees or natural vegetation; and
- To provide an industrial park environment and soften the visual impact of buildings.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Site planning P1 Landscaping is considered as a component of the site planning process and reflects the scale of development.	A1.1 A landscape plan (prepared by a suitably qualified professional) is submitted as part of the development application involving building construction (not 'change of use').
Existing trees and shrubs P2 Development is designed to maximise the number of trees retained onsite.	A2.1 Where there are existing trees onsite, the building design provides for their protection. A2.2 Buildings, driveways and service trenches are located outside the dripline of existing trees and shrubs. A2.3 During site work and construction, protective measures will be required around trees to be retained. These measures will be detailed with the landscape plan at the development application stage. Note: Where Council agrees that it is not possible or practicable to retain existing trees, two advanced trees of the same species or a species agreed to by Council's Director Parks and Landcare Services are to be planted on the allotment.
Visual amenity P3 Landscaping is used to soften the impact of buildings: – As a screen for visual intrusions; – To screen parking areas; and – For recreation space.	A3.1 Substantive, quality landscaping is provided in front set-back areas to soften the appearance of buildings and improve the streetscape. A3.2 Landscaping includes species that will grow to a height consistent with the height and scale of the building.
Note: The owner/occupant shall properly maintain all landscaping to assure continuous healthy plant growth. Any unhealthy or dead landscaping shall be removed and replanted in accordance with the approved landscape plans.	A3.3 For developments facing a road, public open space or nearby residential areas, trees with a mature height or at least 8 m are to be planted. Trees shall be 1.5m in height at planting. Trees proposed along street frontages shall be consistent and compatible with the existing street trees.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
	A3.4 An outdoor eating and sitting area is provided at the rate of 2 m^2 per employee with a minimum total of 20 m^2 and minimum dimensions of 4 m x 5 m. A3.5 The following areas of the site shall be landscaped: – Between the front, side and rear boundaries and the building(s), screen walls, fences, with a minimum landscaped strip of depth no less than 50% of the minimum required set-back to be established and maintained between the front lot boundary and building line; – Open work areas; – Employee eating and sitting areas; and – Open parking areas where one shade tree every 10 spaces is to be planted to provide shade for vehicles and to soften the visual impact of parking facilities. A3.6 Quality landscaping is provided and maintained to enhance the appearance of the development and shall consist of: – Suitably-sized trees; – Shrubs and ground cover; – Earth shaping and mounding, where appropriate; and – Special features. A3.7 Where car parking is visible from a road, for every 10 car parking spaces, landscaping bays (2 m x 5.5 m) are to be provided and appropriately-sized trees and ground cover planted within each bay. Note: Refer to DCP 2011 Chapter 3.5 – Parking.
Water efficiency P4 Landscaping should use indigenous species of a low water demand.	A4.1 Landscaping design should predominantly incorporate species indigenous to the area and those which will not cause damage to adjacent buildings or driveways and adequately fixed underground watering equipment shall be installed in all landscaped areas.

Photograph 3: Landscaping provides a screen to a rear storage area plus increases security of the site

Element 4: Vehicular access, parking and hard stand areas

Objectives

- To ensure vehicle access to and from a development is adequate, safe and direct;
- To provide sufficient, convenient and functional parking and loading/unloading areas; and
- To provide for safe and environmentally responsible 'hard stand areas'.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Ingress and egress P1 Ingress and egress points are located and sized to facilitate the safe and efficient movement of vehicles to and from the site. Note: The design vehicle used to determine the width of the ingress, egress, driveways, accessways and manoeuvring areas is to be the largest vehicle likely to enter the site.	A1.1 Vehicle access driveways are not within 6 m of an intersection or break in a median strip. A1.2 Ingress and egress points are constructed in accordance with Council Standard 5211 and 5235 at a width determined by the turning path of design vehicle using Austroads – Design Vehicles and Turning Path Templates. A1.3 Ingress and egress points are signposted. A1.4 Where separate ingress and egress points are proposed, the ingress point is the first point reached when approaching the site by road from the side of the road upon which the development is located. A1.5 Where separate ingress and egress points are provided, they shall be separated by a minimum distance of 3 m. A1.6 The minimum design vehicle for: – IN2 zone is a prime-mover and semi-trailer (19 m); and – IN3 zone is a B-Double (25 m).
Accessways P2 Accessways and driveways are sized to facilitate the safe and efficient movement of vehicles to, from and within the site. Note: The dimensions mentioned are minimum only. It is still required that the width be suitable given the turning path of the required design vehicle.	A2.1 Driveways have a minimum width of: – 6 m where separate ingress and egress is provided; – 8 m where a combined ingress and egress is provided. A2.2 The grade of all accessways, driveways and manoeuvrability areas comply with AS/NZS 2890.1 and AS 2890.2. A2.3 All internal accessways, manoeuvring areas etc are provided with directional signposting and line marking. A2.4 All internal accessways are of a width and geometry to facilitate the safe and efficient movement of the design vehicle. A2.5 All vehicles are able to enter and leave the site in a forward direction.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Car parking	
P3.1 Car parking does not adversely impact the visual amenity of the site and the locality.	A3.1 Where car parking is to be located forward of the building it is provided in accordance with the following: – Is not located within 3 m of the property boundary; – Is screened by earth mounding which is between 600 mm to 1200 mm above natural ground level; and – Is screened by landscaping.
P3.2 Car parking is conveniently located and easily accessed.	A3.2 Visitor car parking is conveniently located adjacent to the main visitor's entrance to the building.
P3.3 Car parking areas are designed to facilitate the safe movement of vehicles and provide a sufficient number of spaces for the projected needs of the development.	A3.3 Car parking areas are provided and designed in accordance with DCP 2011 Chapter 3.5 - Parking. A3.4 Manoeuvring areas are provided to ensure that the design vehicle can enter and leave in a forward direction.
Loading/unloading and manoeuvring areas	
P4.1 Facilities are provided onsite for the loading and unloading of goods.	A4.1 Onsite loading and unloading areas are provided. A4.2 No loading or unloading is undertaken on a footpath, public road, laneway or service road etc. A4.3 Loading or unloading areas are designed and provided to facilitate their use by the design vehicle.
Sealing and drainage	
P5.1 All driveways, car parks, loading, unloading, manoeuvring areas etc are appropriately drained and sealed.	A5.1 All areas are sealed in accordance with DCP 2011 Chapter 3.5 - Parking. A5.2 All sealed areas are drained to Council's stormwater system. A5.3 No surface drainage is discharged across Council's footpath or any reserve.

References

- AS/NZS 2890.1 Parking Facilities – Off-Street Car Parking and AS 2890.2 Parking Facilities – Off-Street Commercial Vehicle Facilities;
- Design Vehicles and Turning Path Templates – AUSTROADS 1995; and
- DCP 2011 Section 3.5 Parking.

Element 5: Fencing

Objectives

- To minimise the visual impact of fencing to the locality; and
- To provide security to industrial developments.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Fencing and screen walls	
P1 Fencing and screen walls do not adversely impact upon the visual amenity of the area.	A1.1 Solid fencing exceeding 900 mm in height is not provided forward of the front building line. A1.2 Fencing does not exceed a maximum height of 1.8 m. A1.3 No fencing is provided within 3 m of the front boundary. A1.4 Fencing forward of the building line is incorporated in the landscaping including earth mounds 600 mm to 1200 mm above natural ground level in order to reduce its visual impact. A1.5 Barbed wire fencing is not encouraged.

Element 6: Design for access and mobility

Objective

- To ensure that all developments, where appropriate, are designed and constructed to provide access and mobility for people with disabilities.

Performance criteria The objective may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Access and Mobility	
P1 Development provides an appropriate level of access and facilities for persons with a disability.	A1.1 Development is designed in accordance with DCP 2011 Chapter 3.1 Access and Mobility.

References
• Disability Discrimination Act 1992 and Disability (Access to Premises Standards - Buildings) Standards; • DCP 2011 Section 3.1 Access and Mobility; • Anti-Discrimination Act 1977; and • Building Code of Australia.

Element 7: Waste management

Objective

- To provide for an efficient and environmentally responsible means of storage and/or disposal of waste and recyclable products.

Performance criteria The objective may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Garbage/waste	
P1 The capacity, size, construction and placement of solid waste, liquid waste and recyclable storage facilities are determined according to estimated amounts of waste and recyclables generated, safe means of collection, cleanliness and unobtrusive effects on the building and neighbourhood.	A1.1 Solid waste, liquid waste and recyclable storage facilities are sized at a minimum area of 3 m x 2.4 m located behind the building line and capable of accommodating associated handling equipment and providing sufficient space for loading and unloading. This activity is not to be undertaken on any public space. A1.2 Ready access to commercial waste containers by collectors and collection vehicles within close proximity to street frontages shall be provided and screened with landscaping and vegetation.
Excavated material	
P2 Excavated material, demolition and builder's waste is disposed of in an environmentally-sustainable manner.	A2.1 Sites for disposal of excavated material, demolition and builder's waste are to be nominated by the developer at the time of the development application.

Note

Council may levy trade waste special rates and charges in addition to general sewerage rates and charges for acceptance of trade waste into the sewer and fix fees or charges for regulatory and other services in accordance with the Revenue Policy set out in the Council's Management Plan. Applicants wishing to discharge trade waste to the sewer shall enter into a service contract with Council which will set out the conditions associated with the discharge of trade waste to the sewer.

References

- Office of Environment and Heritage (Disposal of Excavated Materials);
- Dubbo City Council - Trade Waste Policy;
- Protection of the Environment Operations Act 1997; and
- Liquid Trade Regulation Guidelines: April 2009

Element 8: Soil, water quality and noise management

Objectives

- To minimise soil erosion and sedimentation by minimising land disturbances and the provision of control measures at the source;
- To retard the flow of water into the natural drainage system and mitigate impacts from stormwater run-off; and
- To protect the surrounding area from unnecessary noise.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Soil erosion	
P1 Adequate provision is made for measures during construction to ensure that the land form is stabilised and erosion is controlled.	A1.1 An Erosion and Sediment Control Plan is prepared by an appropriately qualified professional addressing the existing site, the proposed development (works) and the protection of the environment, adjoining properties and infrastructure (road reserve, waterways and stormwater systems). A1.2 The Erosion and Sediment Control Plan shall comply with the Office of Environment and Heritage's '*Managing Urban Stormwater: Soils and Construction'*.
Stormwater quality	
P2 The stormwater system design optimises the interception, retention and removal of water-borne pollutants through the use of appropriate criteria prior to their discharge to receiving waters. The stormwater system design minimises the environmental impact of urban run-off on other aspects of the natural environment such as creek configuration and existing vegetation by employing techniques which are appropriate and effective in reducing run-off and pollution.	A2.1 Adequate pollution interception, first-flush systems are in place to comply with the Office of Environment and Heritage's '*Stormwater First-Flush Pollution'*. A2.2 Water pollution control ponds or wetlands are developed (as appropriate) for final treatment before discharge to the wider environment and shall be sited to minimise impacts on the natural environment. A2.3 Development minimises earthworks (cut and fill). Where excavation works are intended to be undertaken, development applications are accompanied by: – Geotechnical report evaluating site stability; – Schedule of earth works (cut and fill); and – Details of construction techniques. A2.4 Gross Pollutant Traps are to be installed to intercept litter washed into the drainage system from car park and hardstand areas.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Stormwater management	
P3 Drainage from development sites is not larger than the pre-development stormwater patterns. Ground floors of all buildings are located above the design flood level to provide protection to property in accordance with the accepted level of risk.	A3.1 The stormwater discharge for development sites does not exceed the five year ARI storm event. Typically, an onsite stormwater detention system will be required to reduce the volume of stormwater discharge. A3.2 Onsite stormwater and drainage control shall be designed for the 20 year ARI storm. Trunk drainage systems shall provide for the 20 year ARI event with overland flow paths designed for the 100 year storm ARI event. A3.3 Stormwater should be gravity-drained to Council's stormwater system, which may require inter-allotment drainage.
Noise management	
P4 The hours of operation of noise generating activities are restricted to avoid any noise nuisance on surrounding residential areas. Development is designed to minimise the potential for offensive noise to be generated. Noise control measures for any particular source should take account of all potentially affected points.	A4.1 The operation of industrial activities in the IN2 and IN3 zone shall not exceed the requirements as stated in the Protection of the Environment Operations Act 1997 and/or the Industrial Noise Policy. A4.2 Noise levels should not exceed the requirements of the Protection of the Environment Operations Act 1997 and/or the Industrial Noise Policy. A4.3 Sources of noise such as garbage collection, machinery, parking areas and air conditioning plants should be sited away from adjoining properties and where necessary, be screened by walls or other acoustical treatments.

References

- Office of Environment and Heritage *Managing Urban Stormwater: Soils and Construction;*
- Office of Environment and Heritage guideline *Stormwater First-Flush Pollution;*
- NSW Industrial Noise Policy;
- Protection of the Environment Operations Act 1997;
- Noise Guide for Local Government; and
- NSW Environmental Criteria for Road Traffic Noise.

Element 9: Signage

Objective

- To ensure building identification signs and business identification signs are compatible with the character and function of industrial precincts and surrounding areas.

Performance criteria The objective may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Role, function and location	
P1 Signs reflect the role and function of industrial premises.	A1.1 Signs are incorporated into the architecture of the building (ie located in recessed panels in the parapet or façade or on purpose-made structures which relate to the style and materials of the building). A1.2 Signs may only be erected where they are used in conjunction with a permissible use and situated on the land on which that use is conducted. A1.3 Signs are to be for identification and direction only (not for advertising).
Quantity and dimensions of signs	
P2 The number and size of signs is limited to ensure equity for land uses and a pleasant visual environment.	A2.1 For single occupancy sites, one free-standing sign may be constructed within the front landscaped area. The sign shall not exceed 2 m^2 in area 1.5 m in height. A2.2 One business identification sign (being a flush wall sign) may be placed on each facade fronting a public road. The sign shall be no greater than 5 m^2 in area and shall not be higher than the facade on which it is mounted. A2.3 On multiple occupancy sites, one directory board sign may be constructed within the front landscaped area. The sign shall not exceed 3 m^2 in area and 2 m in height. A2.3 On multiple occupancy sites, one business identification sign (being a flush wall sign) may be placed on the facade of a unit. The sign shall be no greater than 5 m^2 in area and shall not be higher than the facade on which it is mounted.

References
• State Environmental Planning Policy No 64 – Advertising and Signage.

Photograph 5: The directory board sign provides all occupants with the opportunity to advertise their business and location. Behind, the fascia sign above the specific unit provides business identification.

Element 10: Services

Objectives

- To encourage industrial development in areas where it can take advantage of existing physical and social infrastructure;
- To ensure infrastructure has the capacity or can be adapted to accommodate new industrial development;
- To efficiently provide developments with appropriate physical services; and
- To minimise the impact of increased stormwater run-off on drainage systems.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Infrastructure	
P1 That industrial development will not overload the capacity of public infrastructure, including: – Water; – Sewer; – Electricity; – Natural gas; – Roads; and – Stormwater. The design and layout of industrial development provides space and facilities to enable efficient and cost-effective provision of reticulated services. In areas where drainage infrastructure has little or no excess capacity, development which would generate stormwater run-off beyond that presently generated by the site, shall provide for stormwater drainage mitigation or upgrading of the local drainage system.	A1.1 The development is connected to a sewerage system, water supply, electricity system and gas (where available). A1.2 The development is connected to Essential Energy's reticulated system to the authority's requirements. A1.3 The development is connected to a telecommunication system to the appropriate authority's requirements. A1.4 With regard to drainage infrastructure, this may be achieved by: – Constructing onsite stormwater detention with delayed release into the stormwater system; – Designing the site to minimise impervious areas; and – Incorporating an onsite water recycling system. Note: Development may need to address easements affecting the site to ensure that orderly development occurs and problems are not exacerbated.

Note

Where connection to the water supply is required, the appropriate fee shall be paid to Council to enable the provision of a water meter and connection.

References

- Dubbo City Council's Section 94 Contribution Plans for Open Space and Recreation Facilities, Urban Roads and Stormwater Drainage;
- Dubbo City Council's Section 64 Contribution Policy for Water and Sewerage and
- Dubbo City Council's Review of Urban Areas Development Strategy, 1995-2015 Discussion Paper.

Element 11: Ancillary residential uses

Objective

- Where ancillary residential development is permitted within the industrial zones or where dwelling houses exist, the objective is to provide an appropriate level of amenity and services for those residents.

Performance criteria The objective may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Caretaker's residences	
P1 Dwellings are integrated into the site in a sympathetic and unobtrusive manner.	A1.1 Dwellings are located in a manner that does not impede the functioning of the site yet provides opportunity for surveillance. A1.2 Dwellings are designed to afford privacy and amenity. A1.3 Dwellings are for the use of a caretaker (where the need can be demonstrated) and not used as a dwelling house for a family.
Car parking	
P2 Adequate car parking is provided for the residential component of the site.	A2.1 Car parking is provided at the rate of one space per caretaker's residence. A2.2 Undercover car parking is provided adjacent to the residence and is accessed via the main entry/exit point.
Visual and acoustic privacy	
P3 Dwellings and private open space are designed and treated to obtain visual and acoustic privacy.	A3.1 Windows facing buildings or overlooking buildings are screened. A3.2 Open space is fenced (other than colorbond or metal fences) and screened (minimum height 1.8m) to provide privacy for occupants. A3.3 Acoustic privacy is provided through the use of mounds, solid fencing, landscaping etc.
Private open space	
P4 Private open space is provided for dwellings to allow for recreation and clothes drying.	A4.1 A minimum area of 20 m^2 with a minimum dimension of 4 m which shall not be overshadowed by structures or buildings between 9.00 am and 3.00 pm on 22 June.

Notes

- Ancillary residential development is not encouraged in the industrial areas due to the poor amenity level likely to be experienced by the person occupying the dwelling; and
- Security should be undertaken by employing local security services, designing a safe premise or by installing an electronic security system.

References
• NSW Industrial Noise Policy; and • Building Code of Australia.

2.3.4 Subdivision controls

This Section is designed to encourage 'best practice' solutions to subdivision design. The achievement of a pleasant, safe and functional industrial subdivision for owners and customers is the main objective of good subdivision design.

The section lists subdivision design elements under the following headings:

Element 1: Lot size and dimensions;
Element 2: Lot orientation and subdivision design;
Element 3: Open space and landscaping;
Element 4: Infrastructure;
Element 5: Road design and hierarchy;
Element 6: Stormwater management; and
Element 7: Water quality management.

Each design element has been structured so that it contains:

- Objectives for each design element which describe the required outcomes;
- Performance criteria which outline the range of matters which shall be addressed to satisfy the objectives (ie the performance criteria explain how an objective is to be achieved);

Note: Not all performance criteria will be applicable to every development.

- Acceptable solutions are one way of meeting the performance criteria and therefore the objective(s) of an element; and
- References refer to relevant clauses of the Dubbo LEP 2011, other relevant legislation, Council policies and literature relevant to the design element.

Element 1: Lot size and dimensions

Objectives

- To provide suitable site areas for buildings, vehicle manoeuvring, car parking and landscaping;
- To provide industrial estates with allotments of sufficient size to accommodate future potential uses; and
- To ensure that industrial sites are not developed to a level which prevent their efficient operation.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Minimum lot size	
P1 Lots are of an adequate size for the location of buildings, manoeuvring and parking of vehicles and landscaping.	A1.1 IN2 zone: 2000 m^2 minimum lot size and permitting the manoeuvring of a 19 m prime-mover and semi-trailer vehicle. A1.2 IN3 zone: 4000 m^2 minimum lot size, minimum frontage of 50 m and permitting the manoeuvring of a B-Double design vehicle.
Battle-axe lots	
P2 Battle-axe lots have adequate access to and from the street.	A2.1 Minimum areas and dimensions are as specified for each zone, with battle-axe 'handles' a minimum width of 10m and no longer than 50 m.

Element 2: Lot orientation and subdivision design

Objectives

- To design subdivisions that provide lots orientated to maximise the number of buildings with good solar access;
- To ensure lots are designed to acknowledge site constraints and protect natural and cultural features; and
- To design subdivisions that are sustainable and contain allotments which are capable of meeting current and future demands for industrial land.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Solar access P1 Lots are orientated to facilitate the siting of buildings to take advantage of solar access.	A1.1 Lots shall be orientated so that one axis is within 30^0 east and 20^0 west of true north.
Natural and cultural features P2 Lot layout acknowledges natural and cultural features such as archaeological sites and heritage items.	A2.1 An archaeological survey is undertaken in accordance with Chapter 3.4 Heritage Conservation and the requirements of the National Parks and Wildlife Act 1974. A2.2 A heritage management plan shall be prepared where heritage items are identified. A2.2 Built heritage items are included as features in the subdivision design.
Site constraints P3 Site constraints such as erosion, flooding and bushfire risk are acknowledged in subdivision design.	A3.1 Subdivision design shall address erosion issues (during construction and ongoing). Subdivision design shall be in accordance with Dubbo LEP 2011 Clause 7.1 Flood liable land, the relevant Flood Planning map and other relevant flood studies. Subdivision design shall be in accordance with *Planning for Bush Fire Protection 2006.*
Special features P4 Trees and views are retained through the careful layout of lots.	A4.1 Stands of trees and significant individual specimens are designed as part of the subdivision. A4.2 Lot layout allows future buildings to address any views.
Buffers P5 Adequate buffers are maintained between industrial development, open space and residential areas.	A5.1 Conflicts between land uses shall be addressed and buffer areas incorporated into the subdivision design.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
	A5.2 Those industries requiring specific separation shall seek larger, isolated sites to accommodate their specific needs.

Photograph 6: Industrial subdivision in Jannali Road, west Dubbo

Element 3: Open space and landscaping

Objectives

- To ensure subdivisions acknowledge public open space networks; and
- To provide street landscaping to assist in creating a microclimate and improving visual amenity within the industrial subdivision.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Public open space	
P1.1 The multi-functional role of public open space, its use as a community facility and for stormwater management, is recognised.	A1.1 Links from the industrial estate to areas of public open space are provided to facilitate public access and stormwater management.
P1.2 Industrial lots are designed to address existing and proposed public open space.	A1.2 Subdivision design encourages the siting of buildings in a position to face adjoining public open space.
Street trees	
P2 Street trees are selected and provided to assist in developing a microclimate and improving streetscape amenity.	A2.1 Street trees are provided at the rate of one tree per 10m of street frontage. A2.2 The species and location of street trees is determined in consultation with Council's Parks and Landcare Services Division. A2.3 Street trees (installed in tree pit holes) utilise stormwater from the gutter. Note: Refer to Tree Planting Standards (Appendix A).

References
• Review of Urban Areas Development Strategy 1995-2015 Discussion Paper; • Recreation Areas Development Strategy 1996-2015; and • Dubbo Section 94 Plan: Open Space and Recreation Facilities.

Element 4: Infrastructure

Objectives

- To ensure that industrial areas are serviced with essential services in a cost-effective and timely manner; and
- To ensure that residential areas are adequately serviced with water and sewerage infrastructure.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Utilities	
P1 Design and provision of utility services including sewerage, water, electricity, gas, street lighting and communication services are cost-effective over their life cycle and incorporate provisions to minimise adverse environmental impact in the short and long-term.	A1.1 The design and provision of utility services conforms to the requirements of the relevant service authorities. A1.2 Water and sewerage services are to be designed and constructed in accordance with the requirements of NAT-SPEC Development Specification Series – Design and Development Specification Series – Construction. Water and sewerage services are to be provided to each allotment at the full cost of the developer. Sewerage may be provided by standard gravity reticulation or Pressure Sewerage, as determined by the Director Technical Services, Pressure Sewerage, if approved, shall be provided in accordance with Council's adopted Pressure Sewerage System Manual.
Common trenching	
P2 Compatible public utility services are located in common trenching in order to minimise the land required and the costs for underground services.	A2.1 Services are located in common trenches in accordance with Council's policy for joint-sharing of trenching (Appendix B - Standard Diagram 5268).
Availability of services	
P3 Water supply and sewerage networks are available, accessible, easy to maintain and cost-effective based on life cycle costs.	A3.1 Development consent shall not be granted unless Council is satisfied that an adequate water supply and facilities for sewerage and drainage are available or until satisfactory arrangements (to Council) have been made. A3.2 The applicable Section 64 Contributions for Water and Sewerage are levied according to applicable water supply and sewer catchment(s).

Note
Electricity supply – reticulation is to be via underground supply system.

References

Aus-Spec Development Specification Series – Design and Development Specification Series – Construction

Element 5: Road design and hierarchy

Objectives

To provide for streets that:

- Fulfil their designated functions within the street network;
- Accommodate public utility services;
- Accommodate drainage systems; and
- Create a safe and attractive environment.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Function and width	
P1.1 The street reserve width is sufficient to cater for all street functions, including: – Safe and efficient movement of all users, including pedestrians and cyclists; – Provision for parked vehicles; – Provision for landscaping; and – Location, construction and maintenance of public utilities. P1.2 The verge width is sufficient to provide for special site conditions and future requirements.	A1.1 The road hierarchy is designed and constructed in accordance with NAT-SPEC Design and Development Specification Series – Construction. A1.2 The verge width is increased where necessary to allow space for larger scale landscaping, indented parking, future carriageway widening, retaining walls, cycle paths or overland flow paths. A1.3 Road reserve widths are inconformity with Dubbo's Road Transportation Strategy to 2045.
Designing for safety	
P2.1 The design facilitates safe use by pedestrians, particularly people with disabilities, the aged and children, by: – Safe and efficient movement of all users, including pedestrians and cyclists; – Provision for parked vehicles; – Provision for landscaping; and – Location, construction and maintenance of public utilities. P2.2 Safe sight distances, based on vehicle travel speeds at property access points, pedestrian and cyclist crossings and at junctions and intersections.	A2.1 The road hierarchy is designed and constructed in accordance with Aus-Spec Design and Development Specification Series – Construction.
Driveway access	
P3 The carriageway and verge width allows for unobstructed access to individual lots. Driveway egress movements do not create a safety hazard.	A3 Subdivision design enables driveways on major collector streets and streets which carry more than 3,000 vpd to be designed to promote forward movement of vehicles across the verge.
Geometric design	
P4.1 Bus routes have a carriageway width that: – Allow for the movement of buses unimpeded by parked cars; – Safely accommodate cyclists; and – Avoid cars overtaking parked buses.	A4.1 The geometry of streets identified as bus routes provides suitable turning, stopping sight distance, grade and parking for buses.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
P4.2 The horizontal and vertical alignments satisfy safety criteria and reflect physical land characteristics and major drainage functions. P4.3 Geometric design for intersections, round-abouts and slow points is consistent with the vehicle speed intended for each street. P4.4 Kerb radii at intersections and junctions are kept to a minimum, subject to: – Satisfying required turning manoeuvres; – Keeping pedestrian crossing distances to a minimum; and – Controlling the speed of vehicles. P4.5 Siting conditions on land abutting major and minor distributor roads ensure that all vehicles can enter or leave the street in a forward direction.	A4.2 The road network is designed and constructed in accordance with Aus-Spec Design and Development Specification Series – Construction.

References
• AS 1428.1 – 2001 Design for Access and Mobility; and • Aus-Spec (DCC version) Development Specification Series – Design and Development Specification Series – Construction.

Element 6: Stormwater management

Objectives

To provide major and minor drainage systems which:

- Adequately protect people and the natural and built environments to an acceptable level of risk and in a cost-effective manner, in terms of initial cost and maintenance; and
- Contribute positively to environmental enhancement of catchment areas.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Stormwater management	
P1.1 Floodways are developed (as necessary) which ensure that there is no risk of property damage.	A1.1 The design and construction of the stormwater drainage system are in accordance with the requirements of Australian Rainfall and Run-off (1987) and Aus-Spec Development Specification Series – Design and Development Specification Series – Construction.
P1.2 Community benefit is maximised through the retention of natural streams and vegetation wherever practicable and safe and the placement of detention basins where necessary to control stormwater.	A1.2 On all Construction Certificate plans for subdivision all minor and major stormwater systems are clearly defined and identified. Minor systems for industrial areas are designed to cater for the 1 in 20 year storm water event, and major systems are to be designed to cater for the 1 in 100 year storm event. These systems are to be evident as self draining without impacting on flooding of industrial buildings built subsequently in such areas.
P1.3 The stormwater system is designed to ensure that there are no flow paths which would increase risk to public safety and property.	
P1.4 Drainage networks are well-defined to ensure there are no hidden flow paths which could reduce their capacity to convey design flows.	
P1.5 The stormwater system design allows for the safe passage of vehicles at reduced speed on streets which are affected by run-off. The stormwater system allows for the safe passage of vehicles at reduced speeds on streets which have been affected by run-off from 20% AEP event.	

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Site drainage	
P2.1 Subdivision design and layout provides for adequate site drainage.	A2.1 Where site topography prevents the discharge of stormwater directly to the street gutter or a Council-controlled piped system, inter-allotment drainage is to be provided to accept run-off from existing or future impervious areas that are likely to be directly connected.
P2.2 The stormwater drainage system has the capacity to safely convey stormwater flows resulting from the relevant design storm under normal operating conditions taking partial minor system blockages into account.	A2.2 The design and construction of the inter-allotment drainage system are in accordance with the requirements of Australian Rainfall and Run-off (1987) and Aus-Spec (DCC version) Development Specification Series – Design and Development Specification Series – Construction.

References

- Australian Rainfall and Run-off (1987);
- Aus-Spec Development Specification Series – Design and Development Specification Series – Construction; and
- AMCORD (1995) Part 3: Stormwater and Integrated Catchment Management.

Element 7: Water quality management

Objectives

To provide water quality management systems which:

- Ensure that disturbance to natural stream systems is minimised; and
- Stormwater discharges to surface and underground receiving waters, both during construction and in developing catchments, do not degrade the quality of water in the receiving areas.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way to meet the performance criteria:
Water quality	
P1.1 Adequate provision is made for measures during construction to ensure that the land form is stabilised and erosion is controlled.	A1.1 An Erosion and Sediment Control Plan is prepared by properly qualified personnel using recognised and locally implemented hydrological, hydraulic, hydro geological, soil, water quality and biological data and design methodologies.
P1.2 The system design minimises the environmental impact of urban run-off on water quality and on other aspects of the natural environment such as creek configuration techniques which are appropriate and effective in reducing run-off and pollution.	A1.2 Water pollution control ponds or wetlands are developed (where appropriate) for final treatment before discharge to the wider environment and should be sited to minimise impacts on the natural environment.
P1.3 Sewage overflows into the stormwater system are prevented.	A1.3 Gross Pollutant Traps are installed to intercept litter washed into the drainage system from car park and hardstand areas.
P1.4 Point sources of pollution in the catchment shall be identified and their impact minimised until their impact can be eliminated.	

References

- AMCORD (1995) Part 3: Stormwater and Integrated Catchment Management;
- DCC Urban Stormwater Management Guideline – Erosion and Sedimentation;
- Storing and Handling Liquids: Environmental Protection – Participants Manual;
- Environmental Compliance Report: Liquid Chemical Storage, Handling and Spill Management, Part B Review of Best Practice and Regulation; and
- Office of Environment and Heritage's guidelines *Stormwater First-Flush Pollution*.

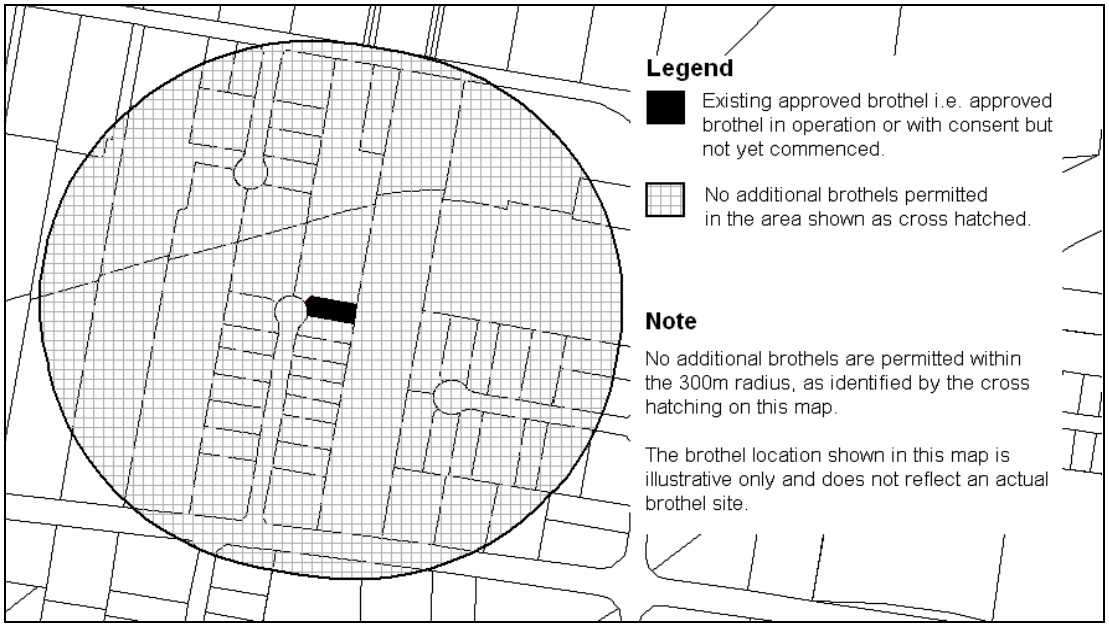
2.3.5 Sex service premises

Objectives

- Provide detailed planning controls to ensure that the location, operation and design of sex service premises (brothel) does not adversely affect the amenity of the area; and
- Protect community health and welfare.

Controls

- Sex service premises are permissible in the IN3 Heavy Industrial zone;
- A sex service premise is not to be located within a radius of 300 m of any other approved sex service premises (brothel) (existing or proposed) as shown below. This provision is to ensure that sex service premises do not concentrate their operations within an area to an extent where they become a noticeable element within the streetscape;



- A sex service premises (brothel) shall not contain more than 10 rooms, used or capable of being used for the purposes of prostitution;
- All activities and displays associated with sex service premises shall be contained wholly within the building. Window displays will not be permitted and in no circumstances should sex workers display themselves in the windows or doorways of the subject premises. Similarly, no persons are to loiter outside the building or property encouraging entry into the premises;
- A public address system or sound amplifying equipment may not be installed in or on the premises so as to cause or permit the emission of sound onto any public place;
- Sex service premises shall be operated in a discreet manner so as not to cause disturbance from noise, lighting, advertising or the activities of employees or customers;
- Adequate security measures are to be in place so as to ensure the safety and well-being of staff and clients at all times that the sex service premises (brothel) is in operation;

- All sex service premises shall comply with the provisions of the Health and Safety Code of Practice for Brothels issued by the New South Wales Department of Health AIDS/Infectious Diseases Branch 1996;
- The premises shall be ventilated in accordance with the requirements of the Building Code of Australia and Australian Standard 1668, Parts 1 and 2. The premises shall be provided with adequate lighting in accordance with AS 1680;
- The use of the premises shall not give rise to:
  - Transmission of vibration to any place of different occupancy; or
  - A sound level at any point on the boundary of a site greater than the background levels specified in Australian Standard AS1055, 'Acoustic Description and Measurement of Environmental Noise'; or
  - An 'offensive noise' as defined in the Protection of the Environment Operations Act 1997.
- All bars and food preparation areas shall be constructed, fitted out and finished in compliance with Food Regulation 2010, and the National Code for the Construction and Fit Out of Food Premises. All food handled on the premises shall be handled in accordance with the Food Act 2003 and Regulation. Applicants are advised to discuss the plans of layout for all bar and food preparation areas with Council's Environment and Health officers prior to the lodgement of any application;
- A separate rest room shall be provided for staff. This room shall not be used for the purposes of prostitution at any time. Separate toilet facilities and amenities are to be provided for staff use only, preferably with private access from the rest room;
- Each room used or capable of being used for the purposes of prostitution shall contain its own sanitary facilities in one of the following arrangements:
  - A separate en-suite bathroom containing a toilet, shower and hand basin; or
  - A shower enclosure; and
- Where a spa bath is provided to a room, there is also to be an en-suite as described above. All required hand basins shall be provided with an adequate supply of potable water at a temperature of at least 40^0 delivered through an approved mixing device which can be adjusted to enable hands to be washed under hot running water. Liquid soap and single use towels shall be provided at all hand basins required in the premises.

Appendix A: Tree planting standards

DUBBO
CITY COUNCIL
TECHNICAL SERVICES DIVISION

TREE PLANTING STANDARDS

PLAN SHEET INDEX

SHEET 1 - COVER SHEET

SHEET 2 - TREE>45 L POT SIZE

SHEET 3 - TREES IN ROAD PAVEMENT (SHEET 1)

SHEET 4 - TREES IN ROAD PAVEMENT (SHEET 2)

SHEET 5 - TREES IN TURF WITH FOOT PATH

SHEET 6 -TREES IN TURF NO FOOT PATH

SHEET 7 - STREET TREES IN MASS PLANTING AND MALLS

SHEET 8 - TREES IN CENTRAL MEDIAN STRIPS WITH INNER KERB

SHEET 9 - TREES IN CENTRAL MEDIAN STRIPS WITH GARDEN

NOT REQUIRED

SCALES: NOT TO SCALE

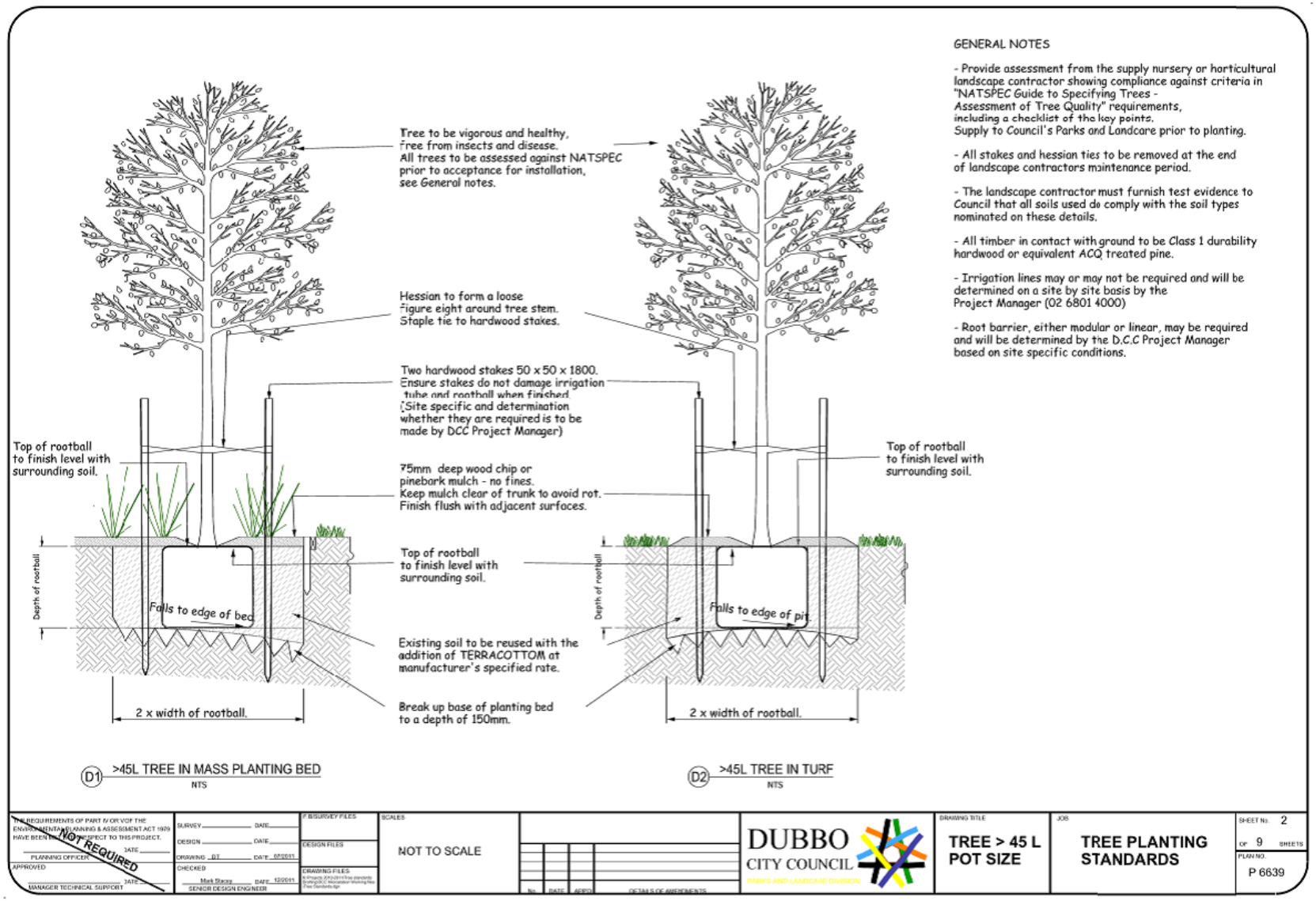
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION

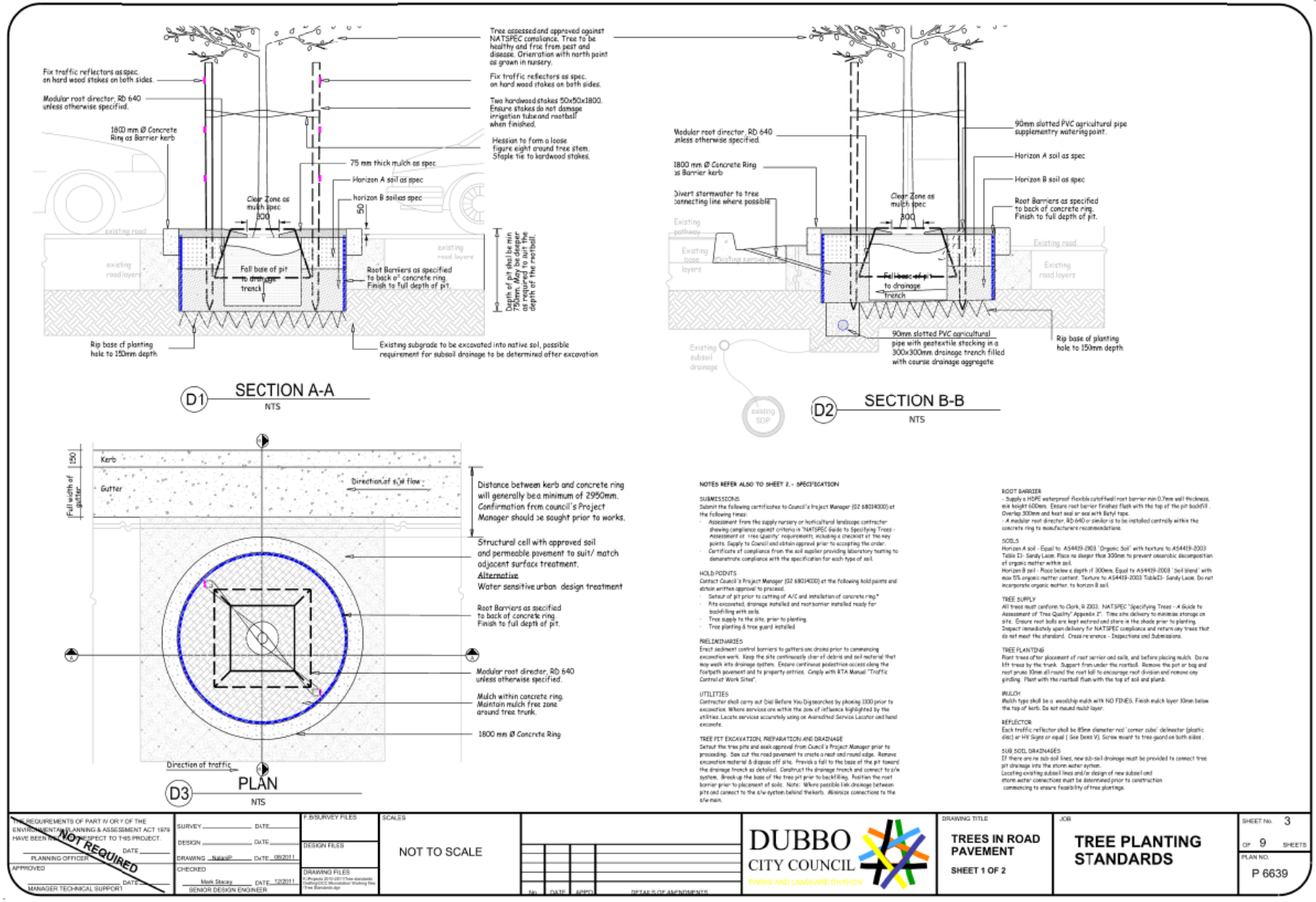
DRAWING TITLE: COVER SHEET

JOB: TREE PLANTING STANDARDS

SHEET No. 1 OF 9 SHEETS

PLAN NO. P 6639


GENERAL NOTES
- Provide assessment from the supply nursery or horticultural landscape contractor showing compliance against criteria in "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council's Parks and Landcare prior to planting.
- All stakes and hessian ties to be removed at the end of landscape contractors maintenance period.
- The landscape contractor must furnish test evidence to Council that all soils used do comply with the soil types nominated on these details.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent ACQ treated pine.
- Irrigation lines may or may not be required and will be determined on a site by site basis by the Project Manager (02 6801 4000)
- Root barrier, either modular or linear, may be required and will be determined by the D.C.C Project Manager based on site specific conditions.
Tree to be vigorous and healthy, free from insects and disease. All trees to be assessed against NATSPEC prior to acceptance for installation, see General notes.
Hessian to form a loose figure eight around tree stem. Staple tie to hardwood stakes.
Two hardwood stakes 50 x 50 x 1800. Ensure stakes do not damage irrigation tube and rootball when finished. (Site specific and determination whether they are required is to be made by DCC Project Manager)
Top of rootball to finish level with surrounding soil.
75mm deep wood chip or pinebark mulch - no fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Top of rootball to finish level with surrounding soil.
Depth of rootball
Falls to edge of bed
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specified rate.
Break up base of planting bed to a depth of 150mm.
2 x width of rootball.
D1 >45L TREE IN MASS PLANTING BED
NTS
Top of rootball to finish level with surrounding soil.
Depth of rootball
Falls to edge of pit
2 x width of rootball.
D2 >45L TREE IN TURF
NTS
NOT REQUIRED
SURVEY DATE
DESIGN DATE
DRAWING DT DATE 07/2011
CHECKED
Mark Stacey DATE 12/2011
SENIOR DESIGN ENGINEER
P:\SURVEY\FILES
DESIGN FILES
DRAWING FILES
SCALES
NOT TO SCALE
No. DATE APPD DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREE > 45 L POT SIZE
JOB
TREE PLANTING STANDARDS
SHEET No. 2
OF 9 SHEETS
PLAN NO.
P 6639


Tree assessed and approved against NATSPEC compliance. Tree to be healthy and free from pest and disease. Orientation with north point as grown in nursery.
Fix traffic reflectors as spec. on hard wood stakes on both sides.
Modular root director, RD 640 unless otherwise specified.
1800 mm Ø Concrete Ring as Barrier kerb
Two hardwood stakes 50x50x1800. Ensure stakes do not damage irrigation tube and rootball when finished.
Hessian to form a loose figure eight around tree stem. Staple tie to hardwood stakes.
75 mm thick mulch as spec
Horizon A soil as spec
horizon B soil as spec
Clear Zone as mulch spec
300
50
existing road
existing road layers
Fall base of pit to drainage trench
Root Barriers as specified to back of concrete ring. Finish to full depth of pit.
Depth of pit shall be min 150mm. May be deeper or wider to suit the depth of the rootball.
Rip base of planting hole to 150mm depth
Existing subgrade to be excavated into native soil, possible requirement for subsoil drainage to be determined after excavation
D1 SECTION A-A NTS
Modular root director, RD 640 unless otherwise specified.
1800 mm Ø Concrete Ring as Barrier kerb
Divert stormwater to tree connecting line where possible
90mm slotted PVC agricultural pipe supplementry watering point.
Horizon A soil as spec
Horizon B soil as spec
Root Barriers as specified to back of concrete ring. Finish to full depth of pit.
Existing pathway
Existing base layers
Existing road
Existing road layers
Clear Zone as mulch spec
300
Fall base of pit to drainage trench
90mm slotted PVC agricultural pipe with geotextile stocking in a 300x300mm drainage trench filled with course drainage aggregate
Rip base of planting hole to 150mm depth
Existing subsoil drainage
existing SDP
D2 SECTION B-B NTS
Kerb
Gutter
Full width of gutter
150
Direction of s/w flow
Distance between kerb and concrete ring will generally be a minimum of 2950mm. Confirmation from council's Project Manager should be sought prior to works.
Structural cell with approved soil and permeable pavement to suit/ match adjacent surface treatment.
Alternative
Water sensitive urban design treatment
Root Barriers as specified to back of concrete ring. Finish to full depth of pit.
Modular root director, RD 640 unless otherwise specified.
Mulch within concrete ring. Maintain mulch free zone around tree trunk.
1800 mm Ø Concrete Ring
Direction of traffic
D3 PLAN NTS
NOTES REFER ALSO TO SHEET 2. - SPECIFICATION
SUBMISSIONS
Submit the following certificates to Council's Project Manager (02 68034000) at the following times:
- Assessment from the supply nursery or horticultural landscape contractor showing compliance against criteria in "NATSPEC Guide to Specifying Trees - Assessment of 'tree quality' requirements, including a checklist at the key points. Supply to Council and obtain approval prior to accepting the order.
- Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.
HOLD POINTS
Contact Council's Project Manager (02 68034000) at the following hold points and obtain written approval to proceed.
- Setout of pit prior to cutting of A/C and installation of concrete ring.*
- Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.
- Tree supply to the site, prior to planting.
- Tree planting & tree guard installed
PRELIMINARIES
Erect sediment control barriers to gutters and drains prior to commencing excavation work. Keep the site continuously clear of debris and soil material that may wash into drainage system. Ensure continuous pedestrian access along the footpath pavement and to property entries. Comply with RTA Manual "Traffic Control at Work Sites".
UTILITIES
Contractor shall carry out Dial Before You Dig searches by phoning 1100 prior to excavation. Where services are within the zone of influence highlighted by the utilities. Locate services accurately using an Australised Service Locator and hand excavate.
TREE PIT EXCAVATION, PREPARATION AND DRAINAGE
Setout the tree pits and seek approval from Council's Project Manager prior to proceeding. Saw cut the road pavement to create a neat and round edge. Remove excavation material & dispose off site. Provide a fall to the base of the pit toward the drainage trench as detailed. Construct the drainage trench and connect to s/w system. Break up the base of the tree pit prior to backfilling. Position the root barrier prior to placement of soils. Note: Where possible link drainage between pits and connect to the s/w system behind the kerb. Minimize connections to the s/w main.
ROOT BARRIER
- Supply a HDPE waterproof flexible cutoff wall root barrier min 0.7mm wall thickness, min height 600mm. Ensure root barrier finishes flush with the top of the pit backfill. Overlap 300mm and heat seal or use with Butyl tape.
- A modular root director, RD 640 or similar is to be installed centrally within the concrete ring to manufacturers recommendations.
SOILS
Horizon A soil - Equal to AS4419-2003 'Organic Soil' with texture to AS4419-2003 Table E1- Sandy Loam. Place no deeper than 300mm to prevent anaerobic decomposition of organic matter within soil.
Horizon B soil - Place below a depth of 300mm. Equal to AS4419-2003 'Soil blend' with max 5% organic matter content. Texture to AS4419-2003 Table E1- Sandy Loam. Do not incorporate organic matter, to horizon B soil.
TREE SUPPLY
All trees must conform to Clark, R 2003. NATSPEC "Specifying Trees - A Guide to Assessment of Tree Quality" Appendix 2". Time site delivery to minimise storage on site. Ensure root balls are kept watered and store in the shade prior to planting. Inspect immediately upon delivery for NATSPEC compliance and return any trees that do not meet the standard. Cross reference - Inspections and Submissions.
TREE PLANTING
Plant trees after placement of root barrier and soils, and before placing mulch. Do not lift trees by the trunk. Support from under the rootball. Remove the pot or bag and root prune 10mm all round the root ball to encourage root division and remove any girdling. Plant with the rootball flush with the top of soil and plumb.
MULCH
Mulch type shall be a woodchip mulch with NO FINES. Finish mulch layer 10mm below the top of kerb. Do not mound mulch layer.
REFLECTOR
Each traffic reflector shall be 85mm diameter red 'corner cube' delineator (plastic disc) or HV Signs or equal (See Detail V). Screw mount to tree guard on both sides.
SUB SOIL DRAINAGES
If there are no sub-soil lines, new sub-soil drainage must be provided to connect tree pit drainage into the storm water system.
Locating existing subsoil lines and/or design of new subsoil and storm water connections must be determined prior to construction commencing to ensure feasibility of tree plantings.
THE REQUIREMENTS OF PART IV OR Y OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN NOT REQUIRED WITH RESPECT TO THIS PROJECT.
PLANNING OFFICER DATE
APPROVED
MANAGER TECHNICAL SUPPORT DATE
SURVEY DATE
DESIGN DATE
DRAWING Natasi P DATE 08/2011
CHECKED
Mark Stacey DATE 12/2011
SENIOR DESIGN ENGINEER
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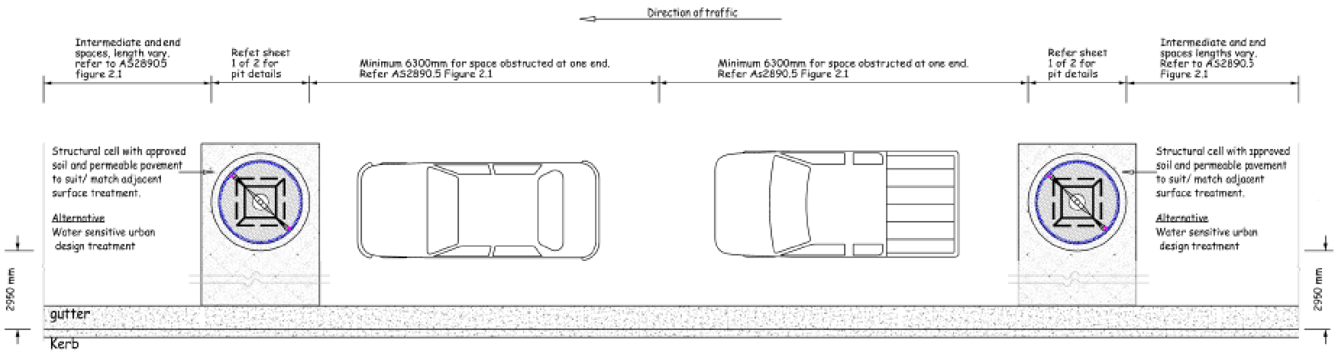
DESIGN FILES
DRAWING FILES
SCALES
NOT TO SCALE
No. DATE APPD DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREES IN ROAD PAVEMENT
SHEET 1 OF 2
JOB
TREE PLANTING STANDARDS
SHEET No. 3
OF 9 SHEETS
PLAN NO.
P 6639



TYPICAL PLAN - TREE IN ROAD PAVEMENT

NTS

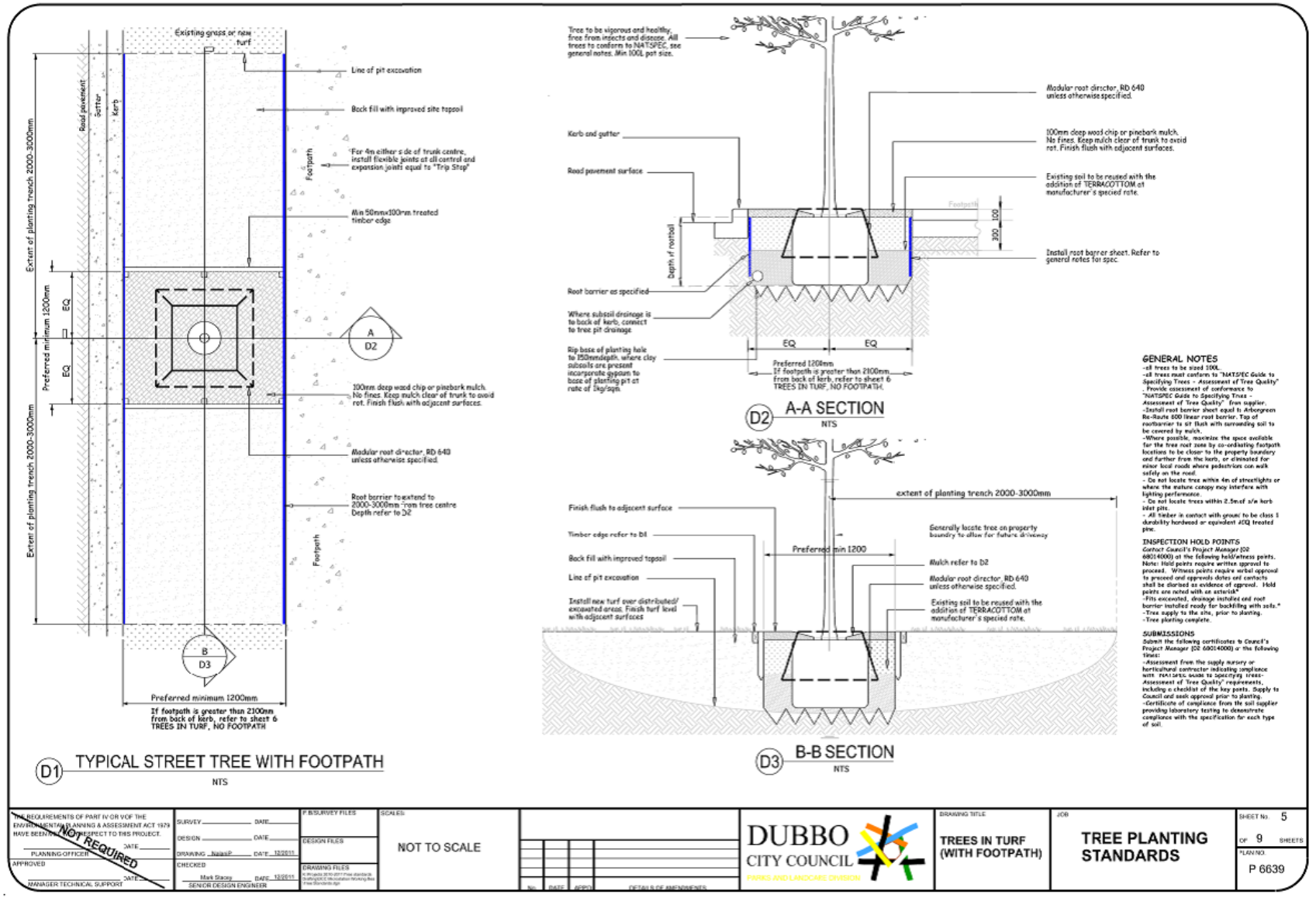
DESIGN NOTES

GENERAL-This detail is typical only and may require adjustment for site specific situations. This detail is intended as a design tool to assist designers to setout trees in their site masterplan. It is not intended as a construction detail.
For all proposals to plant trees in the street, installation must demonstrate compliance with the following issues:
HYDRAULIC FLOWS - seek advice from a civil engineer to check that the setout will not impede hydraulic flows along the gutter. Site specific calculations are required for this purpose and engineering certification shall be submitted with the DA/CC.
UTILITIES - The presence and location of underground services varies greatly from site to site and can affect the feasibility and design of tree planting in streetscapes. Many services are not located in accordance with standard allocations. Additional services may be present that are not documented. To check the feasibility of proposed tree locations contact Dial Before You Dig 1100 to determine service locations. Site specific service location shall also be carried out by an accredited service locater to more accurately check the site conditions. Contact council or utilities providers for a list of accredited locaters.
Document utilities locations with the DA/CC documentation to demonstrate the feasibility of proposals. Comply with clearances by utilities providers. Do not locate tree pits where they will interfere with power lines or other utilities.
SUBSOIL DRAINAGE
The locations of subsoil drainage and stormwater pits is required to determine suitable connections for pit drainage. If there are no existing sub-soil lines, new sub-soil drainage must be provided to connect tree pit drainage into the storm water system. Locating existing subsoil lines and/or design of new subsoil and storm water connections must be determined prior to construction commencing to ensure feasibility of tree plantings. Ensure that s/w mains are sealed in accordance with the relevant Australia Standard/s. Where possible minimise connections to the stormwater drains.
TRAFFIC ISSUES - Do not set out street trees in taxi stands, bus stops, loading zones, and slip lanes, driveways, pedestrian kerb ramps, etc. Do not locate street trees where they may interfere with traffic sight lines eg. on the approach side of pedestrian blisters or driveways. Comply with Figure 3.3 AS2890.2 for sight line clearances. Ensure reflectors are located on both sides of the tree guard adjacent to the travel lane and on both sides of the tree guard. Line markings are desirable to highlight the presence of the tree plantings as traffic obstacles. They may be deleted if approved in consultation with Council's traffic officer.

PARKING - Check the setout of carparking spaces before locating street trees and locate tree pits to minimise loss of on-street parking spaces. Where additional space is available without loss of parking or where parking is not a major issue, the length of the tree pit may be increased. Where parking setout is not parallel with the kerb, adjust the detail to provide alternative pit designs and setout to suit the site parking arrangements. Comply with the requirements of AS2890.5 On-street Parking.
TREE GUARD ORIENTATION - Where tree guards with decorative panels are proposed, orientate the tree guard with panels perpendicular to the kerb.
TREE SPECIES SELECTION NOTES
Developer must submit a detailed landscape plan of the proposed sub-division to Dubbo City Council for approval. Species must be identified by botanical nomenclature.
Contact DCC Parks and Landcare on 68014000 to determine whether proposed species are relevant to the site.
Weed species should always be avoided in any location.
Avoid the selection of very large trees for confined streetscape situations unless additional tree pit preparation work is carried out or a large verge area is available, well clear of all infrastructure (eg. kerb and gutter, footpath and services).
Avoid the selection of trees that grow in naturally moist situations as these can be shallow rooting, unless pit preparation works are justified in the landscape report.

The 2950mm distance between the kerb and the concrete ring edge allows the D.C.C streetsweeper through.

THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN MET WITH RESPECT TO THIS PROJECT. NOT REQUIRED PLANNING OFFICER DATE APPROVED MANAGER TECHNICAL SUPPORT DATE	SURVEY DATE DESIGN DATE DRAWING NatanP DATE 12/2011 CHECKED Mark Stacey DATE 12/2011 SENIOR DESIGN ENGINEER	P.B/SURVEY FILES DESIGN FILES DRAWING FILES	SCALES NOT TO SCALE	No. DATE APPD DETAILS OF AMENDMENTS	DUBBO CITY COUNCIL PARKS AND LANDCARE DIVISION	DRAWING TITLE TREES IN ROAD PAVEMENT SHEET 2 OF 2	JOB TREE PLANTING STANDARDS	SHEET No. 4 OF 9 SHEETS PLAN NO. P 6639


Existing grass or new turf
Line of pit excavation
Back fill with improved site topsoil
*For 4m either s de of trunk centre, install flexible joints at all control and expansion joints equal to "Trip Stop"
Min 50mmx100mm treated timber edge
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Modular root director, RD 640 unless otherwise specified.
Root barrier to extend to 2000-3000mm from tree centre Depth refer to D2
Extent of planting trench 2000-3000mm
Preferred minimum 1200mm
EQ
Road pavement
Gutter
Kerb
Footpath
A
D2
B
D3
Preferred minimum 1200mm
If footpath is greater than 2100mm from back of kerb, refer to sheet 6 TREES IN TURF, NO FOOTPATH
D1 TYPICAL STREET TREE WITH FOOTPATH
NTS
Tree to be vigorous and healthy, free from insects and disease. All trees to conform to NATSPEC, see general notes. Min 100L pot size.
Modular root director, RD 640 unless otherwise specified.
Kerb and gutter
Road pavement surface
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
Depth of rootball
Root barrier as specified
Where subsoil drainage is to back of kerb, connect to tree pit drainage
Rip base of planting hole to 150mmdepth, where clay subsoils are present incorporate gypsum to base of planting pit at rate of 1kg/sqm
Install root barrier sheet. Refer to general notes for spec
Footpath
100
300
EQ
EQ
Preferred 1200mm
If footpath is greater than 2100mm from back of kerb, refer to sheet 6 TREES IN TURF, NO FOOTPATH.
D2 A-A SECTION
NTS
GENERAL NOTES
-all trees to be sized 100L.
-all trees must conform to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" . Provide assessment of conformance to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" from supplier.
-Install root barrier sheet equal to Arborgreen Re-Route 600 linear root barrier. Top of rootbarrier to sit flush with surrounding soil to be covered by mulch.
-Where possible, maximize the space available for the tree root zone by co-ordinating footpath locations to be closer to the property boundary and further from the kerb, or eliminated for minor local roads where pedestrians can walk safely on the road.
- Do not locate tree within 4m of streetlights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 2.5m of s/w kerb inlet pits.
- All timber in contact with ground to be class 1 durability hardwood or equivalent ACQ treated pine.
INSPECTION HOLD POINTS
Contact Council's Project Manager (02 6801 4000) at the following hold/witness points. Note: Hold points require written approval to proceed. Witness points require verbal approval to proceed and approvals dates and contacts shall be diarised as evidence of approval. Hold points are noted with an asterisk*
-Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.*
-Tree supply to the site, prior to planting.
-Tree planting complete.
SUBMISSIONS
Submit the following certificates to Council's Project Manager (02 6801 4000) at the following times:
-Assessment from the supply nursery or horticultural contractor indicating compliance with NATSPEC Guide to Specifying Trees- Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and seek approval prior to planting.
-Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.
extent of planting trench 2000-3000mm
Finish flush to adjacent surface
Timber edge refer to D1
Back fill with improved topsoil
Line of pit excavation
Install new turf over distributed/ excavated areas. Finish turf level with adjacent surfaces
Generally locate tree on property boundry to allow for future driveway
Preferred min 1200
Mulch refer to D2
Modular root director, RD 640 unless otherwise specified.
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
D3 B-B SECTION
NTS
THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN NOT REQUIRED IN RESPECT TO THIS PROJECT.
PLANNING OFFICER
APPROVED
MANAGER TECHNICAL SUPPORT
SURVEY
DESIGN
DRAWING Nalisa P. DATE 12/2011
CHECKED Mark Stacey DATE 12/2011
SENIOR DESIGN ENGINEER
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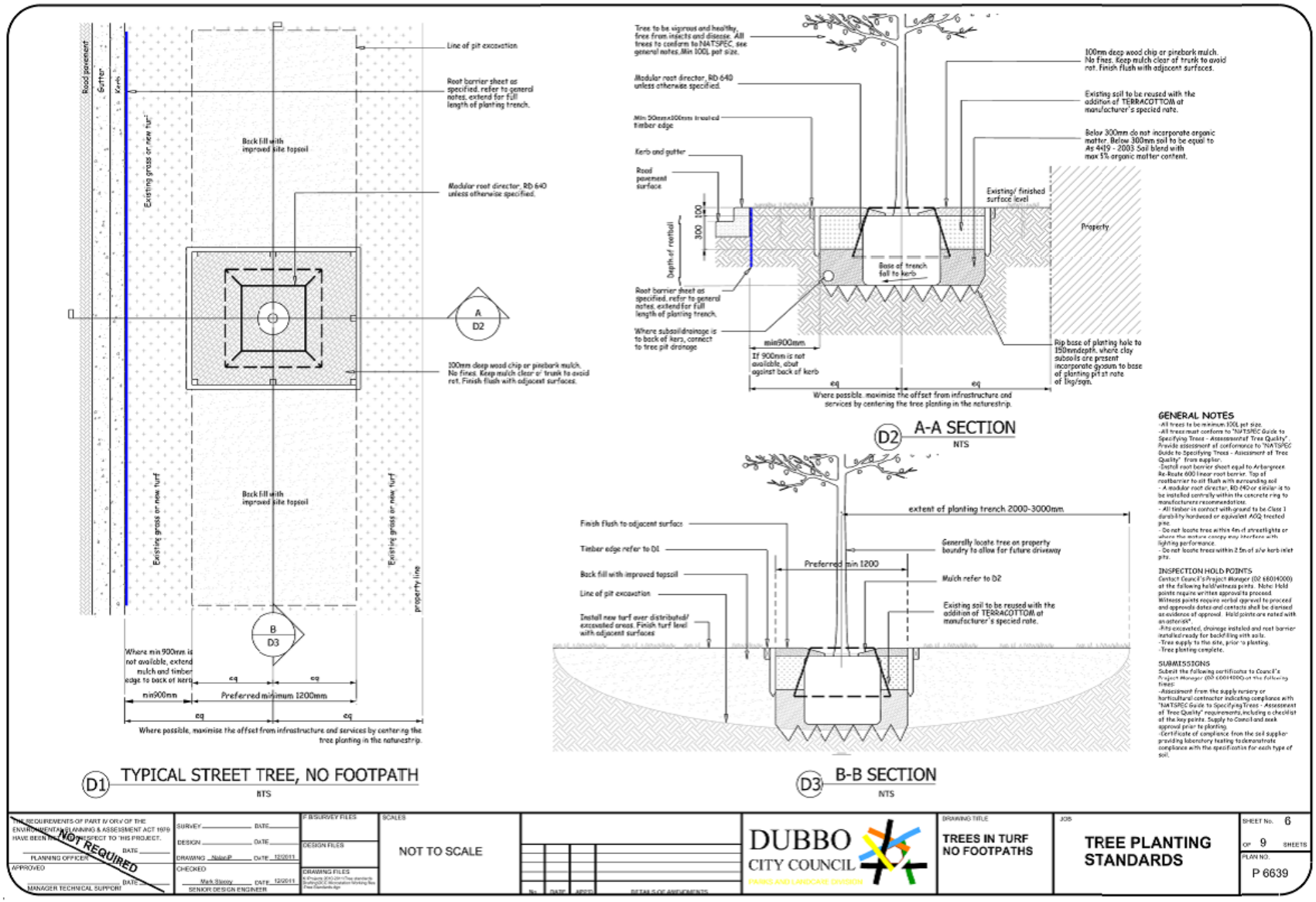
DESIGN FILES
DRAWING FILES
SCALE: NOT TO SCALE
No. DATE APPD DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREES IN TURF (WITH FOOTPATH)
JOB
TREE PLANTING STANDARDS
SHEET No. 5
OF 9 SHEETS
PLAN NO. P 6639


Road pavement
Gutter
Kerb
Existing grass or new turf
Line of pit excavation
Root barrier sheet as specified, refer to general notes, extend for full length of planting trench.
Back fill with improved site topsoil
Modular root director, RD 640 unless otherwise specified.
A
D2
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Existing grass or new turf
Back fill with improved site topsoil
Existing grass or new turf
property line
B
D3
Where min 900mm is not available, extend mulch and timber edge to back of kerb
eq
eq
min900mm
Preferred minimum 1200mm
eq
eq
Where possible, maximise the offset from infrastructure and services by centering the tree planting in the naturestrip.
D1 TYPICAL STREET TREE, NO FOOTPATH
NTS
Tree to be vigorous and healthy, free from insects and disease. All trees to conform to NATSPEC, see general notes. Min 100L pot size.
Modular root director, RD 640 unless otherwise specified.
Min 50mmx300mm treated timber edge
Kerb and gutter
Road pavement surface
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
Below 300mm do not incorporate organic matter. Below 300mm soil to be equal to As 4419 - 2003 Soil blend with max 5% organic matter content.
Existing/ finished surface level
Property
100
300
Depth of rootball
Base of trench fall to kerb
Root barrier sheet as specified, refer to general notes, extend for full length of planting trench.
Where subsoil drainage is to back of kerb, connect to tree pit drainage
min900mm
If 900mm is not available, abut against back of kerb
eq
eq
Where possible, maximise the offset from infrastructure and services by centering the tree planting in the naturestrip.
Rip base of planting hole to 150mmdepth, where clay subsoils are present incorporate gypsum to base of planting pit at rate of 1kg/sqm.
D2 A-A SECTION
NTS
extent of planting trench 2000-3000mm.
Finish Flush to adjacent surface
Timber edge refer to D1
Back fill with improved topsoil
Line of pit excavation
Install new turf over distributed/ excavated areas. Finish turf level with adjacent surfaces
Generally locate tree on property boundry to allow for future driveway
Preferred min 1200
Mulch refer to D2
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
D3 B-B SECTION
NTS
GENERAL NOTES
-All trees to be minimum 100L pot size.
-All trees must conform to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality". Provide assessment of conformance to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" from supplier.
- Install root barrier sheet equal to Arborgreen Re-Route 600 linear root barrier. Top of rootbarrier to sit flush with surrounding soil
- A modular root director, RD 640 or similar is to be installed centrally within the concrete ring to manufacturers recommendations.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent ACQ treated pine.
- Do not locate tree within 4m of streetlights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 2.5m of s/w kerb inlet pits.
INSPECTION HOLD POINTS
Contact Council's Project Manager (02 68014000) at the following hold/witness points. Note: Hold points require written approval to proceed. Witness points require verbal approval to proceed and approvals dates and contacts shall be claimed as evidence of approval. Hold points are noted with an asterisk*.
-Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.
-Tree supply to the site, prior to planting.
-Tree planting complete.
SUBMISSIONS
Submit the following certificates to Council's Project Manager (02 68014000) at the following times:
-Assessment from the supply nursery or horticultural contractor indicating compliance with "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and seek approval prior to planting.
-Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.
THE REQUIREMENTS OF PART IV OF V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN MET WITH RESPECT TO THIS PROJECT.
NOT REQUIRED
PLANNING OFFICER DATE
APPROVED
MANAGER TECHNICAL SUPPORT DATE
SURVEY DATE
DESIGN DATE
DRAWING DATE 12/2011
CHECKED
SENIOR DESIGN ENGINEER DATE 12/2011
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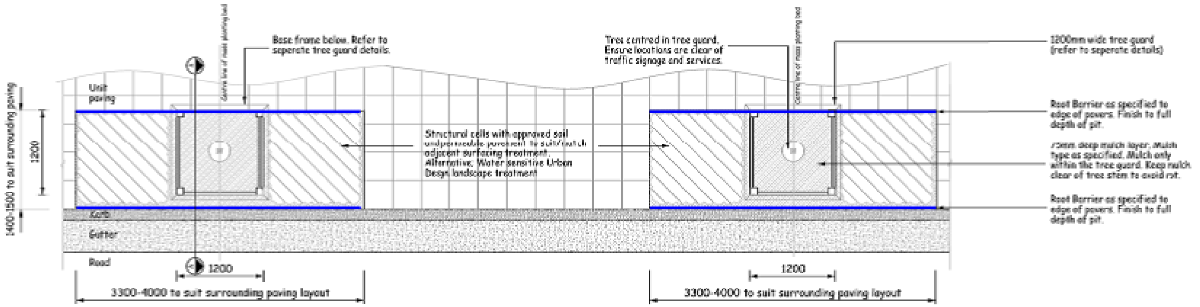
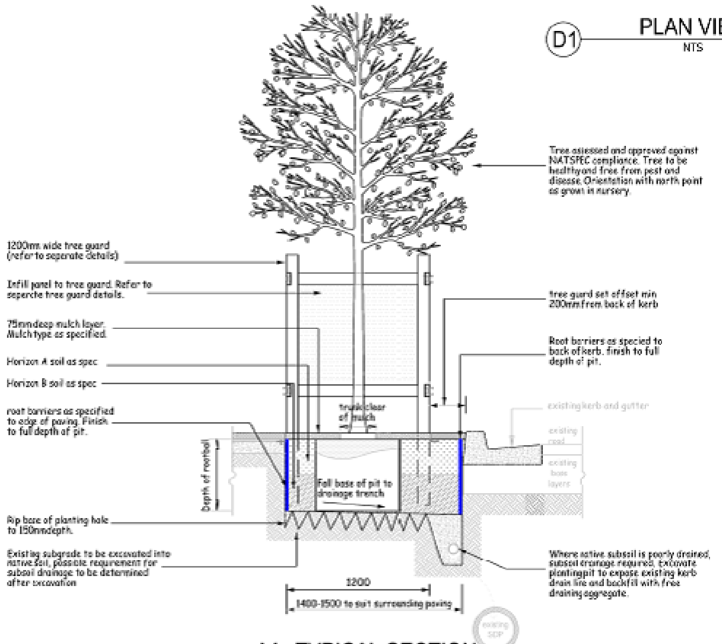
DRAWING FILES
SCALES
NOT TO SCALE
No DATE APP'D DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREES IN TURF NO FOOTPATHS
JOB
TREE PLANTING STANDARDS
SHEET No. 6
OF 9 SHEETS
PLAN NO.
P 6639



D1 PLAN VIEW
NTS



D2 AA- TYPICAL SECTION
NTS

DESIGN NOTES

CONSTRUCTION NOTES

DIAL BEFORE YOU DIG

Contractor shall carry out Dial Before You Dig searches by phoning 1100 prior to excavation. Where planting may be within the zone of influence highlighted by the utilities, locate services accurately using an Accredited Service Locater. Contact Councils Project Manager (02 68014000) if tree locations conflict with services.

SUBMISSIONS

Submit the following certificates to Council's Project Manager (02 68014000) at the following times:

-Assessment from the supply nursery or horticultural landscape contractor showing compliance against criteria in "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and obtain approval prior to ordering.

-Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.

GENERAL-This detail is typical only and may require adjustment for site specific situations. Do not scale off the drawing, dimensions take precedence over scaled measurements.

UTILITIES - The presence and location of underground services varies greatly from site to site and can affect the feasibility and design of tree planting in streetscapes. Many services are not located in accordance with standard allocations. Additional services may be present that are not documented. The locations of subsoil drainage and stormwater pits are required to determine suitable connections for pit drainage. Designers must check the feasibility of proposed tree locations and contact Dial Before You Dig 1100 to determine service locations. Where planting may be within the zone of influence highlighted by the utilities, locate services accurately using an Accredited Service Locater. Comply with clearances required by utilities providers. Do not locate tree pits where they will interfere with power lines or other utilities.

TRAFFIC ISSUES - Do not set out street trees in taxi stands, bus stops, loading zones, and slip lanes, driveways, pedestrian kerb ramps, etc. Do not locate street trees where they may interfere with traffic sight lines eg. on the approach side of pedestrian blisters or driveways. Comply with Figure 3.3 AS2890.2 for sight line clearances. All existing traffic signage to be reinstated at the completion of works to the same location unless otherwise agreed. Contact Council regarding any conflicts with proposed street tree locations and traffic signage.

TREE GUARDS- Type of tree guard to be determined by the Project Manager (Parks and Landcare) on a site by site basis. Where tree guards with decorative panels are proposed, orientate the tree guard with panels perpendicular to the kerb.

TREE SPECIES SELECTION NOTES

Plantings must be in accordance with the Greening Plan of Dubbo/Street Tree master plan, but Council will consider alternative species but this option must be well supported with a clear link to site analysis and/or landscape report explaining the reasoning. To environmentally sensitive areas, eg. adjoining water courses, the lake, coastal environments or bushland, local indigenous species should always be preferenced. Contact D.C.C Landscape Architects on 68014000 to determine whether guidelines are relevant to the site. Weed species should always be avoided in any location. Avoid the selection of very large trees for confined streetscape situations unless additional tree pit preparation work is carried out or a large verge area is available, well clear of all infrastructure (eg. kdg. footpath and services).

WITNESS & HOLD POINTS

Contact Council's Project Manager (02 68014000) at the following hold points. Note: Hold points require written approval to proceed.

-Tree pit setout

-Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.*

-Tree supply to the site, prior to planting.

-Tree planting & tree guard installed.*

PRELIMINARIES

Erect sediment control barriers to gutters and drains prior to commencing excavation work. Keep the site continuously clear of debris and soil material that may wash into drainage system. Ensure continuous pedestrian access along the footpath pavement and to property entries. Comply with RTA Manual "Traffic Control at Work Sites".

TREE PIT EXCAVATION, PREPARATION AND DRAINAGE

Setout the tree pits and seek approval from Council's Project Manager prior to proceeding. Saw cut the road pavement to create a neat and square edge. Remove excavation material & dispose off site. Provide a fall to the base of the pit toward the drainage trench as detailed. Construct the drainage trench and connect to s/w system. Break up the base of the tree pit prior to backfilling. Position the root barrier prior to placement of soils. Note: Where possible link drainage between pits and connect to the s/w system behind the kerb. Minimize connections to the s/w main.

ROOT BARRIER

Supply a HDPE UV stabilised root barrier min 0.7mm wall thickness, min height 600mm. Ensure root barrier finishes flush with the top of the pit backfill and peg to ensure the barrier finishes minimum 100mm above the base of the pit. Overlap 300mm and heat seal or seal with Butyl tape.

SOILS

Horizon A soil - Equal to AS4419-2003 "Organic Soil" with texture to AS4419-2003 Table II- Sandy Loam. Place no deeper than 300mm to prevent anaerobic decomposition of organic matter within soil.

Horizon B soil - Place below a depth of 300mm. Equal to AS4419-2003 "Soil blend" with max 5% organic matter content. Texture to AS4419-2003 Table II- Sandy Loam. Do not incorporate organic matter to horizon B soil.

TREE SUPPLY

All trees must conform to Clark, R 2003. NATSPEC "Specifying Trees - A Guide to Assessment of Tree Quality" Appendix 2". Time site delivery to minimise storage on site. Ensure root balls are kept watered and stored in the shade prior to planting. Inspect immediately upon delivery for NATSPEC compliance and return any trees that do not meet the standard.

TREE PLANTING

Plant trees after placement of root director and soils, and before placing mulch. Do not lift trees by the trunk. Support from under the rootball. Remove the pot or bag and root prune 30mm all round the root ball to encourage root division. Plant with the rootball flush with the top of soil and plumb.

MULCH

Mulch type shall be a woodchip mulch with NO FINES. Finish mulch to be flush with surrounding pavement. Do not mound mulch layer.

THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN MET WITH RESPECT TO THIS PROJECT.
NOT REQUIRED
PLANNING OFFICER DATE
APPROVED
MANAGER TECHNICAL SUPPORT DATE

SURVEY DATE
DESIGN DATE
DRAWING NatalieP DATE 09/2011
CHECKED
Mark Stacey DATE 12/2011
SENIOR DESIGN ENGINEER

F/B/SURVEY FILES
DESIGN FILES
DRAWING FILES

SCALES
NOT TO SCALE

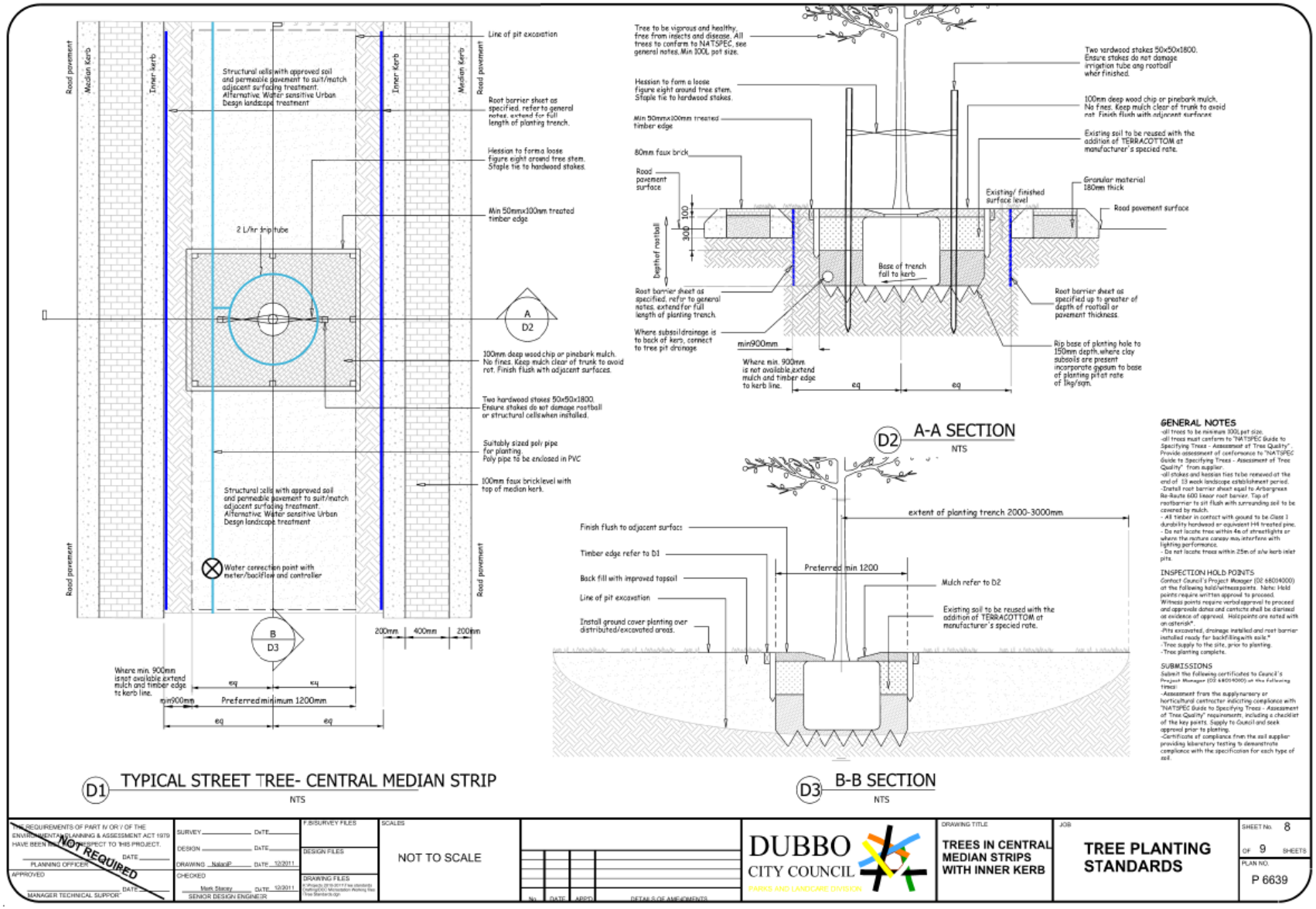
No. DATE APPD DETAILS OF AMENDMENTS

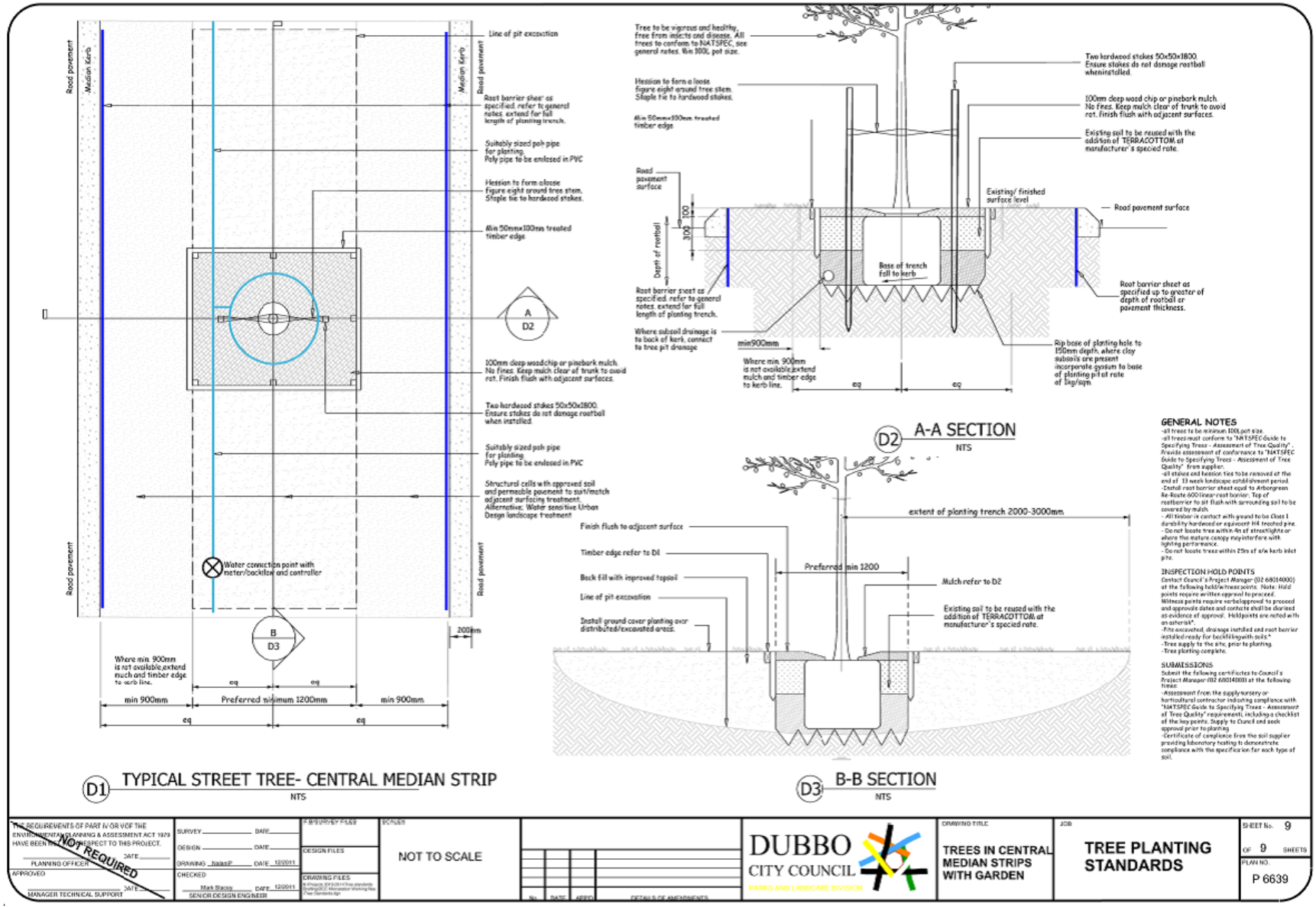
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION

DRAWING TITLE
STREET TREES IN MASS PLANTING AND MALLS

JOB
TREE PLANTING STANDARDS

SHEET No. 7 OF 9 SHEETS
PLAN NO. P 6639


Road pavement
Median Kerb
Inner kerb
Line of pit excavation
Structural cells with approved soil and permeable pavement to suit/match adjacent surfacing treatment. Alternative: Water sensitive Urban Design landscape treatment
Root barrier sheet as specified, refer to general notes, extend for full length of planting trench.
Hessian to form a loose figure eight around tree stem. Staple tie to hardwood stakes.
Min 50mmx100mm treated timber edge
2 L/hr drip tube
A
D2
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Two hardwood stakes 50x50x1800. Ensure stakes do not damage rootball or structural cells when installed.
Suitably sized poly pipe for planting. Poly pipe to be enclosed in PVC
100mm faux brick level with top of median kerb.
Water connection point with meter/backflow and controller
B
D3
200mm
400mm
200mm
Where min. 900mm is not available extend mulch and timber edge to kerb line.
min900mm
eq
Preferred minimum 1200mm
Tree to be vigorous and healthy, free from insects and disease. All trees to conform to NATSPEC, see general notes. Min 100L pot size.
Two hardwood stakes 50x50x1800. Ensure stakes do not damage irrigation tube and rootball when finished.
100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
Min 50mmx100mm treated timber edge
80mm faux brick
Road pavement surface
Existing/ finished surface level
Granular material 180mm thick
Road pavement surface
100
300
Depth of rootball
Base of trench fall to kerb
Root barrier sheet as specified, refer to general notes, extend for full length of planting trench.
Root barrier sheet as specified up to greater of depth of rootball or pavement thickness.
Where subsoil drainage is to back of kerb, connect to tree pit drainage
min900mm
Where min. 900mm is not available,extend mulch and timber edge to kerb line.
eq
Rip base of planting hole to 150mm depth, where clay subsoils are present incorporate gypsum to base of planting pit at rate of 1kg/sqm.
D2 A-A SECTION
NTS
extent of planting trench 2000-3000mm
Finish flush to adjacent surfacs
Timber edge refer to D1
Back fill with improved topsoil
Line of pit excavation
Install ground cover planting over distributed/excavated areas.
Preferred min 1200
Mulch refer to D2
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
GENERAL NOTES
-all trees to be minimum 100L pot size.
-all trees must conform to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality". Provide assessment of conformance to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" from supplier.
-all stakes and hessian ties to be renewed at the end of 13 week landscape establishment period.
- Install root barrier sheet equal to Arborgreen Re-Route 600 linear root barrier. Top of rootbarrier to sit flush with surrounding soil to be covered by mulch.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent H4 treated pine.
- Do not locate tree within 4m of streetlights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 25m of s/w kerb inlet pits.
INSPECTION HOLD POINTS
Contact Council's Project Manager (02 68034000) at the following hold/witness points. Note: Hold points require written approval to proceed. Witness points require verbal approval to proceed and approvals dates and contacts shall be diarised as evidence of approval. Hold points are noted with an asterisk*.
-Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.*
-Tree supply to the site, prior to planting.
-Tree planting complete.
SUBMISSIONS
Submit the following certificates to Council's Project Manager (02 68034000) at the following times:
-Assessment from the supply nursery or horticultural contractor indicating compliance with "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and seek approval prior to planting.
-Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.
D1 TYPICAL STREET TREE- CENTRAL MEDIAN STRIP
NTS
D3 B-B SECTION
NTS
THE REQUIREMENTS OF PART IV OR V OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 HAVE BEEN MET WITH RESPECT TO THIS PROJECT.
NOT REQUIRED
PLANNING OFFICER
DATE
APPROVED
MANAGER TECHNICAL SUPPORT
DATE
SURVEY
DESIGN
DRAWING NatashaP DATE 12/2011
CHECKED
Mark Stacey DATE 12/2011
SENIOR DESIGN ENGINEER
P:\SURVEY FILES
DESIGN FILES
DRAWING FILES
SCALES
NOT TO SCALE
No. DATE APPD. DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDCARE DIVISION
DRAWING TITLE
TREES IN CENTRAL MEDIAN STRIPS WITH INNER KERB
JOB
TREE PLANTING STANDARDS
SHEET No. 8
OF 9 SHEETS
PLAN NO.
P 6639


Road pavement
Median Kerb
Line of pit excavation
Root barrier sheet as specified, refer to general notes. extend for full length of planting trench.
Suitably sized poh pipe for planting. Poly pipe to be enclosed in PVC
Hessian to form a loose figure eight around tree stem. Staple tie to hardwood stakes.
Min 50mmx100mm treated timber edge
A
D2
100mm deep woodchip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Two hardwood stakes 50x50x1800. Ensure stakes do not damage rootball when installed.
Structural cells with approved soil and permeable pavement to suit/match adjacent surfacing treatment. Alternative: Water sensitive Urban Design landscape treatment
Water connection point with meter/backflow and controller
B
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200mm
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eq
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Preferred minimum 1200mm
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100mm deep wood chip or pinebark mulch. No fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.
Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specied rate.
Road pavement surface
Existing/ finished surface level
Depth of rootball
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Base of trench fall to kerb
Root barrier sheet as specified up to greater of depth of rootball or pavement thickness.
Root barrier sheet as specified, refer to general notes. extend for full length of planting trench.
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min900mm
Where min. 900mm is not available,extend mulch and timber edge to kerb line.
Rip base of planting hole to 150mm depth, where clay subsoils are present incorporate gypsum to base of planting pit at rate of 1kg/sqm
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extent of planting trench 2000-3000mm
Finish flush to adjacent surface
Timber edge refer to D1
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Line of pit excavation
Install ground cover planting over distributed/excavated areas.
Preferred min 1200
Mulch refer to D2
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NTS
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DRAWING NajasP
DATE 12/2011
CHECKED
Mark Stacey
DATE 12/2011
SENIOR DESIGN ENGINEER
SURVEY FILES
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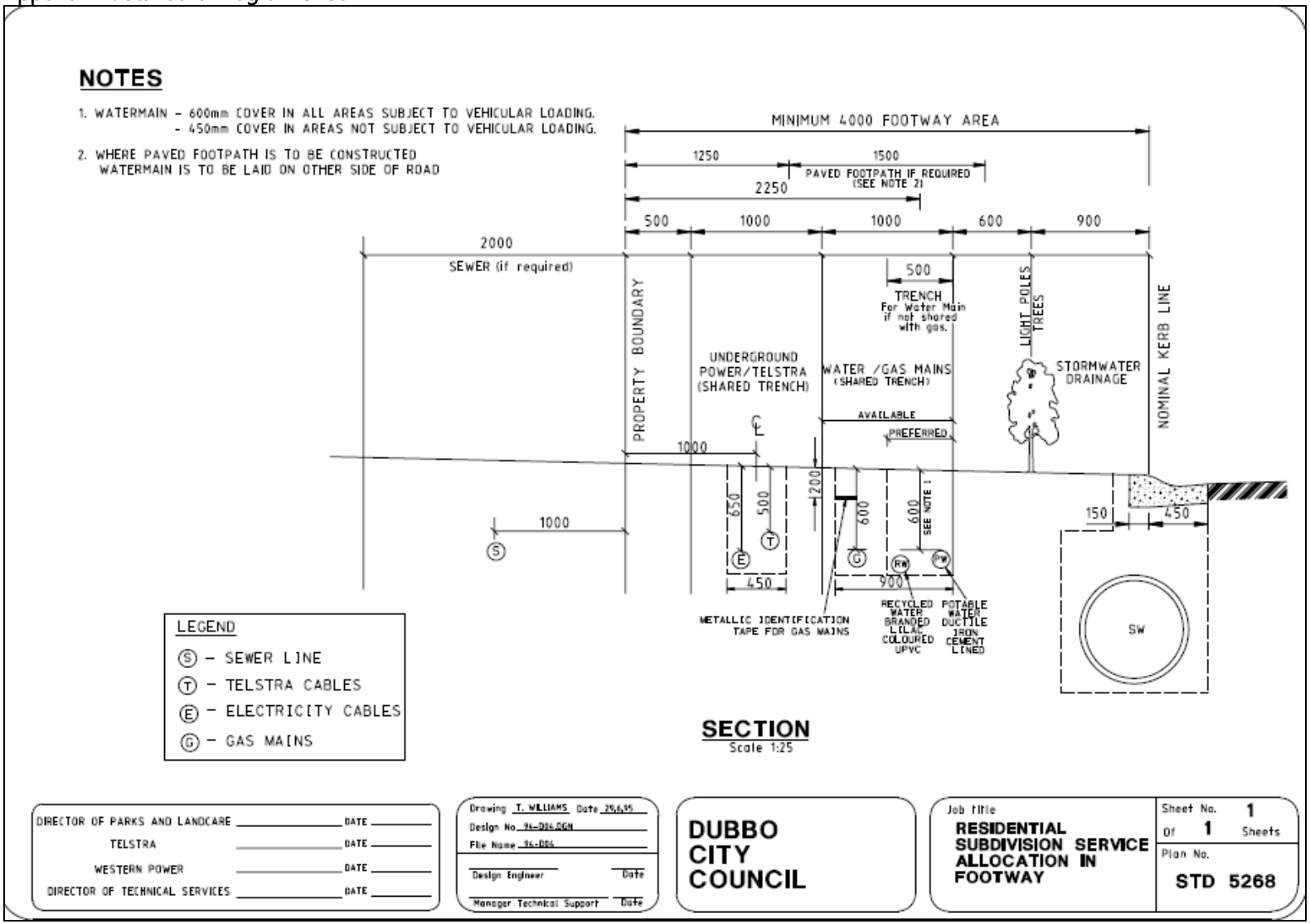
DETAILS OF AMENDMENTS
DUBBO CITY COUNCIL
PARKS AND LANDSCAPE DIVISION
DRAWING TITLE
TREES IN CENTRAL MEDIAN STRIPS WITH GARDEN
JOB
TREE PLANTING STANDARDS
SHEET No. 9
OF 9 SHEETS
PLAN NO.
P 6639

Appendix B: Standard Diagram 5268



2.4 Rural Development and Subdivisions

2.4.1 Introduction

The Dubbo Local Government Area (LGA) is dominated by its urban area. However, the city also values its strong rural sector with its range of crop, pasture and livestock production.

All but the most inaccessible, environmentally sensitive and marginal land is recognised as having some type of productive agricultural potential.

All farming enterprises make a valuable contribution to the local economy. Maintaining and encouraging these enterprises leads to opportunities for value-added goods within the local economy.

This further leads to the preservation of the rural character for the benefit of both locals and tourists.

2.4.2 The context of this Section

In the past, cases of land use conflict have occurred where non-rural land uses have located in rural areas.

Some agricultural land, especially that land close to the city's edge, has lost its productive capacity and developed into rural/residential living areas. Pressure has been applied to adjoining and adjacent rural land as a result of speculation on future land uses.

Council has an important responsibility to ensure that the resources agriculture depends on remain available and are able to be used effectively and efficiently.

Council is seeking to protect Dubbo's existing farming sector to maximise the economic benefits of farming enterprises and to provide scope for additional compatible and productive land uses in the rural areas.

Council has determined through extensive public consultation which areas of Dubbo expect to have a long-term agricultural future and then sought to encourage and protect agricultural investment in those areas.

The basis for this Section is the Dubbo RADS 1995 - 2015 (reviewed 2003) which provides the long-term direction for the management of the rural hinterland of Dubbo. Dubbo LEP 2011 provides the legal mechanism for the effective management of the rural and rural-urban interface.

2.4.3 RU1 Primary Production zone

The RU1 Primary Production zone applies to land of generally good agricultural capability that is suitable for extensive grazing and cropping but which needs to be managed carefully to prevent land degradation. Careful farm management practices are required to sustain a level of productivity that reflects the capability of the land.

The RU1 Primary Production zone generally refers to land in the mid catchment areas of the Macquarie and Talbragar districts and to a lesser extent the upper catchment areas within the Goonoo, Southern and Minore districts as identified in the Dubbo RADS.

2.4.4 RU2 Rural Landscape zone

Council recognises the RU2 Rural Landscape zone as being a continuation of existing hobby farming and rural lifestyles. The RU2 Rural Landscape zone represents the transition between the R5 Large Lot Residential subdivisions on the edge of the city to large-scale commercial agriculture outside the urban area.

2.4.5 RU4 Primary Production Small Lots zone

The RU4 Primary Production Small Lots zone applies to land of generally high agricultural capability that is suitable for intensive cropping and other activities which require good quality land and a secure water supply. Such uses include lucerne growing, dairies and market gardening. Because of the intensive nature of these enterprises, smaller areas of land are required in comparison to the RU1 Primary Production zone.

The RU4 Primary Production Small Lots zone generally refers to land in the Macquarie River floodplain corridor as identified in the RADS 1995 – 2015 (reviewed 2003).

2.4.6 R5 Large Lot Residential zone

Council recognises the R5 Large Lot Residential zone as providing opportunities for small scale farming and rural lifestyles. The R5 Large Lot Residential zone applies to land ranging from reasonable to good agricultural capability that is suitable for productive activities such as cropping, forestry and extensive grazing. The zone is also appropriate for related tourism opportunities including farm-stay accommodation, bed and breakfast and eco-tourist facilities.

The R5 Large Lot Residential zone refers to land generally identified in the Dubbo RADS 1995 – 2015 (reviewed 2003) as zone 1(S) Small Farm Estates.

2.4.7 Land to which the Section applies

This section applies to land identified in DLEP 2011 as RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots and R5 Large Lot Residential zones.

Objectives

- Provide guidance for the design of development proposals situated in the rural zones and the submission of DAs;
- Reinforce and supplement the aims, objectives and development standards contained in DLEP 2011;
- Provide detailed requirements where needed to facilitate development; and
- Promote sustainable natural resource management principles including the precautionary principle, intergenerational equity, conservation of biological diversity and ecological integrity.

2.4.8 Design elements and matters for consideration

This section lists design elements under the following headings:

Element 1 Site Integration
Element 2 Services
Element 3 Access
Element 4 Design for Access and Mobility

Element 5 Flooding
Element 6 Waste Management
Element 7 Environmental Management
Element 8 Rural Workers' Dwellings
Element 9 Restaurants, Function Centres and Cellar Door Premises
Element 10 Backpackers Accommodation, Farm-Stay Accommodation and Eco-Tourist Facilities
Element 11 Signage

For subdivision an additional design element has been developed under the heading of:

Element 12 Physical Infrastructure and Lot Layout

Element 1: Site integration

Objectives

To position development and infrastructure in the most suitable location to achieve the following:

- Minimal loss of land for production;
- Efficiency in the operation of the development;
- Physical comfort; and
- Sustainable natural resource management.

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Amenity P1 Consideration is given to the nature of adjoining uses so as to obtain optimum amenity and privacy.	A1.1 Locate and orientate development to avoid overlooking nearby adjoining development in accordance with Table 1. Note: This applies to a dwelling house and any carport, garage, balcony, deck and pergola that is attached to a dwelling house A1.2 Front set-back for dwellings and other buildings is 50 m. A1.3 Side and rear set-backs for dwellings are 150 m from adjoining boundaries in the RU1, RU2 and RU4 zones. A1.4 Side and rear set-backs for dwellings and other buildings are 35 m from adjoining boundaries in the R5 zone. A1.5 Allow for ample buffers between possible sources of noise, odour and air emissions, dust generating uses and potential pollutants such as aerial spraying.
Rural landscape P2 Development is not provided in visually prominent locations.	A2.1 Buildings on top of ridgelines are avoided.
Prevailing winds P3 Developments are located and designed to address prevailing winds.	A3.1 Orient and design development to reduce the impact from hot summer winds and cold winter winds. A3.2 Site potentially odorous uses downwind of the main residential part of the property and adjoining properties. A3.3 Locate residential uses away from rural industries and intensive livestock agriculture. A3.4 Trees are provided as windbreaks around development to mitigate any adverse effects of prevailing winds.

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria:
Existing opportunities P4 Developments are located in order to make best use of existing infrastructure and resources.	A4.1 Development is located in close proximity to existing development, services and access roads. A4.2 Locate development on non-productive agricultural land keeping the remaining land for agricultural production.
Natural hazards P5 The impact of natural hazards such as fire, flood and wind storms are reduced.	A5.1 Buildings are designed in accordance with Planning for Bush Fire Protection (Guidelines). A5.2 Buildings are not sited near obvious depressions and watercourses or on flood-prone land. A5.3 Evacuation and alternative evacuation paths from natural hazards are clearly identified and constructed prior to development.
Buffer areas P6 The impact of development such as noise, odour and visual amenity are reduced.	A6.1 Development on an allotment within the R5 Large Lot Residential zone adjoining the RU1, RU2 or RU4 zone and within proximity to a land use specified in Table 2 shall comply with the buffer distance listed, or alternatively a vegetated buffer shall be provided in accordance with Figure 1. Where a vegetated buffer is provided the development may be sited within 60 m of the land use.

Table 1

Land use	Minimum front set-back	Minimum side and rear set-back
RU1 and RU2	50 m	Where the boundary adjoins an intensive agriculture, extractive industry or rural industry 250 m, otherwise: (a) For lots less than 20 ha, 30 m or (b) For lots equal to or greater than 20 ha, 50 m.
RU2	30 m	30 m
R5 – less than 4000 m^2	10 m	2.5 m
R5 – equal to or greater than 4000 m^2	15 m	10 m
R5 – where a boundary adjoins RU1, RU2 or RU4 zone	Refer to Section 2.4.8.1 P7 in relation to buffer distances	

Table 2

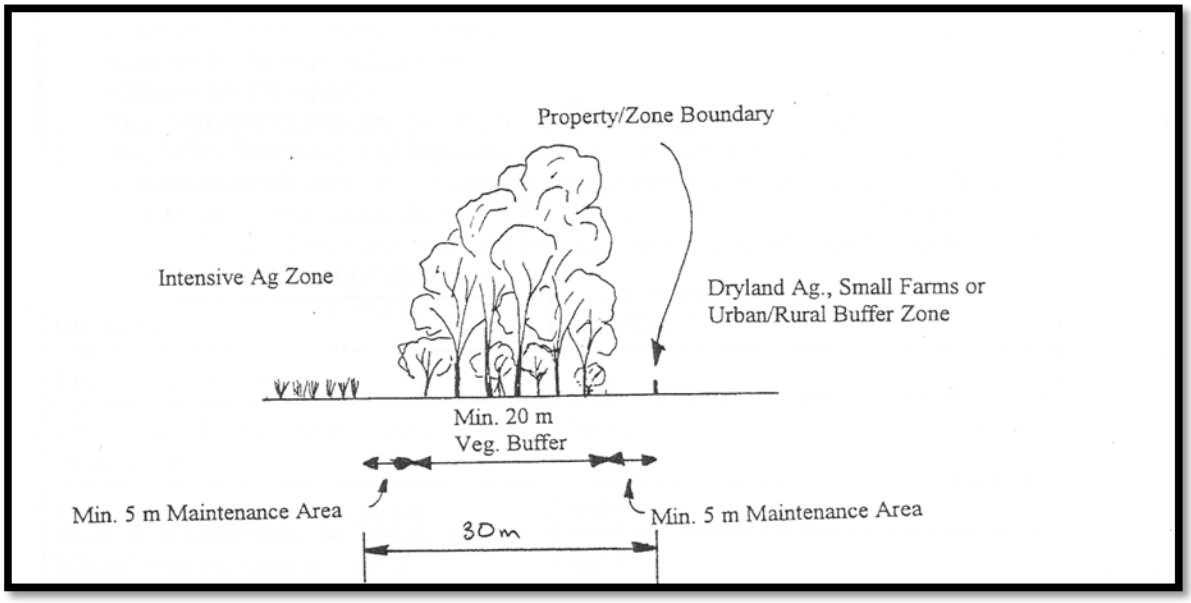
Land use	Minimum buffer distance from land use to residential use
Rural industry	1 km
Intensive livestock agriculture - Dairies - Feedlots - Piggeries - Poultry farm	 500 m 1 km 1 km 1 km
Intensive plant agriculture - Cultivation or irrigation crops - Horticulture - Turf farms - Viticulture	 200 m 200 m 300 m 300 m
Abattoir	1 km
Hazardous or offensive industry	1 km
Mining and extractive industries	500 m where the operation does not involve blasting

References
• Dubbo LEP 2011; • Council's Floodplain Policy; • DCP 2011, Council's Flooding Policy; • Department of Primary Industries (Division of Trade and Investment, Regional Infrastructure and Services); • Pesticides Act 1999; • Australian Standard 3959 - 2009 Construction of Buildings in Bushfire Prone Areas; and • Planning for Bushfire Protection - published by the NSW Rural Fire Service.

Figure 1: Vegetated buffers

Vegetated buffers can provide an effective (buffer) barrier against impacts such as spray drift and dust etc. When establishing vegetated buffers, there is a general rule which should be followed, 'the wider the better'. However, the following criteria should be adopted when designing and establishing vegetated buffers:

- Minimum width of 30 m;
- To contain random plantings of a variety of species of different growth habits at spacings of 4 m to 5 m for a minimum width of 20 m;
- Include species with long, thin and rough foliage which facilitates the more efficient capture of spray droplets;
- To provide a permeable barrier which allows air to pass through the buffer. A porosity of 0.5 is acceptable (approximately 50% of the screen should be air space);
- Foliage is from the base to the crown; and
- Minimum mature height of at least 1.5 m times the spray release height.



Element 2: Services

Objective

- To ensure an appropriate level of services are readily available to any proposed development.

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
Water	
P1 Water supply capable of servicing domestic stock, fire fighting and other needs of the development is available.	A1.1 Each dwelling is provided with at least a 45,000 litre potable rain water storage or 20,000 litre potable rain water storage if supplemented by an alternative reliable water supply. A1.2 On land identified as being bushfire-prone, ready access to a minimum water supply of 10,000 litres (for dwellings) restricted for fire fighting purposes. Fire fighting pumps and water tanks are provided in accordance with the requirements of the Rural Fire Service (RFS). Refer to RFS document 'Planning for Bushfire Protection 2006'. A1.3 Alternative water supplies such as bores and wells are used for uses other than drinking, cooking and ablution purposes. A1.4 Other buildings are used as catchments for freshwater tanks and connect on to water reticulation.
Electricity	
P2 Access to an electricity supply capable of servicing the proposed development.	A2.1 Development is located where ready access to an electricity supply is available; or A2.2 Development can demonstrate self-sufficiency with alternative power sources (eg wind and solar power generation systems).
Telecommunications	
P3 Access to telecommunications capable of servicing the proposed development is available.	A3.1 Development is located where it can be serviced by a telecommunication provider; or A3.2 Development can demonstrate self-sufficiency with alternative telecommunication equipment (eg satellite technology).

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
Service corridors P4 The locations of proposed service corridors are chosen to minimise the impact on the environment and the agricultural use of the land.	A4.1 Located so as to avoid stands of native vegetation to remove the need for land clearing. A4.2 Located so as to avoid watercourses, wetlands, water bodies and other environmentally-sensitive areas. A4.3 Located along fence lines to reduce the impact on the agricultural use of the land.

References
• Element 6: Waste Management; • Element 12: Physical Infrastructure and Lot Design; and • Planning for Bushfire Protection - published by the NSW Rural Fire Service.

Element 3: Access

Objective

- To ensure all development has safe, all-weather flood-free access that is appropriate for the intended development.

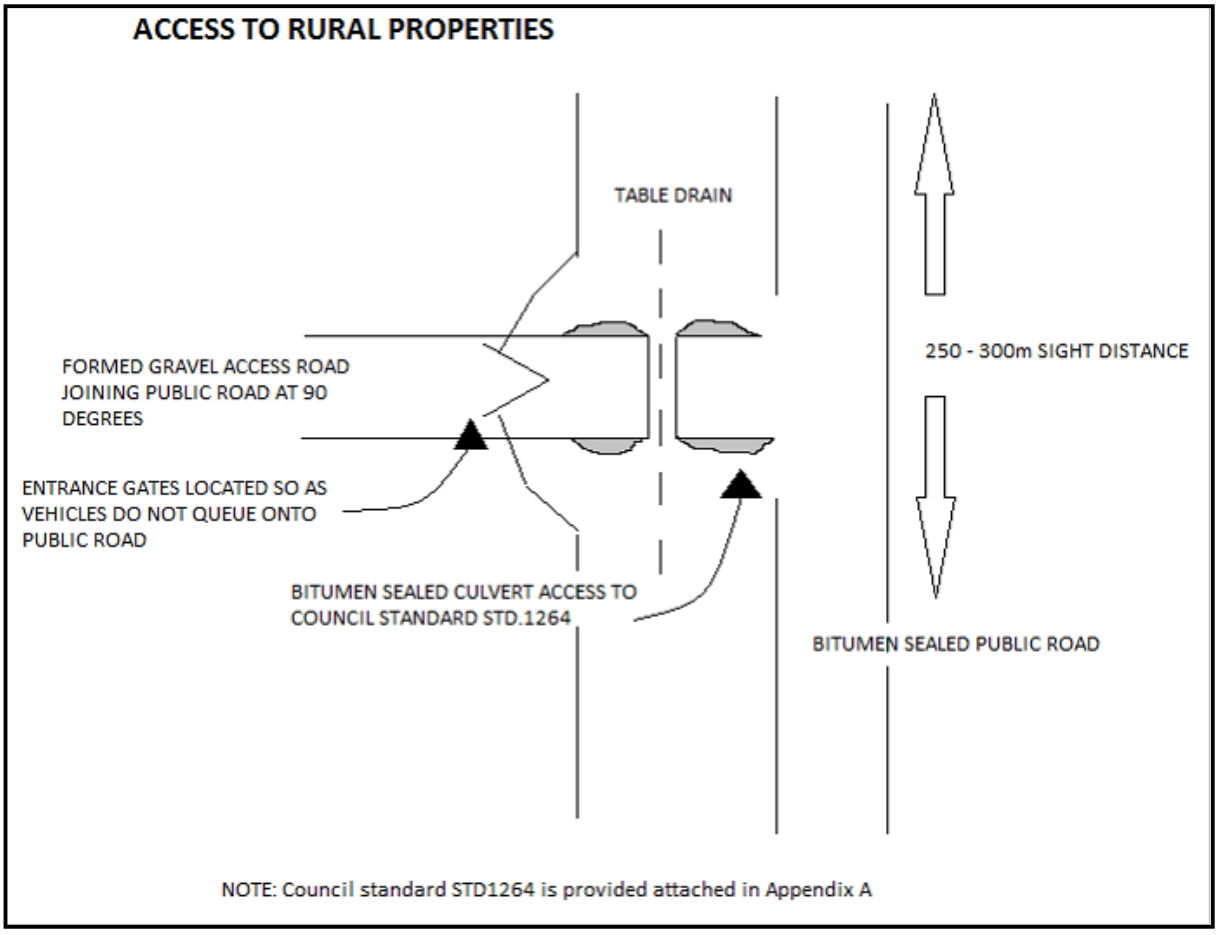
Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
Sight distance	
P1 There is adequate sight distance to allow safe manoeuvring to and from the property.	A1.1 Sight distance of at least 250 m in each direction is provided for each standard rural access. A1.2 Access roads join the main road at 90°. A1.3 Entrances are located so vehicles do not queue onto the public road (eg via set-back of gateway) (see Figure 2).
All-weather access	
P2 There is all-weather access provided from the development to the public road.	A2.1 Access is graded and gravelled to a standard where wet weather does not impede two wheel drive vehicles.
Access in times of flood	
P3 Access is flood-free to allow safe transit during and after periods of heavy rain.	A3.1 Access roads are provided on flood-free land. A3.2 Bridge or culvert is constructed over a watercourse prone to periodic flooding. A3.3 An alternate, legally accessible route for access is provided in times of flood.
Emergency vehicles	
P4 Access for emergency vehicles is available in times of fire, flood and other emergencies.	A4.1 As above for flood-prone areas. A4.2 Access is unimpeded by thick timber where possible to enable emergency vehicle access in fire/high wind situations. A4.3 Access should have an unobstructed width of at least 3.0 m. A4.4 Access passing through closely timbered areas shall be provided with 6 m wide passing bays approximately every 100 m in accordance with *Planning for Bushfire Protection Guidelines.*
Traffic movements and parking	
P5 Adequate all-weather access is provided to areas to allow for manoeuvring and parking of vehicles and machinery associated with non-residential development.	A5.1 Parking and manoeuvring areas are graded and gravelled to an all-weather standard. A5.2 Visitor parking is located and designed to avoid conflicting with the operation of the property. A5.3 All vehicles are able to enter and leave the site in a forward direction.

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
	A5.4 Parking and manoeuvring areas are sized to facilitate onsite manoeuvring of all vehicles likely to use the development including B-doubles and road trains.

References

- Austroads - Design Vehicles and Turning Path Templates;
- Council Policy for Floodprone Lands;
- Roads and Maritime Services (formerly known as the RTA) - Guide to Traffic Generation Developments.
- Dubbo LEP 2011; and
- Planning for Bushfire Protection Guidelines - published by the NSW Rural Fire Service.

Figure 2: Access provisions



Element 4: Design for access and mobility

Objectives

- To ensure that all developments are designed and constructed to provide access and mobility for people with a disability; and
- To facilitate and encourage the design and construction of adaptable housing.

Performance criteria The objective may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:	
P1	Access and mobility provisions for people with a disability are met.	A1.1 A1.2 A1.3	Development is designed in accordance with Australian Standard 1428.1 Development is designed in accordance with Section 3.1 Access and Mobility. Development is designed in accordance with the Access to Buildings (Premises Code).

References
• Australian Standard 1428.1; • Disability Discrimination Act 1992; • Disability (Access to Premises Buildings) Standards 2010; • NSW Anti-Discrimination Act 1977; and • Building Code of Australia.

Element 5: Flooding

Objective

- To manage the floodplain so as to minimise the impact and hazard of flooding to people and the environment and to allow for water distribution to and from flood-dependent environments.

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
Location P1 Development is located away from watercourses and flood-prone land and does not adversely impede the flow of flood waters.	A1.1 Consultation with Council's Environmental Services Division and local residents regarding available information on previous flood events. A1.2 Decommission/relocation of equipment, chemicals, fuel and effluent disposal systems. A1.3 Development is located on land above the impact of the 1% AEP flood event. Note: Refer to Clause 7.1 Flood Planning and the Flood Planning Maps of the Dubbo LEP 2011.
Flood Evacuation Plan P2 A Flood Evacuation Plan has been prepared.	A2.1 A Flood Evacuation Plan is developed for all developments likely to be affected by flooding. The Flood Evacuation Plan should address but not be limited to such things as: - Identification of flood hazard; - Flood response times; - Assembly areas for all persons; - Means of evacuation; - Removal of stock and possessions; - Alternative accommodation; and - Required assistance from emergency services.

References
• Dubbo LEP 2011; • DCP 2011, Council Policy Flood-Prone land; and • Floodplain Development Manual.

Element 6: Waste management

Objective

- To ensure waste disposal is carried out in a manner which is environmentally responsible and sustainable.

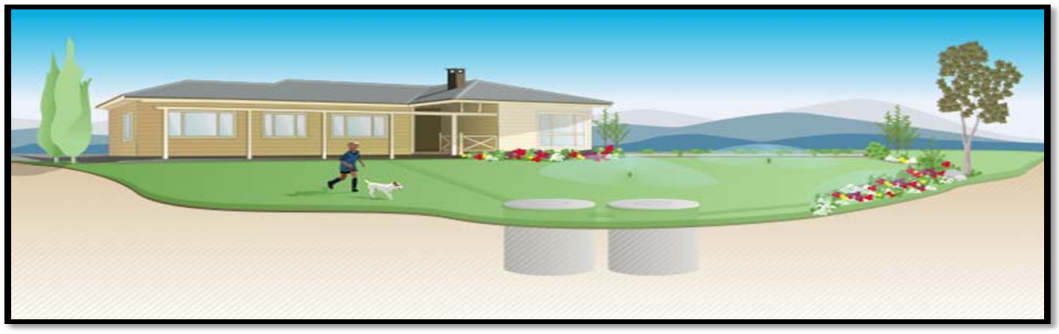
Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
Domestic solid waste P1.1 Domestic solid waste is disposed of in an environmentally responsible and legal manner.	A1.1 Domestic solid waste is collected by a waste collection transportation disposal service. A1.2 Domestic solid waste is disposed of to a Council-approved waste or resource management facility.
Domestic liquid waste P2.1 Domestic liquid waste is disposed of in an environmentally and legally acceptable manner. P2.2 The amount of liquid waste generated is minimised.	A2.1 An approved effluent disposal system is installed. A2.2 Effluent disposal systems are located so they are not: - Located on flood-affected land; - Within or adjacent to drainage lines; and - Likely to contaminate any surface or groundwater supplies. A2.3 Dual-flush toilet systems are provided in conjunction with water saving fittings and appliances.
Agricultural, hazardous and industrial wastes P3.1 All agricultural, hazardous and industrial waste is disposed of in an environmentally and legally acceptable manner.	A3.1 Copies of receipts from licensed waste disposal facilities shall be provided to Council. Note: If you have a proposal which is likely to create agricultural, industrial or hazardous waste, it is strongly recommended that you consult with the Environment Protection Authority (part of OE&H) and Council's Environmental Services Division before submitting a DA.

Note
Dispose of waste to the Whylandra Waste Disposal Depot or to one of the household waste transfer stations located at: - Eumungerie; - Ballimore; or - Toongi.

Recommended buffer distances for onsite sewage disposal systems (septic tanks)	
All land application systems	- 100 m to permanent surface waters (eg river, streams, lakes etc); - 250 m to domestic groundwater well; and - 40 m to other wastes (eg farm dams, intermittent waterways and drainage channels etc).
Surface spray irrigations	- 6 m if area up-gradient and 3 m if area down-gradient of driveways and property boundaries; - 15 m to dwellings; - 3 m to paths and walkways; and - 6 m to swimming pools.
Surface drip and trickle irrigation	- 6 m if area up-gradient and 3 m if area down-gradient of swimming pools, property boundaries, driveways and buildings.
Subsurface irrigation	- 6 m if area up-gradient and 3 m if area down-gradient of swimming pools, property boundaries, driveways and buildings.
Absorption systems	- 12 m if area up-gradient and 6 m if area down-gradient of property boundary; and - 6 m if area up-gradient and 3 m if area down-gradient of swimming pools, driveways and buildings.
When determining buffer distances consideration should be given to: - The type of land application system to be used; - Surface and subsurface drainage pathways; - Site factors - soil permeability, geology, vegetation buffering; - Sensitive environments - national parks, wetlands and groundwater extraction areas; and - Development density. Where land application areas are planned within drinking water catchments and other sensitive areas, advice on adequate buffer distances should be sought from the relevant water authority and a hydrogeologist (OE&H).	
Source: Environment Health and Protection Guidelines - Onsite Sewage Management for Single Households 1998. Note: The values given are a recommended minimum based on ideal site and soil conditions. If these conditions are less than ideal the minimum buffer distances shall be increased.	

References

- Dubbo LEP 2011;
- Protection of the Environment Operations Act 1997;
- Environment Health and Protection Guidelines - Onsite Sewage Management for Single Households, 1998; and
- EPA Publication: Environmental Guidelines: Use and Disposal of Biosolids Products (November 1997).



Element 7: Rural Workers Dwellings

Objective

- To enable development of a rural workers' dwelling if there is a genuine need to accommodate an onsite employee due to the nature of the agricultural or rural industry and the location of the land (only where the agricultural or rural industry has the capacity to support the rural workers' employment).

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
P1 The rural workers' dwelling does not negatively impact the use of the land for agricultural and/or rural industries.	A1.1 The dwelling is located away from any activities associated with use of the land for agricultural or rural industries. A1.2 Occupants are not detrimentally impacted upon by unreasonable noise, dust, odour or chemical spray.
P2 The economic capacity of the agricultural and/or rural industry to support the rural workers' on-going employment is demonstrated.	A2.1 The viability of the agricultural and/or rural industry which would then support the employment of a rural worker is demonstrated with written justification.
P3 The necessity to provide onsite accommodation (rural workers' dwellings) due to the nature of the agricultural and/or rural industry that the worker is employed in is demonstrated.	A3.1 Detailed breakdown of the duties that the rural worker is required to carry out and why these duties would require a constant presence onsite is provided with the DA. Note: Security alone is not a sufficient reason.
P4 The necessity to provide onsite accommodation (rural workers' dwellings) because of the remote or isolated location of the site is demonstrated.	A4.1 Details of the travel times involved to these remote or isolated locations from Dubbo, Gilgandra, Dunedoo, Mudgee, Wellington or Narromine.
P5 The rural workers dwelling is not a de-facto dwelling house.	A5.1 The rural worker's dwelling is to be modest in design.

Notes

- Dubbo LEP 2011 - *"rural workers' dwelling means a building or place that is additional to a dwelling house on the same lot and that is used predominantly as a place of residence by persons employed, whether on a long-term or short-term basis for the purpose of agriculture or a rural industry on that land."*
- Rural worker's dwelling will need to address the same issues as dwelling houses with regard to bushfire, flooding, set-backs, native vegetation, contamination, access, effluent disposal etc.

References

Dubbo LEP 2011

Element 8: Restaurants, Function Centres and Cellar Door Premises

Objective

- To enable restaurants, function centres and cellar door premises to be developed in conjunction with agricultural uses and supplement the role of agriculture in rural areas.

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
P1 The restaurant, function centre or cellar door premises shall be an integrated component of the use of the site.	A1.1 Produce from the property and nearby properties should feature as part of the menu for the restaurant. A1.2 A link needs to be demonstrated between the function centre and use of specific features of the property. A1.3 Cellar door premises are integrated with the property.
P2 The restaurant, function centre or cellar door premises shall not be the dominant activity on the property.	A2.1 Agricultural activities on the property shall not become secondary to the restaurant and/or function centre.
P3 The restaurant, function centre or cellar door premises shall maintain/enhance the rural landscape.	A3.1 The adaptation of existing buildings for the specific uses will ensure that the proposed development complements the rural landscape.

Notes

- Dubbo LEP 2011 defines *cellar door premises "*as a building or place that is used to sell wine by retail and that is situated on land on which there is a commercial vineyard and where most of the wine offered for sale is produced in a winery situated on that land or is produced predominantly from grapes grown in the surrounding area".
- Dubbo LEP 2011 defines function centre "as a building or place used for the holding of events, functions, conferences and the like, and includes convention centres, exhibition centres and reception centres but does not include an entertainment facility".
- Dubbo LEP 2011 defines restaurant or café " as a building or place the principle purpose of which is the preparation and serving, on a retail basis, of food and drink to people for consumption on the premises, whether or not liquor, takeaway meals and drinks or entertainment are also provided."

References

Dubbo LEP 2011

Element 9: Backpackers Accommodation, Farm-Stay Accommodation and Eco-Tourist Facilities

Objectives

- To enable backpackers' accommodation and farm-stay accommodation to be developed in conjunction with agricultural uses and supplement the role of agriculture in rural areas; and
- To enable eco-tourist facilities to be developed which maintain the environmental and cultural values of land on which the development is carried out and to provide for sensitively designed and managed eco-tourist facilities that have minimal impact on the environment both on and off site.

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
P1 Backpackers' accommodation shall be integrated with the agricultural use of the land and/or rural industries on the site.	A1 Documentation detailing the seasonal agricultural activities onsite and in the immediate locality shall be provided.
P2 The farm-stay accommodation shall be located on a 'working farm'.	A2 Documentation detailing the viability of the agricultural pursuits undertaken on the site shall be provided.
P3.1 The eco-tourist facility shall maintain the environmental and cultural values of land on which the development is carried out. P3.2 The eco-tourist facility shall provide for sensitively designed and managed eco-tourist facilities that have minimal impact on the environment both on and off site.	A3.1 Documentation (business plan) detailing the viability of the eco-tourist facility and post determination options should the proposal not be successful shall be provided. A3.2 There is demonstrated connection between the development and the ecological, environmental and cultural values of the site or area. A3.3 The development is located, managed and maintained so as to minimise any impact on, and to conserve, the natural environment. A3.4 The development will enhance an appreciation of the environment and cultural values of the site or area. A3.5 The development promotes positive environmental outcomes and does not detrimentally impact on watercourses, soil quality, heritage, native flora and fauna. A3.6 The site will be maintained (or regenerated as necessary) to ensure the continued protection of natural resources and enhancement of the natural environment. A3.7 Waste generation during construction and operation will be avoided and that any waste is appropriately removed. A3.8 The development will not be located above ridgelines, against escarpments or adjoining watercourses and any visual intrusion will be minimised through the choice of design, colours, materials and landscaping with native flora.

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
	A3.9 Power and water to the site will, where possible, be provided through the use of passive heating and cooling, renewable energy sources and water efficient design. A3.10 The following matters are addressed or provided for in a management strategy for minimising any impact on the natural environment: (i) Measures to remove any threat of serious or irreversible environmental damage; (ii) The maintenance (or regeneration where necessary) of habitats; (iii) Efficient and minimal energy and water use and waste output; (iv) Mechanisms for monitoring and reviewing the effect of the development on the natural environment; and (v) Maintaining improvements on an on-going basis in accordance with relevant ISO 14000 standards relating to management and quality control.

Notes

(1) Dubbo LEP 2011 defines *backpackers accommodation* as "a building or place that:
- (a) Provides temporary or short-term accommodation on a commercial basis, and
- (b) Has shared facilities, such as a communal bathroom, kitchen or laundry, and
- (c) Provides accommodation on a bed or dormitory-style basis (rather than by room)".

(2) Dubbo LEP 2011 defines *farm-stay accommodation* as "a building or place that provides temporary or short-term accommodation to paying guests on a working farm as a secondary business to primary production".

(3) Dubbo LEP 2011 defines *eco-tourist facilities* as "a building or place that:
- (a) Provides temporary or short-term accommodation to visitors on a commercial basis, and
- (b) Is located in or adjacent to an area with special ecological or cultural features, and
- (c) Is sensitively designed and located so as to minimise bulk, scale and overall physical footprint and any ecological or visual impact.

It may include facilities that are used to provide information or education to visitors and to exhibit or display items."

References

Dubbo LEP 2011

Element 10: Signage

Objectives

- The rural character of the locality is maintained; and
- Any signage is appropriate for the locality and blends in with development.

Performance criteria The objective may be achieved where	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
Signage P1 Signs shall be appropriate for the nature of the land use activity and the locality.	A1.1 The general requirements for all signs reads as follows: • Be non-moving. • Relate to the lawful use of the building (except for temporary signs) on which the sign is located. • Not be detrimental to the character and/or functioning of the building. • Not cover mechanical ventilation inlet or outlet vents. • Not be illuminated or flashing.
Business identification signs P2 Signs shall be appropriate for the nature of the land use activity and the locality.	A2.1 Home-based child care, home business, home industry and home occupation: Shall meet the general requirements for signage. One sign per premises. Maximum area – 0.75 m². Shall not advertise specific products or brands. Note: Signs meeting the above requirements will not require development approval. A2.2 Permissible non-residential development. Shall meet the general requirements for signage. One sign per premises. Flush wall signs shall not exceed an area greater than 25% of the wall area. Maximum area – 3 m² and maximum height 2 m for pole or pylon signs. Maximum area – 2 m² and shall be an integral part of the entry driveway. Note: Signs meeting the above requirements will not require development approval.

Performance criteria The objective may be achieved where	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
	A2.3 Zone RU4 Primary Production Small Lots: Shall meet the general requirements for signage. One sign per premises. Maximum area 3 m² and maximum height – 3 m. Flush wall signs shall not exceed an area greater than 25% of the wall area. Note: Signs meeting the above requirements will not require development approval.
Real estate signs (advertising premises or land for sale or rent P3 Signs are appropriate for the rural locality and are of a temporary nature.	A3.1 • Shall meet the general requirements for signage. • Maximum area – 3.0 m². • Shall be removed within seven days after the premises or land is sold or let. Note: Signs meeting the above requirements will not require development approval.
Temporary signs (special events) P4 Signs are appropriate for the rural locality and are of a temporary nature.	A4.1 • Shall meet the general requirements for signage. • Maximum two signs onsite; • Maximum six signs off site. • Maximum area is 1.5 m² and maximum height is 1.5 m; • Shall not include commercial advertising apart from the name of any event sponsors; • Shall not be displayed earlier than one month before or later than two days after the event; and • Shall not obstruct the sight line of vehicular traffic. Note: Signs meeting the above requirements will not require development approval.

References
Commonwealth Electoral Act 1918

Element 11: Physical Infrastructure and Lot Layout

Objectives

To design subdivisions and boundary adjustments that:

- Maintain the integrity of rural land;
- Do not compromise adjacent or adjoining lots;
- Allow for the consolidation and expansion of existing holdings; and
- Have a level of service suitable for the intended use of the lot.

Performance criteria The objective may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the performance criteria:
P1 Subdivisions and boundary adjustments are designed in a manner which is sympathetic with the existing subdivision pattern and natural geographic features.	A1.1 Subdivisions and boundary adjustments follow existing fence lines and road reserves except where in conflict with the geographical features of the land. A1.2 Any new agricultural lot as created should include a balance of soil types and topography including adequate and guaranteed water supply. **RU4 Primary Production Small Lots zone** A1.3 A licence (under the Water Management Act 2000) providing a minimum of 8 ML per ha per annum or as demonstrated sufficient for sustainable intensive agricultural use of the land is provided.
P2 Subdivisions and boundary adjustments do not disadvantage adjoining and surrounding properties.	A2.1 Subdivisions and boundary adjustments do not reduce previously established buffer distances.
P3 Subdivisions and boundary adjustments result in economically viable and workable agricultural holdings.	A3.1 Any lot created meets the minimum lot size standard specified in Dubbo LEP 2011, Clause 4.1 Minimum subdivision lot size as per the Lot Size map. A3.2 Proposed lots are of an area and configuration suitable for the sustainable use of the property.

References
• Dubbo LEP 2011; and • Water Management Act 2000.

2.4.9 Dubbo Local Environmental Plan 2011 – Relevant Clauses

Dubbo LEP 2011 contains a number of clauses specifically relevant to rural areas. The clauses are listed below and additional comment has been provided to assist in the interpretation and operation of the clause.

4.2 Rural subdivision
(1) The objective of this clause is to provide flexibility in the application of standards for subdivision in rural zones to allow land owners a greater chance to achieve the objectives for development in the relevant zone.
(2) This clause applies to the following rural zones:
(a) Zone RU1 Primary Production,
(b) Zone RU2 Rural Landscape,
(c) Zone RU4 Primary Production Small Lots,
(d) Zone RU6 Transition.
(3) Land in a zone to which this clause applies may, with development consent, be subdivided for the purpose of primary production to create a lot of a size that is less than the minimum size shown on the Lot Size map in relation to that land.
(4) However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot.
(5) A dwelling cannot be erected on such a lot.

Note: A dwelling includes a rural worker's dwelling (see definition of that term in the Dictionary).

Examples:

(1) 1,000 hectare lot in the RU1 Primary Production zone with a dwelling, could subdivide off 200 hectares for primary production and have a remaining lot of 800 hectares containing the existing dwelling;
(2) 1,000 hectare lot in the RU1 Primary Production zone with a dwelling could not subdivide off 200 hectares for primary production and the dwelling, with the remaining vacant lot of 800 hectares; and
(3) 600 hectare lot in the RU1 Primary Production zone with a dwelling, could subdivide a smaller portion (200 hectares) for primary production only, with no dwelling entitlement.

With regard to examples (3) and (4), any DA would need to justify the need to subdivide rather than simply lease portions of the property for agricultural undertakings. In support of these applications, an Agricultural Analysis Review (AAR) (see Section 5) shall be undertaken.

The remaining lot with the dwelling house would also need to substantiate that it would be able to continue as a viable agricultural activity and not simply a rural/residential property.

It is Council's general opinion that this form of subdivision fragments the rural sector and creates the unnecessary expectation of dwelling entitlements for these smaller lots.

It should be further noted that this clause relates to the use of land for agricultural purposes and not other forms of development (eg tourism).

4.2A Lot size exceptions for certain rural zones

Land in a zone to which clause 4.2 applies may, with development consent, be subdivided to create a lot size that is less than the minimum size shown on the Lot Size Map in relation to that land, if the consent

authority is satisfied that the use of the land after the subdivision will be the same as permitted under an existing development consent for the land (other than for the purpose of a dwelling house, rural worker's dwelling, secondary dwelling or tourist and visitor accommodation).

With regard to Clause 4.2A, if a lot was being used for intensive livestock agriculture and it could be demonstrated to Council by way of an Agricultural Analysis Review (AAR) that both subdivided lots were viable for intensive livestock agriculture, then development consent could be granted subject to the standard assessment.

4.2B Minimum subdivision lot size for strata subdivisions of residential or tourist and visitor accommodation in certain zones

(1) The objective of this clause is to ensure that land to which this clause applies is not fragmented by subdivisions that would create additional dwelling entitlements.

(2) This clause applies to land in the following zones that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation:

(a) Zone RU1 Primary Production,

(b) Zone RU2 Rural Landscape,

(c) Zone RU4 Primary Production Small Lots,

(d) Zone E3 Environmental Management.

(3) Development consent must not be granted for the subdivision of a lot to which this clause applies for a strata plan that would create lots below the minimum size shown on the Lot Size map for that lot.

Clause 4.1 Minimum subdivision lot size, subclause (4) states: This clause does not apply in relation to the subdivision of individual lots in a strata plan or community title scheme. However, Clause 4.2B is more specific and restricts any residential or tourist and visitor accommodation in the stated zones from being subdivided below the minimum lot size as per the Lot Size map.

4.2C Erection of dwelling houses on land in certain rural and environmental protection zones

(1) The objectives of this clause are as follows:

(a) To minimise unplanned rural residential development, and

(b) To enable the replacement of lawfully erected dwelling houses in rural and environmental zones.

(2) This clause applies to land in the following zones:

Zone RU1 Primary Production;

Zone RU2 Rural Landscape;

Zone RU4 Primary Production Small Lots; and

Zone E3 Environmental Management.

(3) Development consent must not be granted for the erection of a dwelling house on land in a zone to which this clause applies and on which no dwelling house has been erected, unless the land is:

(a) A lot that is at least the minimum lot size specified for that land by the Lot Size map, or

(b) A lot created before this Plan commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or

(c) A lot resulting from a subdivision for which development consent (or equivalent) was granted before this Plan commenced and on which the erection of a dwelling house would have been permissible if the Plan of Subdivision had been registered before that commencement.

Note: A dwelling cannot be erected on a lot created under clause 9 of State Environmental Planning Policy (Rural Lands) 2008 or clause 4.2.

(4) Despite subclause (3), development consent may be granted for the erection of a dwelling house on land to which this clause applies if:

(a) There is a lawfully erected dwelling house on the land and the dwelling house to be erected is intended only to replace the existing dwelling house, or

(b) The land would have been a lot referred to in subclause (3) had it not been affected by:

(i) A minor realignment of its boundaries that did not create an additional lot, or

(ii) A subdivision creating or widening a public road or public reserve or for another public purpose.

Subclause 3(a) refers to clause 4.1 Minimum subdivision lot size and the Lot Size map.

With regard to subclause 3(b) the onus will be upon the applicant to prove that an allotment was registered and that a dwelling house was permissible before the gazettal of Dubbo LEP 2011.

7.10 Dwelling houses in zone RU4 Primary Production Small Lots

(1) The objective of this clause is to ensure dwelling houses are developed only where they support the permitted agricultural use of the land.

(2) This clause applies to development for the purposes of dwelling houses on land in zone RU4 Primary Production Small Lots.

(3) Development consent must not be granted to development to which this clause applies unless the consent authority is satisfied that:

(a) The land is being or is intended to be used for intensive plant agriculture, extensive agriculture or aquaculture;

(b) The dwelling house will be required to support the carrying out of intensive plant agriculture, extensive agriculture or aquaculture;

(c) The dwelling house is not likely to cause any land use conflict with existing agricultural uses being undertaken on neighbouring properties in the zone; and

(d) Services for the supply of water and electricity to support the agricultural activity are available or adequate arrangements have been made to make them available when required.

While noting the requirements for dwelling houses as per Clause 4.2C in the RU4 Primary Production Small Lots zone, Clause 7.10 is more specific and needs to be addressed for all allotments seeking to establish a dwelling house.

Dwelling houses need to be integral to the operation of the site for intensive plant agriculture, extensive agriculture or aquaculture, given its more fertile characteristics and proximity to local watercourses. Dwelling houses need to be required to support the agricultural activity and should be designed and located with regard to those activities and those occurring (or likely to occur) on other properties adjoining and in the locality.

Council discourages any economically viable property from being simply bought as a rural residential property and will actively support the use of surrounding properties for agricultural pursuits.

Council has undertaken some recent studies into the viability of the RU4 Primary Production Small Lots zone and it would appear that few, if any, allotments are of sufficient size to sustain any agricultural activity without any 'off-farm' income support (see Appendix D).

While allotments in the RU4 Primary Production Small Lots zone have a minimum lot size (for subdivision) of 20 hectares, it is estimated that a lot size in excess of 50 hectares would be required to achieve an average annual income ($64,000) and pay the standard bills ($37,000).

It is noted that the majority of existing lots in the RU4 Primary Production Small Lots zone are less than 50 hectares and as such, Council is prepared to accept the reality that these farms' incomes are supplemented by 'off-farm' incomes and that a reasonable figure is considered to be 50%.

This means that the minimum size lot required to achieve this economic viability (with 50% 'off-farm') income is approximately 35 hectares. As such, where it is proposed to establish a dwelling house on a property with less than 35 hectares, an Agricultural Analysis Review (AAR) shall be undertaken and supplied with a development application documenting the viability of the agricultural activity proposed, the 'off-farm' income and the requirements of Clause 7.10.

4.6 Exceptions to development standards

(1) The objectives of this clause are as follows:
- *(a) To provide an appropriate degree of flexibility in applying certain development standards to particular development,*
- *(b) To achieve better outcomes for and from development by allowing flexibility in particular circumstances.*

(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:
- *(a) That compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and*
- *(b) That there are sufficient environmental planning grounds to justify contravening the development standard.*

(4) Development consent must not be granted for development that contravenes a development standard unless:
- *(a) The consent authority is satisfied that:*
  - *(i) The applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and*
  - *(ii) The proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and*
- *(b) The concurrence of the Director-General has been obtained.*

(5) In deciding whether to grant concurrence, the Director-General must consider:
- *(a) Whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and*
- *(b) The public benefit of maintaining the development standard, and*
- *(c) Any other matters required to be taken into consideration by the Director-General before granting concurrence.*

(6) Development consent must not be granted under this clause for a subdivision of land in zone RU1 Primary Production, zone RU2 Rural Landscape, zone RU3 Forestry, zone RU4 Primary Production Small Lots, zone RU6 Transition, zone R5 Large Lot Residential, zone E2 Environmental Conservation, zone E3 Environmental Management or Zone E4 Environmental Living if:
- *(a) The subdivision will result in two or more lots of less than the minimum area specified for such lots by a development standard, or*
- *(b) The subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.*

(7) After determining a development application made pursuant to this clause, the consent authority must keep a record of its assessment of the factors required to be addressed in the applicant's written request referred to in subclause (3).

(8) This clause does not allow development consent to be granted for development that would contravene any of the following:

(a) A development standard for complying development,

(b) A development standard that arises, under the regulations under the Act, in connection with a commitment set out in a BASIX certificate for a building to which State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 applies or for the land on which such a building is situated,

(c) Clause 5.4,

(ca) Clause 6.2 or 6.3.

Subclause 6 is of particular relevance to the rural areas.

Examples:

The minimum lot size in the RU1 Primary Production zone is 800 hectares. The site for discussion is 1550 hectares.

(1) The proposal is to subdivide two allotments each of 775 hectares. While both lots are within 90% of the minimum lot size, both lots are beneath the minimum lot size and therefore consent cannot be granted as per subclause 6(a); and

(2) The proposal is to subdivide the two allotments into 800 and 750 hectares, which is permissible as the second lot is within 90% of the specified minimum area. It is in fact 93.75% and provided the applicant's written request (subclause 4(a)(i)) meets the requirements of the clause and gains the concurrence of the Director-General, consent may be issued.

Note: Subclause 4.6(6)(b) will only permit one allotment to 90% of the minimum lot size as per the Lot Size map, however subclause 4.2(3) does permit subdivision for 'primary production' below the minimum lot size as per the Lot Size map.

Note: To ensure that the final survey plans to be provided with the Subdivision Certificate match the Development Consent (ie only one lot is below the minimum lot size), proponents should allow some flexibility above the minimum lot size. From example (2) it may be prudent to have the approved lots at 805 and 745 hectares, allowing for some minor amendments at the Subdivision Certificate stage, which would not contradict the requirements of Clause 4.6(6).

Erection of rural workers' dwellings on land in zones RU1 and RU4

(1) The objectives of this clause are:

(a) Ensure adequate provision for existing agricultural and rural industries that genuinely require accommodation for permanent onsite employees, and

(b) To prevent development for a rural worker's dwelling if the agricultural or rural industry does not have the capacity to support the rural worker's employment.

(2) This clause applies to land in the following zones:

(a) Zone RU1 Primary Production,

(b) Zone RU4 Primary Production Small Lots.

(3) Development consent must not be granted for the erection of a rural worker's dwelling on land to which this clause applies unless the consent authority is satisfied that:

(a) There is a demonstrated economic capacity of the agricultural or rural industry to support the on-going employment of rural workers, and

(b) The development is necessary considering the nature of the agricultural or rural industry land use lawfully occurring on the land or as a result of the remote or isolated location of the land, and

(c) The development will not result in more than one rural worker's dwelling being erected on the land comprising the agricultural or rural industry.

The objectives of the clause raise important terms, such as 'genuinely required' and 'capacity to support'. The clause is not meant to be utilised to achieve a second dwelling on an allotment; it is intended to assist those agricultural endeavours which genuinely need accommodation for a rural worker.

Issues which Council will consider include the economic capacity of an enterprise to 'support the rural worker's on-going employment'. In this regard, Council will require the submission of an Agricultural Analysis Review (AAR) with a DA documenting the viability of the agricultural activity proposed and addressing the matters outlined in Clause 7.6.

With regard to remote or isolated locations, Council would need to be convinced that these situations exist given the central location of Dubbo and the LGA and with the smaller towns of Gilgandra, Narromine and Wellington not far away.

It should be noted that rural workers' dwellings are not valid on the grounds of security (guarding crops, infrastructure or equipment).

2.4.10 RU4 Rural Small Holdings, Agricultural Productivity Assessment

2.4.10.1 RU4 Rural Small Holding Zone

Typically, land included in the RU4 zone consists of good agricultural land within a close proximity to the Macquarie River floodplain.

Council, in considering use of land in the RU4 Rural Small Holdings zone, will ensure that the land is used for agricultural purposes first and foremost without the land being used for rural residential purposes.

2.4.10.2 Previous Planning Provisions

The former Dubbo Local Environmental Plan 1997 – Rural Areas set a minimum allotment size for subdivision of land within the zone of 20 hectares. However, the former Rural LEP and Council's former Development Control Plan No. R1.2 Intensive Agriculture required any DA for subdivision for a dwelling house allotment to be accompanied by a Property Development Plan (PDP).

The role of the PDP was to assess the suitability of an allotment of land for an intensive agricultural activity first and foremost prior to consideration being given to the provision of a dwelling house on the land.

2.4.10.3 Assessment of Land Productivity

To address ongoing development and to maintain the productivity of land in the RU4 zone, IMAG Consulting on behalf of Council undertook a general analysis of the land and its economic carrying capacity for productive agricultural activities. However, it should be noted that this assessment is generic to all lands within the RU4 zone. Depending on the characteristics and capabilities of an individual parcel of land, further consideration of agricultural activities may be required on a case-by-case basis.

This analysis will assist Council in undertaking future planning consideration and controls for land in the RU4 zone and guide proponents of development including subdivision and dwelling houses.

The analysis undertaken by IMAG Consulting considered the most likely activities undertaken on RU4-zoned land in the Dubbo Local Government Area including irrigated maize, irrigated lucerne, prime lamb and steer trading. The analysis provided the following gross margin returns per hectare:

Enterprise	Irrigated maize	Irrigated lucerne	Prime lamb	Steer trading
Income	$3,360	$4,280	$5,888	$3,779
Expenditure	$2,428	$2,228	$5,043	$3,211
Gross margin	$932	$2,052	$845	$567

As can be seen from the information above, irrigated lucerne has the potential to provide a general gross margin return of $2,052 per hectare. However, the gross margins specified above are dependent on access to an appropriate water supply for the activity. Based on the size of land in the zone and the agricultural activities, the use of contracting firms is also considered in the analysis.

On the basis of the maximum likely yield from RU4 zoned land being $2,052 per hectare, the financial requirements for an agricultural activity can be summarised in the following table:

Total income required to sustain productive agriculture use of RU4-zoned land	$101,000 per annum
Median household income in the Dubbo LGA	$64,000 per annum
Average overhead costs for RU4 zoned land	$37,000 per annum

Based on the financial requirements of an agricultural activity in the table above, the relationship between off-farm income and allotment sizes has been calculated below:

	Percentage of off-farm income						
	0%	10%	20%	30%	40%	50%	60%
Minimum allotment size	53 Ha	50 Ha	45 Ha	43 Ha	40 Ha	37 Ha	33 Ha

In calculating the minimum allotment sizes specified above, an allowance of 2 ha is made for the provision of a dwelling house and associated infrastructure including sheds, effluent disposal area and access roads.

The results of the table above show that for an allotment size of 33 Ha, the percentage of off-farm income required will be 60%. That is, 60% of the overall total income required of $101,000 can be from off-farm sources and 40% of the income should be derived from the agricultural activity.

2.4.10.4 What is an Agricultural Productivity Assessment (APA)?

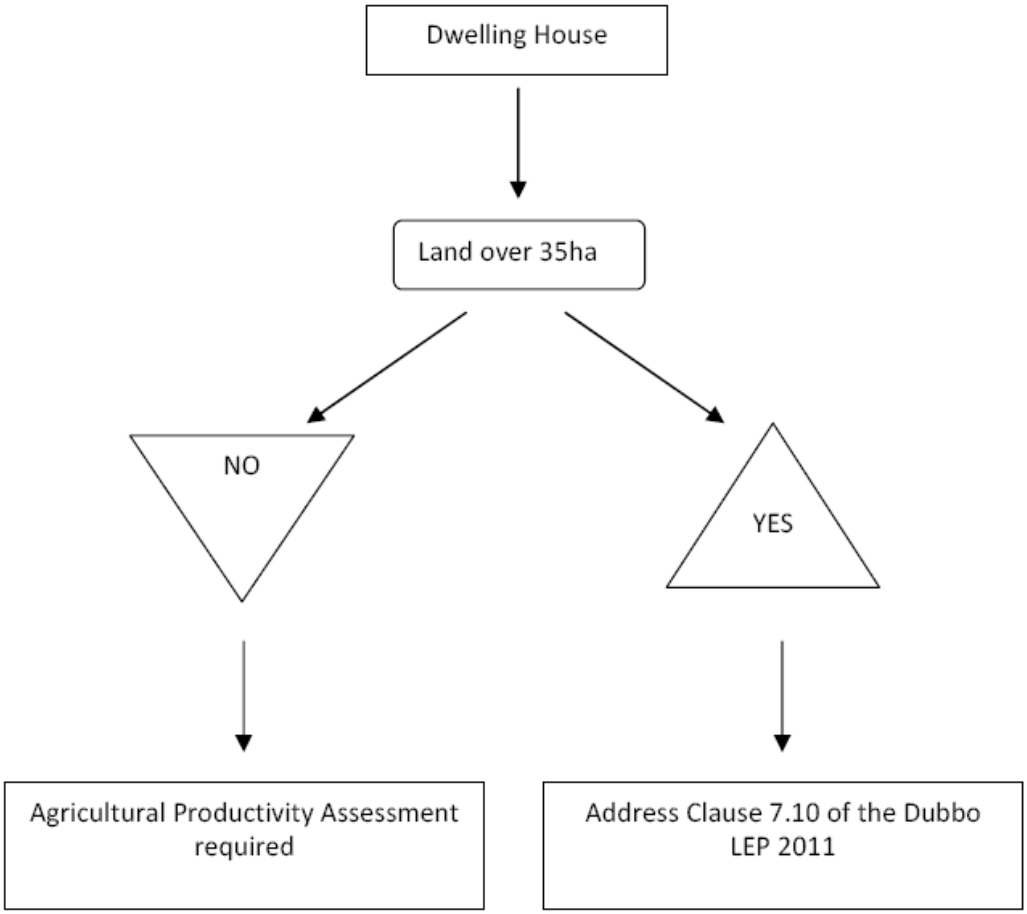
An Agricultural Productivity Assessment (APA) combines the physical and the economic assessment of the suitability of land to support an agricultural activity. The role of the APA is to justify how land can be used for agricultural purposes to a level where a dwelling house is required on the land to further augment and support agriculture.

The purpose of the APA is to justify use of land in the RU4 zone for agricultural purposes when considering a development application for subdivision of land or a development application proposing

residential development (dwelling house) or other non-agricultural land use activities. Council does not require an APA to be prepared at both subdivision stage and development stage for a dwelling house.

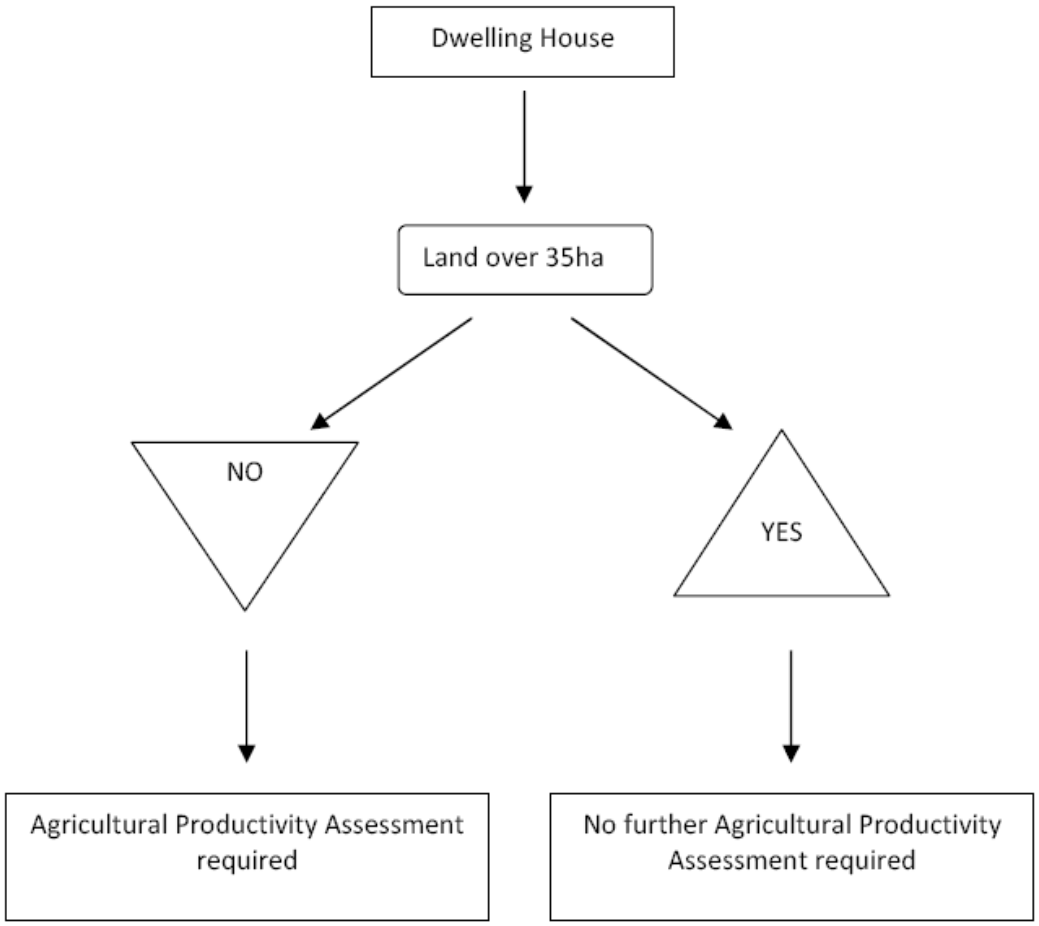
The following diagrams detail when an APA is required to be provided to Council for consideration.

Dwelling House



Note: An Agricultural Productivity Assessment is not required if Council is satisfied that one has been previously prepared and submitted to Council addressing the proposed land use.

Subdivision



If an APA is required to be prepared and submitted to Council for consideration in accordance with the diagrams provided above, it is suggested that you contact Council's Duty Planning Officer to discuss the development. Council's Duty Planning Officer will provide further information to you in relation to the form, content of the APA and may recommend a pre-lodgement development application meeting to be undertaken with relevant Council officers.

2.4.10.5 Who may undertake preparation of an APA

If an APA is required to be prepared, a suitably qualified professional shall undertake preparation of the Assessment. A suitably qualified professional is an individual with suitable qualifications and experience in Agronomy, Agricultural Economics or/and Rural Science.

2.4.10.6 Presentation of an APA

An APA shall be presented in a typed, A4 bound format, within any relevant supporting documents provided as appendices. The provision of photographs and diagrams is encouraged. The APA shall include the relevant details of the consultant who prepared the document including a signed statement stating that the APA has been prepared in accordance with the APA Guidelines.

An APA will be placed on public exhibition as part of a development application.

Council acknowledges that an APA may contain sensitive information in relation to personal financial details. Financial details provided in an APA can be included as a separate appendix and clearly marked as confidential.

Any financial information included in a separate appendix will be not placed on public exhibition with the development application.

2.4.10.7 The APA

The following information provides guidance in the preparation of an APA. Each section as detailed below shall be included as separate headings.

(a) The proposed agricultural activity

This section is where the proposed agricultural activity is explained in detail. The following information shall be provided:

- Description of the proposed agricultural activity (eg Viticulture);
- Information addressing the permissibility of the proposed activity in the zone under the provisions of the Dubbo Local Environmental Plan 2011; and
- Description of the main components of the activity.

(b) Detailed budget

This section requires preparation of a detailed financial analysis to justify the integrity and longevity of the activity. The APA will be required to show that you have carefully considered the financial constraints an agricultural activity may be faced with in the start-up of the activity and the long term viability of the agricultural use. To ensure the activity has a secure financial basis, the following will be required to be included:

- Costs of setting up the agricultural activity including capital works and the provision of any professional advice and services;
- Detailed profit and loss statement projection for the first twelve months of the activity and for the second twelve month period of the activity, depending on the characteristics of the activity. It is noted that specific types of agricultural activities do not reach full production in the short-term (one to two years). In these circumstances a longer horizon shall be represented in the profit and loss statement for your agricultural activity;
- The detailed profit and loss statement shall take into account the requirement for the agricultural activity to contribute the remaining income to achieve the total requirement ($101,000) after the 60% off-farm income;
- The detailed profit and loss statement shall take into account whether the agricultural activity will be undertaken by the owners of the land or if contractor machinery and/ or labour will be engaged; and
- Information relating to any future marketing and/or expansion of the agricultural activity.

(c) Suitability of the land

This section requires you to provide Council with information relating to the characteristics of the land and the general ability of the land to sustain the proposed agricultural activity. This section requires provision of a soil analysis which will determine the soil types on the land and whether the specific soil type can sustain the agricultural activity.

(d) Infrastructure requirements

This section requires you to specify what infrastructure is required to undertake the proposed agricultural activity on the land. As you would be aware, different agricultural activities require differing levels of specialist infrastructure and assistance in their undertaking.

In this section a description of all existing and proposed infrastructure and plant necessary to undertake the agricultural activity is required to be provided. You shall also specify whether you propose to undertake use and/or purchase of your own equipment or undertake the activity with the assistance of contracting firms.

The APA should specify:

- The need for and provision of plant and equipment;
- If facilities for handling and/or processing of rural products are required; and
- Any other physical infrastructure proposed to be provided on the land (this could include but not be limited to fencing, specific buildings, dams and major earthworks).

(e) Water requirements

This section requires you to consider the provision of water for the agricultural activity. Council cannot favourably consider the undertaking of agricultural activities without the provision of an appropriate level of water to meet the demands of the agricultural activity and domestic residential demands on the land.

The APA shall detail the following arrangements:

- What arrangements are in place for the provision of water?
- How much water is required to undertake the agricultural activity?; and
- What is the status and security of the water supply?

Please note that Council is required to consider whether appropriate water is available to facilitate the agricultural activity. Without a guaranteed water supply, Council officers are unlikely to support an APA.

(f) Any other factors

This section provides an opportunity for you to consider any other factors which may be relevant in consideration of the agricultural activity.

This section should be used to provide information in relation to the following:

- Slope of the land and in particular if the slope of the land impacts the usable area of the site for the agricultural activity;
- The location of dwelling houses or sensitive development on other lands adjoining or adjacent to your site. This analysis may impact use of certain areas of the land for agriculture depending on the relative distance and characteristics of the activity;
- The current or proposed location of the dwelling house on the land. You shall ensure that your dwelling house location will not impact agricultural use of the land. If the most productive soil type is situated in the higher locations on the land, which would also be an appropriate location for a dwelling house, the agricultural use of the land may be diminished. This will impact the viability of the agricultural activity and must be considered in preparation of the APA.
- You shall consider if the land has had a past history of contamination or any other factor which may impact its productive agricultural use.

(g) Commencement of the agricultural activity

In this section, Council requests that you specify when the agricultural activity will commence on the land.

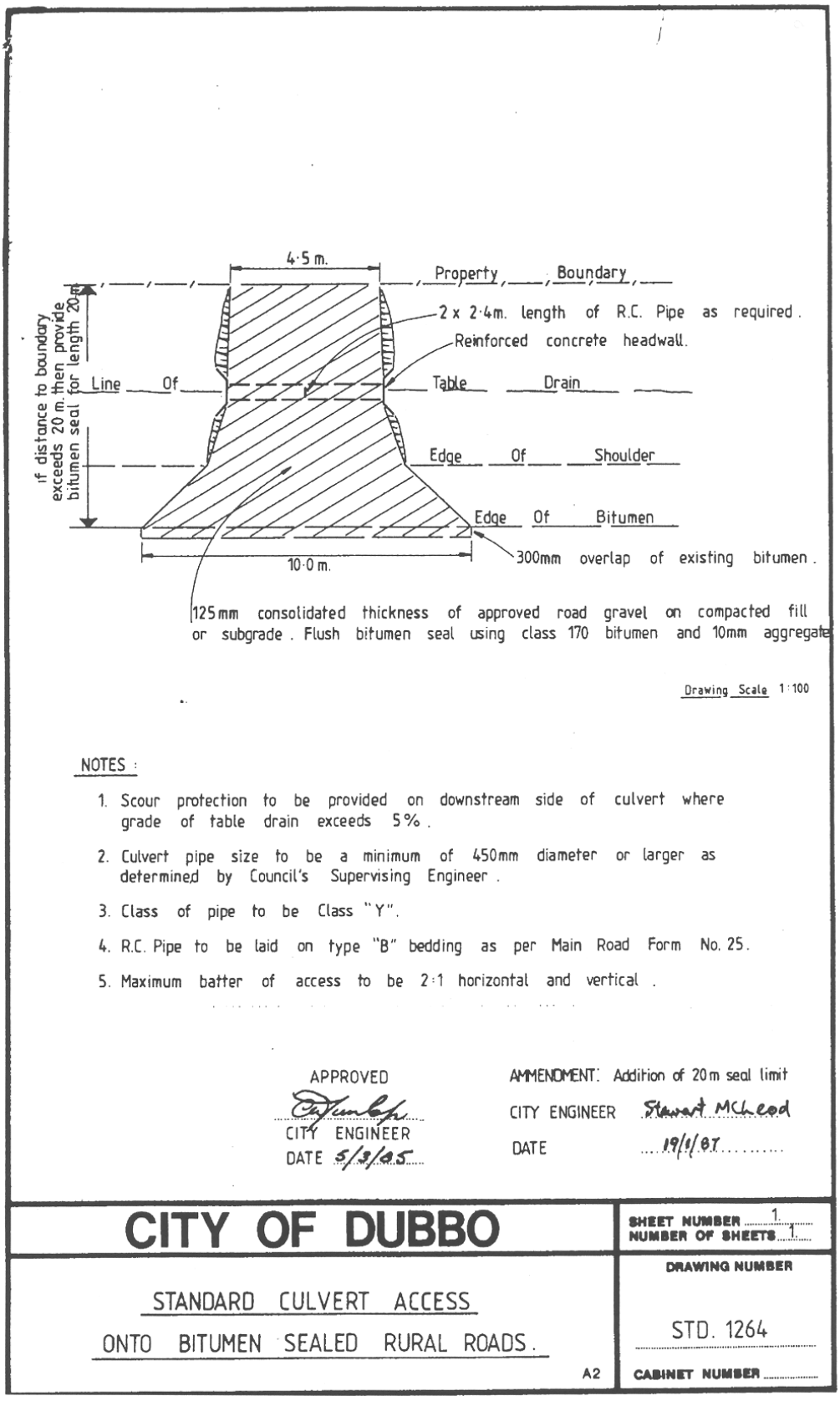
If you have lodged a development application for a dwelling house, the agricultural activity should commence within a reasonable period of time after construction of the dwelling house and occupation of the land has commenced.

If you have lodged a development application for a subdivision of land, you shall ensure that any future purchasers of the land have been provided with all information relating to the agricultural activity included in the APA.

Council may include conditions on any development consent for subdivision or a dwelling house to require registration of a Section 88B Restriction on the land, reflecting the approved use of the land for the agricultural activity.

Council may also include a clause on the Section 149 Zoning Certificate for each lot approved as part of a subdivision detailing the requirement for the land to be used for an agricultural activity in the future.

Appendix A: Standard culvert access onto bitumen sealed rural roads



Chapter 3

Development Considerations

Dubbo Comprehensive Development Control Plan 2013

3 Development Considerations

3.1 Access and Mobility

3.1.1 Introduction

Objectives

- Provide guidelines for access both to and within buildings and public spaces for people who have a disability;
- Assist in better design of buildings and spaces so as to meet the access needs of members of the community;
- Increase community awareness of mobility handicaps affecting certain sections of the community and of the need for barrier-free design in the built environment;
- Ensure that new development is accessible and usable by those people with disabilities to facilitate their full and independent participation in community life;
- Ensure compliance with relevant Australian Standards for access and mobility (eg as required by the Building Code of Australia (BCA)) and thereby minimise the risk exposure to discrimination of building users, Council and building owners;
- Promote improved access to buildings serving a public service; and
- Provide developers with clear guidance as to the legislative requirements and Council's enhanced policy for access and mobility, developed in consultation with the community and as such reflect the expectations of the Dubbo community;

3.1.2 Legislative requirements

3.1.2.1 Disability Discrimination Act (DDA)

The Federal Government passed legislation in 1992 making it unlawful to discriminate on the grounds of disability in the areas of:

- Employment;
- Education;
- Access to premises and public spaces;
- Clubs and accommodation; and
- Provision of goods, services and facilities.

Disabilities covered by the DDA include:

- Physical;
- Intellectual;
- Psychiatric;
- Sensory;
- Neurological and learning disabilities; and
- Physical disfigurement and disease causing organisms in the body.

3.1.2.2 Disability (Access to Premises — Buildings) Standards 2010

The Disability (Access to Premises - Buildings) Standards 2010 commenced 1 May 2011. Any application for a building approval for a new building or upgrade of an existing building on or after that date will trigger the application of the Premises Standards.
The Australian Human Rights Commission has issued guidelines (available at the following website) on the application of the Premises Standards to assist in their implementation.

http://www.hreoc.gov.au/disability_rights/standards/Access_to_premises/Premises%20Standards%20Guideline_Final_2.pdf

The purpose of the Premises Standards (and corresponding changes to the BCA and State and Territory building law) is:

- To ensure that dignified, equitable, cost-effective and reasonably achievable access to buildings, facilities and services within buildings is provided for people with a disability; and
- To give certainty to building certifiers, developers and managers that if the standards are complied with they cannot be subject to a successful complaint under the DDA in relation to those maters covered by the Premises Standards.

The introduction of the Premises Standards will lead to widespread and important improvements in the accessibility and safety of all new and upgraded public buildings in Australia.

These changes will improve the opportunities for people with a disability to participate in and contribute to the economic, cultural, social and political life of our community as equal citizens.

They will also help in creating a more sustainable built environment capable of responding to our changing circumstances and family and community needs.

3.1.3 How this Section operates

This section sets out Council's requirements for the design of buildings and facilities for access for people with a disability. Dependent upon the proposed usage and expected patronage, development is considered to come under the following development groups:

Group 1

- Housing for people with a disability;
- Aged care accommodation;
- Residential flat buildings;
- Shop-top housing containing five or more dwellings;
- Serviced apartments containing five or more sole-occupancy units; and
- Group homes for people with a disability.

Group 2

- Commercial facilities catering for public needs (post offices, rail stations, bus terminals, financial institutions etc);
- Places of assembly and entertainment;
- Community centres and halls for public hire;
- Educational facilities;
- Health-related facilities;
- Aged care facilities and accommodation; and

- Commercial and industrial buildings and retail and business premises with a total gross floor area of greater than 500 m^2.

3.1.4 Existing buildings

This section applies primarily to new buildings except where stated otherwise. Where Council considers practicable and reasonable to do so, access to existing buildings will be required in connection with proposals for changes of use or alterations which may result in an increased level of public usage.

This will apply in particular to proposals for changes to existing buildings for occupation by public service providers such as post offices, health care professionals, solicitors or the like.

Normally any extension to a building for public usage, or to an existing accessible building, would be treated as a 'new building' for the purposes of this chapter.

3.1.5 Variation to provisions

Consideration may be given to requests for variation to the performance criteria and/or design requirements contained within this section on the following grounds:

- Unjustifiable hardship (as per Clause 4.1 Premises Standards); or
- Where the inherent requirements of the business to be carried out on the premises require a fully able-bodied person to carry out the role (as per Section 21A Disabled Discrimination Act 1992).

Any request shall be written and justified and shall include the following:

A description of the performance criteria and/or design requirement for which the departure is sought;

- A description of the reason(s) why the departure is being sought; and
- An estimate of the additional work required in order to comply with this chapter and an estimate of the cost of those works.

However, please note that any request for a variation must be considered by Council must be made in accordance with the requirements of the Disability (Access to Premises — Buildings) Standards 2010. Council cannot consider any departure outside of the requirements of the Access to Premises – Buildings Standards 2010.

Full written evidence shall be provided by an applicant to conclusively prove that unjustifiable hardship will be caused to the applicant if the consent authority (Council) was to impose a requirement for upgrading of the existing building to meet equitable access requirements.

The documentary evidence shall include a detailed breakdown of the actual costs of providing suitable access and mobility requirements for people with a disability in the existing building in comparison to the actual total building costs of the project. The costs of each design option (with or without provision for disabled access) and a percentage of the total development cost required for providing the equitable access should also be provided. The costs should be prepared by either a quantity surveyor or alternatively, another suitably qualified and experienced consultant who can accurately assess the building costs for the project.

The written evidence should also outline the physical design constraints for each design option and provide reasons for any non-compliance with the Disability Discrimination Act, the Building Code of Australia or relevant Australian Standard (if relevant).

Council reserves the right to seek additional documentary evidence from an applicant where Council is of the opinion such additional information is necessary to determine as to whether 'unjustifiable hardship' will occur.

Further, Council reserves its right to seek the upgrading of an existing building to guarantee the provision for a continuous accessible path of travel from public domain or car parking area to and within the subject building where Council is of the opinion the applicant has failed to prove that 'unjustifiable hardship' will occur.

3.1.6 Design requirements for children and adolescents with physical disabilities

Where the provision of access for children and adolescents with physical disabilities is specifically required (eg. special schools, day care centres, nursing centres and special accommodation where intended or likely use is by children and/or adolescents with a physical disability), the requirements of AS 1428.2 apply in respect of the following:

- Continuous accessible paths of travel and surfaces;
- Grab-rails;
- Doorways and doors;
- Lifts;
- Car parking facilities;
- Symbols, signs and warnings;
- Lighting and hearing augmentation;
- Auditorium and assembly areas;
- Gateways and checkouts; and
- Telephones and post boxes.

In integrated facilities used by all groups of children (see AS 1428.3, Clause 5), the entire facility shall comply with AS 1428.3. The minimum requirements however are normally based on the type of facility, anticipated usage or the desired result.

Reference is continually made to AS 1428 and Parts 1, 2 and 3 as the potential matrix of requirements based on age and disability which would unduly complicate the chapter element relating to children and adolescents and other elements contained within this chapter. It is recommended that applicants consider design requirements in accordance with groupings and classifications listed in AS 1428.3 and the likelihood of the access needs of children and adolescents with physical disabilities.

3.1.7 Important notes

This section has been prepared based upon legislation as it applies in October 2012. Federal and State legislation is under continual review and proponents should check with Council to verify if the standards in this chapter are applicable.

Compliance with the provisions contained within this chapter does not necessarily mean that the requirements of the Federal Disability Discrimination Act (DDA) 1992 (as prepared on 5 August 2009) will be met. It is the responsibility of the proponent to ensure that the development meets the requirements of the DDA.

3.1.8 Development controls

Design Element 1: Access routes and entrances

Application of element
Design Element 1 applies to Group 2 Development.

Objective
- To ensure routes and entrances to buildings from public spaces are safe and accessible to people with disabilities.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Accessible, safe and continuous paths of travel P1 Accessible, safe and continuous paths of travel are provided to and from public buildings and places from property entrance points, car parks and set-down points	A1 **Legislative requirements** • Building Code of Australia; and • Premises Standards. **Council's requirements** For existing developments having a principle pedestrian entrance which constitutes an 'affected part' under the Premises Standards and is thus required to be upgraded to the provisions of the Access Code the following applies: • The path of travel to the development's principle pedestrian entry from the public footpath adjoining the development to be upgraded to an accessible access in conformity with AS 1428.1; • The path of travel from the development's existing car parking space for the disabled (if provided) to the building's principle pedestrian entrance, to be upgraded to an accessible access in conformity with AS 1428.1; and • The development's existing car parking space for the disabled (if provided) to be upgraded in size and marking to the provisions of AS/NZS 2890.6. Note: It is recognised that many existing car park spaces for the disabled may not be able to be enlarged due to physical constraints present within the car park and/or consequential loss of required car park space(s). Under such circumstances, any departure request shall adequately demonstrate the alternative options that have been reviewed prior to seeking the departure.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Signage, lighting and tactile markers P2 Parking, set-down points, access routes and entrances are to be well lit, of sufficient contrast and well sign-posted to assist people with a disability to access locations and entry points.	A2 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Nil.
Kerb ramps P3 Kerb ramps are to be provided to allow free and unobstructed access to public buildings from car parks, set-down points and across roadways.	A3 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Where kerb ramps are the sole means of pedestrian access to the building's principle pedestrian entrance they shall be at least 1500 mm wide (to provide sufficient width to facilitate the passing of a wheelchair and pedestrian on the same kerb ramp - criteria adopted from AS 1428.2).
Ramps, walkways and stairs P4 Ramps, walkways and stairs are to be provided for the needs of people with a disability.	A4 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Where ramps, walkways and stairs are the sole means of pedestrian access to the building's principle pedestrian entrance they shall be at least 1500 mm wide (to provide sufficient width to facilitate the passing of a wheelchair and pedestrian on the same kerb ramp). Criteria adopted from AS 1428.2.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Primary points of entry P5 Entrance doors of primary points of entry to buildings and facilities shall allow for the unimpeded passage of people with a disability.	A5 Legislative requirements • BCA; and • Premises Standards. Council's requirements • The entrance door(s) provided at the principle pedestrian entrance shall not incorporate manual sliding doors unless the bottom track is either recessed or provided with a threshold ramp and minimal effort is required to move such doors; and • If door closers are provided they shall have either a delayed action closer or the door provided with rising-butt hinges. Standard door closers are an impediment to wheelchair users and the elderly when attempting to open the door and pass through the doorway. Criteria adopted from AS 1428.2. Note: This requirement does not apply to required fire doors.

Design Element 2: Access to internal facilities

Application of element
Design Element 2 applies to Group 2 Development.

Objective
- To promote the ease of use of internal functional elements, facilities and fitments located within a building or facility.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Reception/sales counter and service areas P1 Counters and service areas are to be of adequate design to provide for people with a disability.	A1 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Clause 24 of AS 1428 Part 2: Enhanced and additional requirements - Buildings and facilities. Note: A portion of the primary public accessible counter shall be at a height and design to be suitable for a wheelchair bound person to approach and access.
Sanitary facilities P2 Toilet facilities and similar amenities are to be accessible and functional for people with a disability.	A2 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Accessible toilet facilities (excluding those specifically designed for people with ambulant disabilities) shall be provided as a combined toilet facility containing at least a water closet and washbasin within the same compartment (for personal hygiene purposes and to provide sufficient fixtures to permit a carer to assist); • Toilet roll dispensers provided within the toilet facility shall be of the standard roll type (persons with hand/finger impediments have difficulty utilising toilet paper dispensers of the leaf type and restricted roll type); and
	• Clothes hanging devices shall be provided in each accessible water closet facility (to provide facilities upon which a person with a disability may hang their clothing).

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
	Note: AS/NZS 3500.4 National Plumbing and Drainage Code, Part 4: Hot water supply systems, requires the hot water outlet to a sanitary fixture in a facility for the disabled (eg washbasin, shower) not to exceed a temperature of 45°C. Such temperature control can only be achieved with the use of a thermostatic mixing valve.
Showers, change rooms and carer's rooms P3 Showers, change rooms and carers' rooms are to be accessible and functional for people with a disability.	A3 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Nil. Note: AS/NZS 3500.4 National Plumbing and Drainage Code, Part 4: Hot water supply systems, requires the hot water outlet to a sanitary fixture in a facility for the disabled (eg washbasin, shower) not to exceed a temperature of 45°C. Such temperature control can only be achieved with the use of a thermostatic mixing valve. Note: The portable shower head in an accessible shower compartment should be provided with a hose length of at least 2000 mm (current standard hose lengths are inadequate to permit a person with a disability to shower properly). Note: Where the shower head can reach the floor of the shower compartment pursuant to AS/NZS 3500.1 National Plumbing and Drainage Code, Part 1: Water Supply, the water pipe outlet to the shower head shall be provided with a hose connection vacuum breaker for backflow prevention.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Kitchens, lunch and staff rooms, and/or canteens P4 Layout and fixtures in kitchens and food preparation areas to common areas and sole-occupancy units in accommodation buildings required to be disabled accessible must be functional for people with a disability. All kitchen elements to be located so that may be operated safely thus minimising the risk of scalding, burning and the over-balancing of people with a disability.	A4 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Nil. Note: There is no typical kitchen layout for people with a disability. Before designing the layout of a kitchen that may be utilised by a person with a disability, the advice of an Occupational Therapist should be sought in determining the most appropriate design for accessibility and functionality. The following must be taken into consideration (AS 1428.2): • Storage areas shall be accessible to a person seated; • Preparation areas shall have clear space under the worktop to allow for wheelchair footplates; • Heat-proof set-down areas are to be provided adjacent to cooking areas; • Kitchen controls shall be located in a position that is accessible for a wheelchair user; and • Generally, all kitchen amenities including cooking (eg stoves, microwaves and hot water), refrigeration (eg refrigerators, freezers and cool rooms) and storage (eg cutlery, crockery, pantries and cleaners' storage) are to be located in positions that are accessible for a wheelchair user and be provided with an adjacent set-down area.
Vending machines P5 Vending machines (including food and drink dispensing, ticket sales, ATMs and the like) be located within accessible areas and be of suitable design to allow operation by people with a disability.	A5 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Clause 29 of AS 1428 Part 2: Enhanced and additional requirements - Buildings and facilities. • AS 3769 Automatic Teller Machines - User Access.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Seating and hearing augmentation in auditoriums P6 Places of assembly are to allow for adequate circulation, seating and hearing augmentation for people with a disability.	A6 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Wheelchair seating places provided within an auditorium shall be provided at different locations to facilitate an alternative choice of viewing location by patrons with a disability; and • Where stepped seating is provided, the required wheelchair spaces are provided at not less than two different levels within the auditorium, each level being distributed uniformly within the overall height of the viewing platform/tier as practicable.

Design Element 3: Car parking and set-down areas

Application of element
Design Element 3 applies to all applicable development.

Objective
- To provide car parking for people with disabilities that is of suitable dimension and located to link with accessible and continuous pathways.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Demand P1 Accessible car parking spaces shall be provided to meet the demand of people with a disability.	A1 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • Parking spaces shall be provided for people with disabilities in accordance with Appendix 1; and • Where set-down areas (eg for taxis) are provided they shall be adjacent to a safe continuous path of travel to the facility to be accessed.

Design Element 4: Public spaces

Application of element
Design Element 4 applies to Group 2 development.

Objective
- To provide ease of access to and use of public areas and facilities for people with disabilities.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Intersections and pedestrian paths P1 Ramps, walkways and stairs shall be provided to allow free and unobstructed access through public spaces.	A1 **Legislative requirements** • Nil. **Council's requirements** • Clause 8 of AS 1428 Part 2: Enhanced and additional requirements - Buildings and facilities; • Where ramps, walkways or stairs are the sole means of access they shall be at least 1500 mm wide (to provide sufficient width to facilitate the passing of a wheelchair and pedestrian on the same ramp/walkway). Criteria adopted from AS1428.2; and • Where alternate access means are provided (such as stairs, ramps and walkways) they shall comply with Clause 8.1 of AS1428.2 (to provide sufficient width (1200 mm) to permit the unrestricted use of all types of wheelchairs). Criteria adopted from AS1428.2.
Street furniture P2 Street furniture shall be provided to meet the requirements of people with disabilities and be located to allow free unobstructed access through pedestrian networks.	A2 **Legislative requirements** • Nil.
Note: Street furniture includes seats, tables, drinking fountains, planter boxes, rubbish bins and the like.	**Council's requirements** • Clause 27 of AS 1428 Part 2: Enhanced and additional requirements - Buildings and facilities; • Outdoor tables shall have sufficient knee and foot clearance beneath for persons using a wheelchair; and • Where picnic tables are located on a concrete base, the base shall have adequate circulation space and be free of any threshold, lip or step (to ensure there is no impediment to access by people with a disability).

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Gateways, turnstiles and barriers P3 Gateways and barriers located in public spaces shall allow free, unobstructed passage of people with disabilities particularly persons using wheelchairs.	A3 **Legislative requirements** • Nil. **Council's requirements** • Clause 28 of AS 1428 Part 2: Enhanced and additional requirements - Buildings and facilities; and • At least one gateway shall have a clear unobstructed width of at least 850 mm. (850 mm is specified in lieu of 820 mm in order to be consistent with AS 1428.1).
Bus stops, taxi ranks and set-down areas P4 Bus stops, taxi ranks and set-down areas shall be located adjacent to safe and accessible paths of travel and provide for the safe loading of persons using wheelchairs.	A4 **Legislative requirements** • Nil. **Council's requirements** • AS/NZS 2890.6; • Bus stops and taxi ranks shall be located adjacent to an accessible and continuous path of travel; • For taxi ranks there shall be sufficient safe circulation space to allow access by a person using a wheelchair. Kerb ramps shall be located in a safe and convenient position to allow access to the footpath; • Bus stops shall include facilities to load and unload a person using a wheelchair; • Seating and areas set aside for persons using wheelchairs shall be provided in all waiting areas; • Directional signage and tactile ground markers indicating accessible paths of travel to and from the bus stop or taxi rank shall be provided; • Telephones and timetables shall be located within the common zones of reach and viewing (AS1428.2); and • Weather shelters shall provide protection for a person using a wheelchair.

Design Element 5: Adaptable housing

Application of element:
Design Element 5 applies to Group 1 development.

Objectives
- To maximise the choice in residential accommodation for people with disabilities.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Demand P1 Provide sufficient adaptable units and accessible residential accommodation to satisfy potential demand.	A1 **Legislative requirements** • BCA - Areas to be Accessible **Council's requirements** • AS4299 - Adaptable Housing; • Consideration shall be given to potential demand with respect to population age, incidence of disability, proximity to commercial centres and urban/rural land uses; and • Adaptable units shall be provided in accordance with AS4299, BCA requirements and the following: – Table 1 – Adaptable/Accessible Residential Accommodation; and – Table 2 - Review - Schedule of Features for Adaptable Housing.

Table 1: Adaptable/accessible residential accommodation

1.	Aged Care and Housing for People with a Disability	
1.1	Housing for people with a disability	• All dwellings for use by people with a disability shall be fully 'Adaptable Housing Units' to AS4299 (1995); and • 50% of these units shall be designed as 'Accessible Housing Units' – as defined in AS4299; and • All communal buildings within the development shall be fully accessible in accordance with other parts of this Plan.
1.2	Aged care accommodation	• All dwelling units for use by aged persons shall be fully designed as 'Adaptable Housing Units' to AS4299 (1995); and • 50% of the dwelling units shall be designed as 'Accessible Housing Units' – as defined in AS4299; and • All communal buildings within the development shall be fully accessible in accordance with other parts of this Plan.
2.	Residential Flat Buildings	
2.1	Residential flat building developments containing five (5) or more dwellings	• One Adaptable Housing Unit for every five dwellings or part thereof (in addition to any BCA requirement for accessible units).
3.	Shop-Top Housing	
	Shop-top housing developments containing five or more dwellings	• One Adaptable Housing Unit for every five dwellings or part thereof (in addition to any BCA requirement for accessible units).
4.	Serviced Apartments	
4.1	Serviced apartment developments containing five or more sole-occupancy units	• One Adaptable Housing Unit for every five dwellings or part thereof (in addition to any BCA requirement for accessible units).
5.	Other Accommodation	
5.1	Motels	• Accessible in conformity with the BCA.
5.2	Pubs	• Accessible in conformity with the BCA.
5.3	Boarding houses, guest houses, hostels and the like (excluding aged care and housing for people with a disability)	• Accessible in conformity with the BCA.
5.4	Group homes for people with a disability	• Shall be fully accessible.

Table 2: Review – Schedule of features for adaptable housing

Dubbo City Access Advisory Committee reviewed the 'Schedule of Features for Adaptable Housing' in Appendix A in the Adaptable Housing Standard AS4299 (1995). From this review, Council has reprioritised the rating of certain elements within that Schedule.

Table 2 - Review of 'Schedule of Features for Adaptable Housing' highlights the relevant access issues.

Item No.	Room/Item	Clause	Essential	First Priority Desirable	Desirable
Siting					
2	A level or gently sloping site with a gradient up to 1:14	3.2.2	Y		
5	Within a residential estate development, common use facilities shall be accessible	3.3.3	Y		
7	Within a residential estate development, internal roadways must be separate from pedestrian walkways	3.3.3	Y		
Private car accommodation					
16	Internal clearance of garage or carport 2.5 m minimum	3.7.2		Y	
17	Provision of power-operated roller door to garage	3.7.2		Y	
Accessible entry					
21	Entry protected by porch or similar	4.3.1	Y		
26	Weatherproofed entry door	4.3.3	Y		
Exterior – general					
30	All external doors to be keyed alike	4.3.4	Y		
Living room and dining room					
37	Minimum four double general power outlets GPOs	4.7.3	Y		
39	Telephone outlet location between kitchen and living space, adjacent to GPO	4.7.4	Y		
Kitchen					
55	Provision of microwave oven at height of 750 mm to 1200 mm above floor	4.5.9	Y		
58	Locate handles towards the top of below bench cupboards and towards the bottom of overhead cupboards. Provide 'D' pull handles.	4.5.10	Y		
59a	GPOs to comply with AS1428.1. At least one double GPO within 300 mm of front of work surface.	4.5.11	Y		
59b	Minimum of two double GPOs (excluding refrigerator and microwave) adjacent to work surface	4.5.11	Y		
Main bedroom					
63	Two double GPOs on wall where bedhead is likely to be	4.6.3	Y		
64	Minimum of one GPO on opposite wall	4.6.3	Y		

Item No.	Room/Item	Clause	Essential	First Priority Desirable	Desirable
65	Telephone outlet next to bed on the side closest to the door (with a GPO adjacent to the telephone outlet)	4.6.5	Y		
66	TV antenna point and double GPO on opposite wall to bedhead	4.6.6	Y		
67	Two-way light switches, one located above bed. 1000 mm above floor	4.6.4	Y		
Bathroom					
81	Shower waste min. 8 mm in diameter	4.4.4(f)	Y		
84	Provision for additional grab rail	4.4.4(h)	Y		
90a	Mirror provided in accordance with AS1428.1		Y		
90b	Double GPO beside mirror	4.4.4(d)	Y		
90c	Second mirror			Y	
Laundry					
101	Provision for drier	4.8(f)	Y		
108a	Slip-resistant floor surface	4.9.1	Y		
108b	Provision of floor waste/safe waste		Y		
Floor coverings					
111	Slip resistant surfaces - balconies and external paved areas (vitreous tile or similar)	4.9.1	Y		
Ancillary items					
112	Switches located 900 to1100 mm above floor in line with door handles	4.11.1	Y		
113	GPO located not less than 600 mm above floor	4.11.1	Y		
114	Electrical distribution board located with an accessible path to it	4.11.2	Y		
115	Openable windows and window controls located in an accessible position	4.11.4	Y		
Garbage					
116	Provision for a bin in an accessible location	4.11.6	Y		

Design Element 6: Children and adolescents with a disability

Application of element:

Design Element 6 applies to Group 2 development where access by children and adolescents with physical disabilities is specifically required.

Objectives

To provide children and adolescents with physical disabilities:

- With safe and continuous pathway through open spaces to and into buildings and facilities;
- Ease of use of functional elements contained within buildings and facilities; and
- Public areas where the provision of access is specifically required.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Access routes, entrances and internal circulation P1 Accessible and continuous paths of travel shall be provided to and into buildings and facilities from property entry points for children and adolescents with physical disabilities where access is specifically required. P2 Safe and continuous paths of travel shall be provided to all elements within a building or facility which are required to be accessed by children and adolescents with physical disabilities.	A1 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • AS1428.2 - Enhanced Requirements - Buildings and Facilities; • AS1428.3 - Children and Adolescents with a Physical Disability; and • Refer to Element 1 - Access Routes and Entrances (including ramps/walkways under this element).
Internal elements P3 Access to and the use of functional elements, facilities and fitments shall be provided for children and adolescents with physical disabilities where access is specifically required.	A2 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • AS1428.2 - Enhanced Requirements - Buildings and Facilities; • AS1428.3 - Children and Adolescents with a Physical Disability; and • Refer to Element 3 - Access to Internal Facilities.

Performance criteria The objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate a way of meeting the associated performance criteria:
Access to controls and other facilities P4 Access to functional elements, facilities and fitments contained within public spaces shall be provided for children and adolescents with physical disabilities where access is specifically required.	A3 **Legislative requirements** • BCA; and • Premises Standards. **Council's requirements** • AS1428.2 - Enhanced Requirements - Buildings and Facilities; and • AS1428.3 - Children and Adolescents with a Physical Disability. **Other items/considerations** • Consideration shall be given to the three-dimensional spatial requirements of children and adolescents with physical disabilities in the design and installation of functional elements and utilities not specifically identified within Australian Standards; and • Consideration shall be given to the incidence of specialist types of wheelchairs generally required by adolescents in the age group 14 to 18 years.

Reference documents and publications

Australian Standards

AS 1428	Design for Access and Mobility
AS 1428.1	General requirements for access – Buildings (December 1998)
AS 1428.2	Enhanced and additional requirements - Buildings and Facilities
AS 1428.3	Requirements for children and adolescents with physical disabilities
AS 1428.4	Tactile ground surface indicators for the orientation of people with vision impairment
AS 1735.12	Lifts and Escalators - Facilities for people with disabilities
AS 2890.6:2009	Off-Street Car Parking Facilities
AS 3769	Automatic Teller Machines - User Access
AS 4299	Adaptable Housing

Building Code of Australia

Part D3	Access and Egress for People with Disabilities
Part E	Lift Installations
Part F	Sanitary Facilities for People with Disabilities

Other References

Advisory Notes on Access to Premises; Human Rights and Equal Opportunity Commission (HREOC)
Disability Discrimination Act 1992 (as prepared on 5 August 2009)
Disability (Access to Premises — Buildings) Standards 2010

Appendix 1: Off-street car parking

Off-street car parking			
Note: Where a new development relies on on-street parking either in part or whole as part of the development's required car parking component, a continuous and accessible path of travel shall be provided from the adjoining carriageway including the kerb cross-over, to the principal public entrance into the building(s) of the development.			
1	Residential		
1.1	Aged care and housing for people with a disability	Where an attached or detached garage is provided for the exclusive use of the occupant of the adaptable housing unit, each such garage shall comply with AS 4299; Where a carport or open car park space is provided for the exclusive use of an accessible dwelling unit, the dimensions of such parking spaces shall be designed to AS/NZS 2890.6; and Where common parking facilities are provided, the dimensions of such parking spaces shall be AS/NZS 2890.6.	
1.2	Group homes for people with a disability	One space per dwelling unit suitable for a van/mini bus with hydraulic hoists or ramps. Dimensions to be 5 m x 11.5 m.	
2	Residential flat buildings		
2.1	Residential flat building developments	Each adaptable sole-occupancy unit shall have a parking space in conformity with AS 4299; and Each accessible sole-occupancy unit shall have a parking space in conformity with AS/NZS 2890.6.	
3	Shop-top housing		
3.1	Shop-top housing developments containing five or more dwellings	Each adaptable sole-occupancy unit shall have a parking space in conformity with AS 4299; and Each accessible sole-occupancy unit shall have a parking space in conformity with AS/NZS 2890.6.	
4	Serviced apartments		
4.1	Serviced apartment developments	Each accessible sole-occupancy unit shall have a parking space in conformity with AS/NZS 2890.6.	
5	Other accommodation		
5.1	Motels – accommodation	Each accessible sole-occupancy unit shall have a parking space in conformity with AS/NZS 2890.6.	
	Motels - public restaurants and/or conference facilities	One to 20 spaces	One accessible space to AS/NZS 2890.6.
		21 to 40 spaces	Two accessible spaces to AS/NZS 2890.6.
		41 or greater	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
5.2	Boarding houses, guest houses, pubs and the like	One to 20 spaces	One accessible space to AS/NZS 2890.6.
		21 to 40 spaces	Two accessible spaces to AS/NZS 2890.6.

Off-street car parking			
		41 or greater	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
5.3	Pubs – accommodation	Each accessible sole-occupancy unit shall have a parking space in conformity with AS/NZS 2890.6.	
	Pubs - public bar, dining, entertainment and conference facilities	One to 20 spaces	One accessible space to AS/NZS 2890.6.
		21 to 40 spaces	Two accessible spaces to AS/NZS 2890.6.
		41 or greater	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
6	Retail/commercial/offices		
6.1	General	One to 20 spaces	One accessible space to AS/NZS 2890.6.
		21 to 100 spaces	One additional space provided at a rate of one per 50 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
6.2	Restaurants	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 40 spaces	Two accessible spaces to AS/NZS 2890.6.
		41 to 100 spaces	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
7	Public administration offices		
7.1	Federal/State/Local government	One to 20 spaces	One accessible space to AS/NZS 2890.6.
		21 to 40 spaces	Two accessible spaces to AS/NZS 2890.6.
		41 to 100 spaces	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
8	Industrial		
8.1	General	One to 20 spaces	One accessible space to AS/NZS 2890.6.
		21 to 100 spaces	One additional space provided at a rate of one per 50 spaces or part thereof to AS/NZS 2890.6.

Off-street car parking			
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
9	Transport		
9.1	General	One to 20 spaces	One accessible space to AS/NZS 2890.6.
		21 to 100 spaces	One additional space provided at a rate of one per 50 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
9.2	Public transport nodes (ie railway stations, bus/rail interchanges, airports and the like)	One to 20 spaces	One accessible space to AS/NZS 2890.6.
		21 to 40 spaces	Two accessible spaces to AS/NZS 2890.6.
		41 or greater	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
10	Community uses		
10.1	General - including civic and community centres, swimming pools, parks, gardens, sporting venues and the like	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 40 spaces	Two accessible spaces to AS/NZS 2890.6.
		41 to 100 spaces	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
10.2	Facilities specifically catering for the aged persons and people with a disability - including senior citizens centres	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 100 spaces	One additional accessible space per 20 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional accessible space per 100 spaces or part thereof. The width of such additional spaces being at a 50:50 ratio AS4299: AS2890.1.
11	Education		
11.1	Preschool and childcare centres	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 100 spaces	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
11.2	Primary and secondary schools with no	One to 10 spaces	One accessible space to AS/NZS 2890.6.

Off-street car parking			
	assembly/multi-purpose hall	11 to 100 spaces	One additional space provided at a rate of one per 50 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
11.3	Primary and secondary schools with an assembly/multi-purpose hall	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 100 spaces	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
11.4	Special purpose schools catering for students with a disability	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 100 spaces	One additional space provided at a rate of one per 20 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 50 spaces or part thereof to AS/NZS 2890.6.
11.5	Tertiary - including TAFE, colleges, community and adult education	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 100 spaces	One additional space provided at a rate of one per 20 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
12	Entertainment		
12.1	General - includes theatres, entertainment/amusement centres	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 100 spaces	One additional space provided at a rate of one per 20 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
12.2	Sports centres (eg skating rinks, ten pin bowling, indoor cricket and the like)	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 100 spaces	One additional space provided at a rate of one per 50 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.

Off-street car parking			
13	**Medical**		
13.1	Medical centres - including professional consulting rooms, day surgeries, community health centres and clinics	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 20 spaces	Two accessible spaces to AS/NZS 2890.6.
		21 to 100 spaces	One additional space provided at a rate of one per 20 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
13.2	Hospitals	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		21 to 100 spaces	One additional space provided at a rate of one per 20 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
	If the development also has adjoining on-street parking, two accessible kerb crossing points shall be provided from such on-street parking on the public carriageway to facilitate access to the principle public entrance to the building(s).		
14	**Religious centres**		
14.1	Places of worship	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 100 spaces	One additional space provided at a rate of one per 20 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.
15	**Other**		
15.1	Parking stations - public and private	One to 10 spaces	One accessible space to AS/NZS 2890.6.
		11 to 100 spaces	One additional space provided at a rate of one per 30 spaces or part thereof to AS/NZS 2890.6.
		101 + spaces	One additional space provided at a rate of one per 100 spaces or part thereof to AS/NZS 2890.6.

Note: For numbers of required car parking spaces for development refer to Section 3.6 Parking.

3.2 Economic Impact

3.2.1 Introduction and background

The city of Dubbo has an established commercial hierarchy which is recognised in the Dubbo Urban Areas Development Strategy prepared by Council in 1996. A key component of the Strategy is the Commercial Areas Development Strategy (CADS).

This Section provides background information in relation to the consideration of the economic impact of commercial development in the city, the provisions of the Dubbo Local Environmental Plan (DLEP) 2011 and development application requirements for certain commercial development in the city.

3.2.2 Commercial Areas Development Strategy

The Dubbo CADS was adopted by Council in 1997 as a key component of the Dubbo Urban Areas Development Strategy (UADS). The principle aims of the CADS are as follows:

- To provide a strong commercial hierarchy for the current and future development of the city and the region;
- To enhance and grow the commercial offer available within the city;
- To recognise the role Dubbo provides in the wider regional catchment as a commercial service hub and governance centre;
- To ensure the Central Business District (CBD) remains the core commercial activity centre of the city and the region;
- To provide opportunities to extend after hours use and activity within the CBD;
- To ensure new commercial development is predominantly undertaken within existing commercial areas; and
- To ensure any commercial development undertaken in 'out of centre' areas is consistent with the retail hierarchy of the city and is supported by a well-justified Economic Impact Assessment (EIA).

Council undertook a review of the UADS in 2007. As a component of this review, Council resolved to develop a new CADS to address the current level of commercial development in the city, future demand for commercial development and what improvements can be undertaken to further provide for commercial development opportunities in the city.

The draft CADS and Dubbo Retail Demand Review were prepared by consultants on behalf of Council in 2009. Council adopted for the purposes of public exhibition and subsequently placed both documents on public exhibition with draft Dubbo LEP 2011 in September to November 2010.

As a result of submissions received during public exhibition of the Dubbo LEP 2011, Council undertook further commercial analysis with the production of the Dubbo Retail Demand Review Addendum 2010. The role of the addendum was to assess future development opportunities for the CBD of the city, based on population and commercial growth when the CBD could be expanded in footprint to accommodate further development. The Dubbo LEP 2011 increased the footprint of the CBD as a result of the assessment provided in the Dubbo Retail Demand Review Addendum.

Figure 1 provides a graphical representation of the evolution of the CADS and where the recommendations of the Strategy are ultimately implemented.

Urban Areas Development Strategy
(Commercial Areas Development Strategy)
1996 – 2015

↓

Review of the Urban Areas Development Strategy
(Commercial Areas Development Strategy)
2007

↓

Draft Commercial Areas Development Strategy 2009
Dubbo Retail Demand Review 2009

↓

Dubbo Retail Demand Review Addendum 2010
(Central Business District expansion)

↓

Dubbo Local Environmental Plan 2011

↓

Dubbo Development Control Plan 2011
(Section 3.3 Economic Impact)

3.2.3 Commercial hierarchy

Commercial areas in the city can be split into four sub-categories based on a hierarchical scale as provided below:

First Level	Regional Centre;
Second Level	Sub-Regional Centres;
Third Level	Neighbourhood Centres and Highway Precincts; and
Fourth Level	Corner Stores/Neighbourhood Shops/B4 Mixed Use Zone.

3.2.4 Economic impact assessment

This section details specific situations when an Economic Impact Assessment (EIA) will be required to be provided to Council with a development application and what form an EIA must take, together with the qualifications and experience required by an individual to prepare an EIA.

The left side column of the table below shows the 'criteria' where an EIA is required to be provided to Council for consideration with a development application. The right side column shows the details required for provision of an EIA.

Criteria Development meeting the criteria provided below requires the submission of an EIA	**Acceptable solutions** If development is not consistent with the performance criteria the following requirements must be provided
P1 B1 Neighbourhood Centre zone The development is subject to DLEP 2011 Clause 7.12 Shops within Zone B1 Neighbourhood Centre (see Note below).	A1 An EIA report is prepared by a professional with qualifications in economics, business or planning and has the experience and skills to prepare an EIA if the development does not meet the performance criteria. The information required for the preparation of an EIA is provided in Section 3.2.5.
P2 B2 Local Centre zone The development is an extension of Orana Mall of more than 1000 m² in gross floor area (GFA). The development is an office premises not ancillary to an existing retail premises.	
P3 B3 Commercial Core zone The development has a GFA of more than 5000 m².	

Criteria Development meeting the criteria provided below requires the submission of an EIA	Acceptable solutions If development is not consistent with the performance criteria the following requirements must be provided
P4 B5 Business Development, B6 Enterprise Corridor or B7 Business Park zones The development has a GFA of more than 3000 m² and is for the purposes of commercial premises.	
P5 Development is located outside a commercial zone (forming part of a 'Planning Proposal').	
P6 Development which, in the opinion of Council, has the potential to have a negative economic impact and/or is inconsistent with the commercial hierarchy.	

Note: Dubbo LEP 2011, Clause 7.12 Shops within zone B1 Neighbourhood Centre, reads as follows:

(1) The objective of this clause is to maintain the commercial hierarchy of Dubbo by encouraging retail development of an appropriate scale within neighbourhood centres.

(2) Despite any other provision of this Plan, the consent authority must not grant development consent to development for retail premises on land within zone B1 Neighbourhood Centre if the gross floor area of the development will exceed 1000 m^2.

(3) Before granting consent to development for the purpose of shops having a gross floor area of 500 m^2 or greater, in either one separate tenancy or any number of tenancies, the consent authority must consider the economic impact of the proposed development and be satisfied that the proposed development will not have an adverse impact on the commercial hierarchy of Dubbo.

3.2.5 Format of Economic Impact Assessments

An EIA provides detailed information about:

- The proposal;
- The potential economic benefits and impacts of the proposal;
- Community needs; and
- The measures proposed to maximise benefits and avoid or minimise adverse impacts.

An EIA should provide an analysis of:

- Employment opportunities;
- Floor space, commercial (business, office and retail) mix and turnover data for the proposed development including statistically accurate market surveys undertaken by the applicant;
- Sample analysis of developments within the catchment of the proposal and of similar proposals in other comparable locations;
- Ability of the development to generate economic benefits for the city;
- The impact of the proposal's potential to trigger additional development and/or relocation of commercial activities from their current location; and
- Impacts on similar development in the catchment (local, city-wide or regional).

The economic impact assessment should be written so that any conclusions reached can be independently assessed. The document should focus on the salient features of the proposal and the economic issues associated with it. Any feasible alternatives should be discussed in sufficient detail so that justification for the selection of a preferred option can be clearly seen.

The document should include references and list individuals and organisations consulted. Relevant maps, diagrams and figures should also be included where necessary and detailed technical information contained in the report should be clearly cross-referenced.

3.2.6 Who may undertake preparation of an EIA

If an EIA is required to be prepared and submitted to Council for consideration, it is suggested that you contact Council's Environmental Services Division to discuss the development. Council can provide further information to you in relation to the form and content of the EIA and the overall development. It is also recommended that you undertake a pre-lodgement meeting with Council before lodgement of the development application.

If an EIA is required to be prepared a suitably qualified professional shall undertake preparation of the assessment. A suitably qualified professional is an individual with suitable qualifications and experience in retail and/or commerce economics.

3.3 Social Impact

3.3.1 Introduction

Social Impact Assessment (SIA) focuses on the human dimension of environments. It seeks to address the question "What will be the impact of a project/development on people?" and to anticipate outcomes that may flow from a proposed development which are likely to affect people's way of life, their culture and/or their community.

Council has a statutory obligation under the provisions of Section 79C of the Act 1979 to consider the social impact of a proposal when assessing a development application for specific development.

The consideration of social impact is therefore relevant when proponents are conceiving development proposals, preparing development applications, as well as Council assessment of development applications.

The provisions in this section should be considered in conjunction with Council's Social Plan.

This Section outlines:

- The circumstances in which development proposals will be or are likely to be required to provide an SIA; and
- Information required to be provided in a SIA.

In considering whether a SIA will be required, consideration should be given to:

- The scale, complexity, timeframe and nature of the proposal;
- Social issues likely to be relevant to the proposal;
- The degree of significance of the identified issues such as:
  - The number of people or size of the area likely to be affected;
  - The communities likely to be affected by the proposal;
  - An identifiable effect on the availability and use of existing community services, facilities and land or the need for the provision of such services, facilities and land;
  - An identifiable effect on the social composition and/or character of the locality; and
  - A distinct (either positive or negative) effect on a particular social group either residing on or in the vicinity of the site.

3.3.2 Dubbo social plan

Council has developed a Social Plan for the city of Dubbo. This plan outlines Council's objectives and action plans in relation to the seven mandatory target groups:

- Children;
- Young people;
- Women;
- Older people;
- People with disabilities;
- Aboriginal people; and
- People from culturally and linguistically diverse backgrounds.

Issues identified in the Social Plan and addressed in the various action plans include:

- Community safety and law and order;
- Attraction of qualified/professional staff;
- Hospitals
- Respite care;
- Health council;
- Neighbourhood centres;
- Road safety;
- Transport;
- Drought social issues;
- Men's issues;
- Mental health; and
- Dubbo 2036 Community Strategic Plan.

In addition, target group plans identify issues specific to population groups.

3.3.3 Purpose of social impact assessment

Social Impact Assessment is the process of investigating the possible effects of a development proposal on one or all of the following:

- People's way of life – how they live, work, play and interact with one another on a day-to-day basis;
- The culture of the affected community – its shared beliefs, customs and values; and
- The nature of the affected community – its cohesion, interaction, stability, character, services and facilities.

Objectives

The purpose of undertaking a SIA is to:

- Assist in establishing the full facts about the development and to support decision making about the appropriateness of a development proposal;
- Minimise adverse impacts and maximise beneficial impacts of the development;
- Assess the potential impacts of the development on future generations;
- Inform the community and facilitate participation by the community in the planning and development assessment process;
- Facilitate the consideration of alternative development proposals; and
- Enhance existing data to inform the planning and development assessment process.

Note: Developments such as minor alterations or additions, single dwellings or dual occupancies will generally have minimal, if any, social impact.

3.3.4 Who may undertake preparation of an SIA

If an SIA is required to be prepared and submitted to Council for consideration, it is suggested that you contact Council's Environmental Services Division to discuss the development. Council's can provide further information to you in relation to the form, content of the SIA and the overall development and will recommend a pre-lodgement meeting be undertaken with relevant Council officers prior to the lodgement of the development application.

If a SIA is required to be prepared, a suitably qualified professional shall undertake preparation of the assessment. A suitably qualified professional is an individual with suitable qualifications and experience in social planning.

See Table 1, Section 3 for clarification of which types of development are required to provide an SIA with any development application.

3.3.5 Development types requiring a social impact statement

The following table is a guide to the types of development which would require an SIA. Where a development type is not listed, the level of assessment required should be determined through discussions with Council officers.

Development Type	*Scale*
Residential accommodation	
Residential flat buildings	40 dwellings
Shop top housing	40 dwellings
Multi-dwelling housing	40 dwellings
Seniors housing	40 dwellings
Boarding houses	In excess of 20 bed rooms
Group homes	In excess of 20 bed rooms
Hostels	In excess of 20 bed rooms
Tourist and visitor accommodation	
Backpackers' accommodation	All
Caravan parks	All
Subdivision	
Subdivision (residential)	200 lots
Subdivision (industrial)	200 lots
Commercial premises	
Commercial premises (B2 and B3 zones)	10,000 m² GFA
Commercial premises (B5, B6 and B7 zones as applicable)	10,000 m² GFA
Funeral homes	Within 2000 metres of land zoned for residential, medical or education activities.
Pubs (including alterations and additions)	Alterations and additions > 500 m² GFA
Entertainment facilities (including alterations and additions)	Alterations and additions > 500 m² GFA
Registered clubs (including alterations and additions)	Alterations and additions > 500 m² GFA
Restricted premises	Restricted component > 100 m² GFA
Sex services premises (brothels)	All
Community land uses	

Development Type	*Scale*
Educational establishments	All
Correctional centres	All
Places of public worship	All
Recreational and entertainment land uses	
Marinas (including alterations and additions)	Permanent berths > 50
Recreation facilities (major)	Patron seating > 2,000
Wharf or boating facilities	Passenger boat movements > 2 per hour
Other land uses	
Cemeteries	Within 2,000 metres of land zoned for residential, medical or education activities.
Crematoria	Within 2,000 metres of land zoned for residential, medical or education activities.
Mortuaries	Within 2,000 metres of land zoned for residential, medical or education activities.
Other development	
Designated Development as listed in Schedule 3 Environmental Planning and Assessment Regulation 2000	All
Any other development proposal for which an SIA is deemed necessary as determined by Council.	

Note: The above terms relate to those found in the dictionary of Dubbo Local Environmental Plan 2011 where applicable.

3.3.6 Predicting impact

To determine the likely impact of a development proposal (and alternatives to the proposal including a 'no development' scenario), the following issues should be considered:

- Changes which would occur if the development were to proceed;
- Who is likely to be affected by the development and in what way;
- Changes that would occur if the development did not proceed;
- Community impacts likely to occur during the construction and operation phases of the development;
- How long the impacts are likely to last;
- Any positive or negative impacts; and
- Any cumulative impacts.

Historical trends affecting the community and the experience of impacts arising from similar developments elsewhere should also be taken into account as part of this process.

3.3.7 Assessing likely impact

Social impact analysis requires the applicant to:

- Assess the level of importance of the predicted impacts;
- Examine the responses that could help avoid or minimise the negative impacts;
- Promote the positive impacts of the development; and
- Take into account alternative proposals.

Consideration of the significance of community impacts should include:

- The number of people likely to be affected;
- Principles of social justice (equity, access, fairness, inter-generational impacts);
- The extent to which the interests of the community as a whole are enhanced or sustained;
- The degree of change likely to arise as a result of the development relative to the existing circumstances;
- The duration of the impact;
- Any recommended means of mitigating impacts;
- The level of controversy anticipated; and
- Whether or not the impacts would represent a good planning outcome.

3.3.8 Social impact assessment

Objective

- The intent of Council's requirements is to ensure that development will provide positive community benefits to both the locality and the city.

Performance criteria The objective may be achieved where:	Acceptable solutions The following illustrates the way of meeting the performance criteria:
Social equity of the community affected by the proposed development is maintained or enhanced, both now and into the future.	A SIA is prepared and lodged with an appropriate level of documentation that: • Provides detail on social impacts outlining existing social conditions and predicted impacts; • Includes reference to positive social impacts and how they can be maximised; • Describes how any potential negative social impacts can be minimised in the interests of both the users of the development and the broader community; • Describes how the proposal responds to the social context and needs of the local community in terms of lifestyle and affordability; • Identifies and addresses the following social impact issues: – Assesses the current social context, including a profile of the community; – Predicts and assesses the direct and indirect social impacts; – Evaluates the significance of the impacts; – Population change including level and characteristics; – Access for people with a disability; – Mobility; – Provision of facilities and services including recreation, cultural and social; – Structure and identity; – Health; – Employment and public safety; – Cultural and community well-being including community local economic impact; – Linkages between development and the existing community;

Performance criteria The objective may be achieved where:	Acceptable solutions The following illustrates the way of meeting the performance criteria:
	– Needs of particular groups including people from culturally and linguistically diverse backgrounds, older people, people with a disability, indigenous people, young people and women; – Perceptions of risk or community fears; and – Social equity including issues of displacement of particular groups. • Identifies the level of impact and actions that may maximise positive impacts and reduce or mitigate negative impacts. If the impact of a specific aspect is not significant, this should be stated with reason or evidence stated. • Outlines the process undertaken including all community consultation; • Includes the preparation of a monitoring program if considered necessary; and • Concludes with a plan of action, and/or management plan for the development

Notes:

- In general, the scale of assessment should be determined with regard to the individual characteristics of the proposed development and in consultation with a Council officer.
- The incorporation of community consultation involving all interested and affected parties within the assessment is strongly encouraged.

3.3.9 Social impact

Cultural and community well-being refers to quality of life for individuals and communities where people are satisfied with their living standards and relationships with others in their community. Well-being includes factors such as:

- Healthy life;
- Shelter and security of housing;
- Access to cultural and leisure activities; and
- A satisfactory physical environment.

Examples of addressing cultural and community well-being issues in developments include:

- Building design responds to the social context and needs of the local community in terms of lifestyle, affordability and access to social facilities;
- Building design that is consistent with the character of the local area;
- Management of environmental impacts of business particularly where these could have an ongoing impact on people's health; and
- Provision of public spaces for the community to come together such as parks, playgrounds and community facilities.

Social equity – fairly distributing and improving access to resources such as facilities, housing and employment and providing for a range of lifestyle opportunities for all members of the community.

Examples of addressing social equity issues in developments include:

- Provision of affordable housing; and
- Relocation of an existing service or facility affected by the proposed development (where this improves or maintains access and service delivery opportunities).

Cohesiveness of the community – may be thought of as the 'glue' that binds communities together. It has been described as people working towards a common goal or vision. Social cohesion happens when diversity is recognised, where there is minimal conflict and where relationships (between State agencies and people) are cooperative.

Examples of addressing cohesiveness in developments include:

- Provision of public spaces for the community to come together such as parks, playgrounds and community facilities; and
- Involvement of local residents in decision making.

Sense of place – a sense of identity in a locality that defines it from other areas. This can also involve feelings of belonging by the people who live there through familiarity, ownership and pride in the area.

Examples of addressing sense of place in developments include:

- Consultation with local residents and businesses to understand what people value about a locality and development which enhances or reflects these values;
- Incorporation of local symbols and images into building design and finish, including signage;
- Recognition of local landmarks, cultural events and identity and the connections they provide to the local community; and
- Building and site design that is consistent with the character and context of the local area.

Inter-generational impact – considering the effects of the development on present and future generations.

Examples of addressing inter-generational impact on developments include:

- Implementation of sustainable development principles such as the use of solar power and recycled materials; and
- Flexible building design that can be adapted to accommodate changing demographics of an area or community.

3.3.10 Baseline information for social impact

Table 2 comprises a guide to baseline information for documenting existing social conditions.

Community impact type	Relevant baseline information on existing social conditions
Accessibility	• Existing patterns of access and mobility • Vehicular, pedestrian and bike movements • Public transport • Private vehicle ownership
Demographic change	• Age distribution • Ethnicity • Nature of households and families • Income and employment • Growth forecasts
Community issues	• Amenity • Cohesiveness of the community • Crime and safety • Places of local significance/local landmarks • Aspects of sense of place • Level of activity by community organisations • Cultural/social patterns and networks • Health statistics • Levels of pollution (air, noise and water)
Community services and facilities	• Availability and capacity of existing services/facilities such as halls, churches, libraries, community centres, recreation facilities, education places and health services, among others.
Indigenous heritage and issues	• Important places • Cultural characteristics, events and practices • Cultural values
Development trends	• Nature of development • Location • Cumulative effects of this type of development • Past development activity and trends
Economic trends	• Employment/unemployment (current status and trends) • Nature and location of employment • Nature of skills/level of education • Income • Local business development (current status and trends)
Housing	• Housing supply • Housing type • Tenure of housing (ownership/rental/private/ public) • Cost of housing (purchasing and rental) • Housing to meet particular community such as boarding houses, emergency housing and/or housing for older people

Community impact type	Relevant baseline information on existing social conditions
Groups with particular needs	• Availability/capacity of services required to support the needs of people with particular needs such as older people, people with disabilities, non-English speaking people, workers, youth, women, residents and visitors.

3.4 Heritage Conservation

3.4.1 Introduction

This Section has been developed to assist owners of properties listed as heritage items in the Dubbo Local Environmental Plan (DLEP) 2011 or owners of properties situated in the vicinity of a Heritage Item in the development of their land.

This Section provides controls and considerations for the development of land having heritage characteristics. The Development Control Plan also introduces the term 'Heritage Precincts' in the city as a collection of heritage items and associated streetscapes.

The purpose of the introduction of the term 'heritage precinct' is to allow the consideration of development to a heritage item to be made on a holistic basis, having regard to the characteristics of a streetscape.

3.4.2 Why should heritage be conserved?

Heritage can be seen broadly as including many aspects of culture including the built and natural environment, the focus of planning controls.

An individual building may be listed as a heritage item because it provides historical, aesthetic, social and/or research value, or a good example of its type. A heritage precinct is more than a collection of individual items. It is an area where history is embodied in the fabric of the buildings and other elements in the landscape and the relationships between them. Often this will give an area and its streetscapes aesthetic value also. There is a particular sense of place valued by the community which should be preserved for present and future generations.

The aim is to keep the qualities which contribute to the identity of the precincts. This does not mean that nothing can be changed, nor does it mean that anything is permissible as long as it will not be seen from a public place. It does however mean that any changes should not destroy or detract from the qualities, or significance of the area.

3.4.3 What are the benefits of heritage listing?

- Access to free heritage advice – Council, in conjunction with the NSW Heritage Office, has the services of a Heritage Advisor who visits the city on a monthly basis.
- Access to the Local Heritage Assistance Fund – Council on an annual basis writes to the owners of heritage items and invites applications to be made for assistance under the Local Heritage Assistance Fund. The Fund is provided on the basis of an annual grant from the NSW Heritage Office and Council contributions.
- Additional land use activities – DLEP 2011 allows development to be undertaken to a heritage item, and to the land on which the heritage item stands, that is not otherwise a permissible form of development in the specific land use zoning of the site. However, any development application shall show that conservation of the heritage item is guaranteed.
- Legislative protection – The conservation of heritage items is protected under the provisions of the Heritage Act 1977 and the DLEP 2011. Any development undertaken in the vicinity of a heritage item shall take into account any impact it may have on the item and owners shall give consideration to the impact any proposed major alterations may have to the integrity of a heritage item.
- Recognition – Listing of a building or place as a heritage item provides community recognition of its status and the reasons for listing it as a place of heritage significance. In a number of

cases, heritage listing can assist the sale of property through the additional benefits stated above.

3.4.4 Are all buildings equally important?

A heritage precinct is an area of consistent character comprising listed heritage items and non-listed properties.

Not all of the unlisted buildings, elements or items contribute equally to the area's significance or to the visual qualities of the streetscape.

Contributory buildings date from a key period of the area's development and are generally intact. Collectively they make an important contribution which the loss of any one would diminish, even though they may not satisfy criteria for listing as heritage items in their own right in the Dubbo LEP 2011.

Neutral items do not contribute to or detract from the area's significance or the streetscape. These may be buildings dating from the key period of the area's development which have been altered but remain recognisable and may be capable of restoration. Other neutral items are later buildings which complement the original buildings in the area.

Intrusive items include buildings from a key period which have been altered extensively and/or irreversibly altered in an unsympathetic manner, and more recent buildings whose design is not considered to be sympathetic to the area.

Council's general focus for the conservation of heritage items and heritage precincts in the context of development is specified in the table below:

Category	Policy
Heritage items and contributory items	• Items and their setting should be conserved; • May be sympathetically altered and extended; and • Demolition will not be supported without adequate justification.
Neutral items (altered items from a key period)	• Unsympathetic alterations should be reversed where feasible; • May be sympathetically altered and extended; and • Demolition will not be supported without adequate justification.
Later complementary buildings	• Maintain neutrality; • May be sympathetically altered and extended; and • Demolition will be considered with adequate justification.
Intrusive items (from a key period, unsympathetically altered)	• Reduce impact of alterations; • Reverse changes if feasible; • Extension must not exacerbate adverse impact; and • Demolition will be considered with adequate justification.
Later unsympathetic buildings	• Reduce impact of building; • Extensions must not exacerbate adverse impact; and • Demolition will be considered

This Section should inform the design process and will guide Council's assessment of development applications. Council has not formally classified all the buildings in the heritage precincts. However, applicants may obtain advice from Council's Heritage Advisor on how the policy would apply to a particular building.

3.4.5 Heritage items and demolition

Heritage items may be demolished where Council agrees that the individual case has merit and adequate supporting information has been provided with a development application.

Clause 5.10(2)(a) of the Dubbo LEP 2011 requires development consent to be obtained for the demolition, moving or altering the exterior of a heritage item including changes to its detail, fabric, finish or appearance.

A heritage management document is required to be prepared and provided with any development application seeking consent to demolish a heritage item. A heritage management document assesses the extent to which the carrying out of the proposal would affect the heritage significance of the heritage item or the physical loss of the item in the case of demolition.

3.4.6 Heritage consideration early in the design process

Heritage is a basic consideration in the design process. Often a design which does not take account of heritage values and constraints cannot be easily amended to do so later. Therefore owners and their consultants contemplating any type of development within a heritage precinct should refer to this Section at the outset. Doing so may avoid investing considerable time, money and emotional energy in a concept which may not be favourably considered by Council.

The starting point is becoming aware of the significance of a listed item and/or the characteristics of the precinct Council is seeking to conserve, as set out in the character description for the precincts.

The next step is to consider the extent to which your building contributes to those characteristics or detracts from them. Is it listed/contributory, neutral or intrusive?

Then seek to develop a design which will conserve and complement the valuable characteristics and reduce those which are not desirable. Consider the objectives and guidelines for the development.

3.4.7 Character of the heritage precincts

The city's heritage character is a combination of a number of individually significant buildings and places (heritage items) and many other buildings and places that together provide the local character of areas within the city.

Individually significant buildings and places are listed in the Dubbo LEP 2011 as heritage items which include buildings and places with State or Local significance.
The heritage precincts have been designated due to a concentration of significant heritage buildings with locally significant buildings and places that give an area its heritage character.

There are two types of heritage precinct in Dubbo, being commercial and residential. The Commercial heritage Precinct is the northern half of the CBD (Map 1) while the Residential Precinct has three separate areas (north, east and south) as per Maps 2, 3 and 4 below.

The character of the heritage precincts is summarised below in the following sections:

3.4.8 Central Business District

Much of the CBD heritage precinct is the traditional shopping area for the city. The CBD is characterised by wide streets, isolated examples and some concentration of two-storey Victorian, Federation and Inter-war shops. These shops are built to the street alignment and across the full width of the site, with parapets and awnings or verandahs with mostly modified shop fronts.

Brisbane Street, between Church and Talbragar Streets, has a more civic character with a number of grander, freestanding public buildings.

Map 1: Central Business District – heritage precinct

3.4.9 Residential precincts

The character of the three residential precincts (north, east and south) derives from topography and the subdivision pattern. This has resulted in a variety on form and detailing of individual houses and a consistency in siting, scale, style, articulation, materials and landscaping.

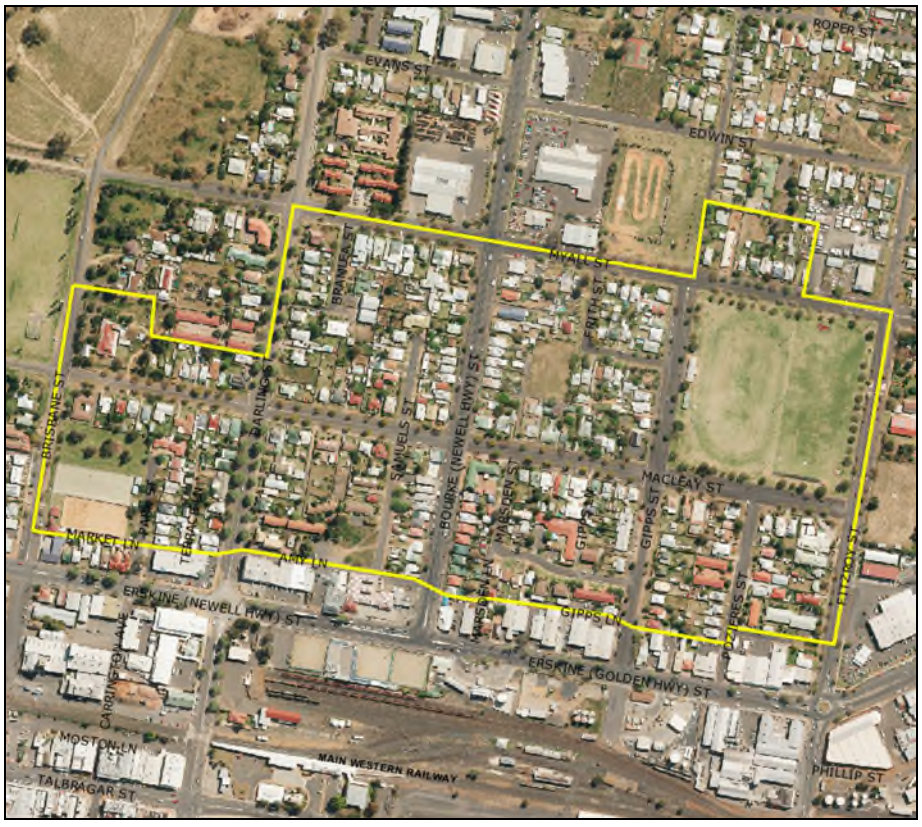
The residential precincts were subdivided in the Federation and Inter-war periods. Most but not all blocks were built on soon after being subdivided with occasional infill buildings from a later period. The area was virtually fully developed by 1939 and most of the original houses remain. Predominantly, these houses have not been significantly altered.

Across the three heritage precincts the terrain is generally flat. Streets are very wide and planted with mature trees. Subdivisions are large and regular. Houses have similar front and side setbacks and address the street.

There is considerable variety in the forms and detailing of individual houses whether built within the Federation and Inter-war periods. Houses are predominantly single storey bungalows, plain and common in style rather than examples of particular architectural styles. Most are asymmetrical in plan. Most have moderately pitched multi-planed gable or hipped roofs with chimneys and front or return verandahs. Doors and windows are vertically proportioned and occupy a relatively small proportion of the wall area. Any garages are freestanding and at the rear of the house or block.

The majority of roofs consist of unpainted corrugated galvanised iron although some are painted or have been replaced with unpainted or pre-painted zincalume steel. Most of the remaining roofs are terracotta Marseilles pattern tiles. Most houses have walls of red face brick while a minority are clad with weatherboard.

Map 2: Residential North – heritage precinct



Map 3: Residential East – heritage precinct

Map 4: Residential South – heritage precinct

3.4.10 General development controls

3.4.10.1 Construction of new buildings

The sympathetic design of new buildings adjacent to heritage buildings and in heritage precincts is of paramount importance. Good design is essentially about designing in context and having regard to the site and its surroundings. Consideration should be given to the nature of adjoining and surrounding buildings and the overall significance and character of the heritage precinct.

Design that closely imitates, replicates or mimics the surrounding historic styles should normally be discouraged (ie terrace house replicas or reproduction houses). Design of a contemporary nature that interprets the surrounding heritage places should be encouraged.

Objectives

- To ensure that development (new buildings) adjacent to heritage buildings or in heritage precincts are sympathetic to the significance and character of the precinct.
- To encourage consideration of the context of the precinct when designing development (new buildings).

Performance criteria The objectives may be achieved where:	**Acceptable solutions** The following solutions are one way of meeting the performance criteria:
Significance, character and setting P1 New building design shall relate to the significance and the character of the adjoining buildings and the heritage precinct.	A1.1 Applications shall be accompanied by an analysis (Heritage Management Document) of how new buildings relate to heritage items in the vicinity and the heritage precinct. A1.2 New buildings are designed in a contemporary manner that is sympathetic to the heritage precinct. Note: Project homes, package or kit homes are generally unsuitable as they are not designed with specific localities in mind.
Setback P2 The setback of the development from the front boundary of the allotment is consistent with established setbacks or is consistent with the desired amenity of the heritage precinct. Note: The setback is measured from the property boundary to the first vertical structural element of the development. No portico, posts etc shall be any closer than the stated setback.	A2.1 If there are uniform setbacks for adjacent significant buildings and/or the street, maintain the setback in any development.
Orientation P3 The majority of existing buildings address the street and therefore new development shall reflect heritage precinct characteristics.	A3.1 Development shall be orientated to the existing streetscape.

Performance criteria The objectives may be achieved where:		Acceptable solutions The following solutions are one way of meeting the performance criteria:	
Fencing			
P4	Fencing is in keeping with the existing character of the heritage precinct.	A4.1	New fencing shall be simple, compatible in height with adjoining heritage fences and of a suitable material and spacing to the building and surrounding heritage fences. The exact reproduction of traditional fence styles should be avoided.
Outbuildings			
P5	Garages, sheds and other outbuildings shall be constructed of similar or compatible materials to the primary building and located so as not to detract from the streetscape of the heritage precinct.	A5.1	In residential zones, garages or carports should not be located in front of the dwelling. Care shall be taken that these structures are kept simple in design.
		A5.2	New materials may be introduced provided that they are complementary to the significance of the heritage precinct.
Signage			
P6	Signage is in keeping with the existing character of the precinct.	A6.1	Any signage shall be contemporary and complement the character and significance of the heritage precinct.
Scale			
P7	In designing new buildings, the size, shape and height shall reflect the predominant height and proportions of adjacent buildings within the heritage precinct.	A7.1	Differences in building height between existing buildings and new development is not more than one storey when viewed from the public street and adjoining properties.
		A7.2	The design may include attic rooms which provide additional floor space with minimal streetscape impact.
Material, colour and details			
P8	Development shall relate to and use the materials, colour and details of adjacent heritage items and the surrounding heritage precinct.	A8.1	New materials may be introduced provided that they are complementary to the significance of the heritage precinct.
Visual setting			
P9	Development shall visually relate to the streetscape of the heritage precinct.	A9.1	Development shall not visually dominate or obscure views or sightlines to nearby historic buildings.
		A9.2	Development shall enhance and complement the streetscape and amenity of the heritage precinct.

Performance criteria The objectives may be achieved where:	Acceptable solutions The following solutions are one way of meeting the performance criteria:
Roofs P10 Roof shape and material shall relate to adjoining buildings and the surrounding heritage precinct.	A10.1 Development shall reflect similar heights and pitch plus utilise appropriate materials in keeping with the character of the heritage precinct.
Provision for cars (ie crossovers) P11 These should reflect the nature of adjoining historic buildings and the heritage precinct.	A11.1 Existing access points should be utilised where possible. Note: Large double driveways are not appropriate.
Details P12 Development should be recognisable as a product of its time and not create a false impression of age or a style.	A12.1 Historic details such as small paned windows, cast-iron decoration, ornate decorative details and original window glazing should not be applied.

New building dominates the adjoining heritage item. Minimal consideration of scale, context or materials.

Style, building proportions and orientation are not compatible with existing residences.

Infill dwelling that conforms to existing streetscape.

Setbacks do not conform to the adjoining heritage building.

Proportions of new building reflect the existing setbacks and roof angles etc.

Setbacks, roof angle and proportionality conform to existing streetscape.

3.4.10.2 Additions, alterations and extensions to buildings

Few heritage items survive in a totally unaltered state. Most undergo some form of change in accordance with the requirements of different occupants. Consequently, there should be an acceptance of the process of change and that any change is managed so that what is significant about a place is not adversely affected.

A successful addition is one that on completion is complementary to the heritage item.

Objectives

- To ensure that new additions do not detract from or overwhelm the significance of the heritage item; and
- To ensure that new additions are in keeping with the context and setting of the heritage item.

Performance criteria The heritage character objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria	
P1	New additions shall not dominate a heritage item.	A1.1	Sight line techniques are applied to determine the degree of visibility of the addition or extension to the public eye. This is especially important where the new building is proposed to be of a greater height than the original building.
P2	New work shall be distinguishable from the old. The contrast shall not be harsh or visually obtrusive.	A2.1	Join the new material slightly recessed from the existing.
		A2.2	Use a different material to the old, a different texture, colour or surface treatment.
		A2.3	Additions to facades shall be avoided.
		A2.4	Additions shall be to the rear or less significant elevations or fabric of the building.
		A2.5	The replication of historic detail in new work shall be avoided. Good contemporary design is preferable to copying the original design.
P3	New work shall maintain the rhythm, orientation and proportions of the original, especially when visible from the street.	A3.1	Design shall consider the relationship between openings such as windows, doors and solid walls and the continuation of horizontals such as string courses and plinths. Design shall pick up on shapes, mass, scale, heights above the ground cornices, key mouldings, materials, colours and other details.
		A3.2	New roofs shall relate to the existing roof form or follow traditional options for additions.

Performance criteria The heritage character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
	A3.3 New work shall maintain a spatial relationship that is similar with the relationship of the surrounding area to the street or lanes and with adjacent properties.
Openings P4 The proportions and spacing of door and window openings shall relate to those of adjoining buildings and the surrounding heritage precinct.	A4.1 New openings in existing heritage items shall be avoided where possible and existing access points should be utilised.

3.4.10.3 Fences

In addition to their ornamental role, fences and gates have numerous functions. They:

- Define the boundary line of a property.
- Provide security.
- Discourage people and animals from leaving or entering a property, in an uncontrolled manner.
- Provide privacy and protection from the weather and noise.

Fences may contribute to the heritage characteristics of the building or place for any or all of these reasons.

Historically, domestic front fences, have generally been of a height and style which permitted a view into and out of the property while side and back fences have tended to be higher and more solid to ensure privacy. High front walls in urban areas are recent phenomena which have been encouraged by a desire for privacy, a perception of the need for greater security and in some cases, a need for acoustic insulation.

Fences in an intact heritage streetscape can be an integral part of the area. Rural or agricultural fences have generally tended to be undressed timber post and wire, with early post and rail fences remaining in some areas. On the volcanic plains, dry stone walls are common. Some log and chock fences remain. Old rural fences should be retained when a new fence is installed.

Objectives

- To ensure that original and significant fences are retained where possible.
- To ensure that new fences are constructed in a manner sympathetic to the significance of the heritage item or precinct.
- To enhance the understanding and appearance of heritage places through the use of appropriate fences.

Fences and gates guidelines

- Significant fences and gates shall be retained and conserved.
- Early rural timber and wire fences, post and rail fences, log and chock fences, dry stone walls, brush fences, hedgerows and patent metal fences are rare and shall be retained and conserved.
- Significant fences shall not be increased in height. For privacy and noise reduction, a hedge or planting behind a traditional fence might be an acceptable alternative. Hedges can be effective in terms of noise reduction. A plant species appropriate to the period of the house would be suitable.
- Reconstruction of a demolished fence for a heritage item shall be based on evidence and research for the previous fence. If no evidence can be found, the new fence shall reflect the design materials of a typical fence for that house style without replicating historic detailing.
- New fences in a heritage precinct or for historic buildings, where there is no evidence of the original, should be simple in design and reflect fence height of significant trees in the area, material, style, spacing and openings. Replication of historical detail in new fences is not appropriate.
- Where no fence was ever intended as a heritage item or within a heritage precinct, alternative options should be encouraged, such as landscaping, window glazing etc.

Fence height, style and materials are not compatible with adjoining fences.

New fence of similar spacings and height as the adjoining heritage fence

3.4.10.4 Externally painting a building

Painted surfaces

The repainting of previously painted surfaces of a heritage item generally does not require development consent and is considered to be of a minor nature if the colours and textures to be used are consistent with the current colours or are traditional colours for the era and style of the building.

Paint colours and other external treatments

The use of appropriate paint schemes can enhance the significance and understanding of a heritage item. The inappropriate use of paint colours on an historic building can create a false impression of history.

The removal of original surface treatments such as stucco alters the appearance and may expose the building to water damage.

Objectives

- To ensure significant painted finishes and other treatments are conserved in an appropriate manner.
- To enhance the understanding and appearance of heritage precincts and heritage items through the use of appropriate external painting.

Performance criteria The heritage character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
External painting	
P1 Any external painting is compatible with the existing development on the site and the surrounding area.	A1.1 Expert advice shall be sought when applying paint colours to a heritage item. Note: Council's Heritage Advisor is available to discuss matters of this nature.
Painting of unpainted surfaces	
P2 The painting of originally unpainted surfaces in most situations shall be avoided. Note: It is difficult to remove paint from masonry surface without damaging them. Paint may only be removed by chemical means. Sandblasting or soda blasting shall not be used.	A2.1 The application of heritage colours to contemporary structures in heritage areas may be confusing and is discouraged. Compatible contemporary colours should be considered. A2.2 Consideration shall be given to whether the place forms part of a cohesive group in which there is consistency/uniformity of treatment (eg a row of terrace housing or shops).
P3 Original stucco finishes, roughcast render or similar finishes shall be retained or repaired.	A3.1 Expert advice shall be south when alterations are proposed to original stucco, roughcast render or other finishes.

3.4.11 Development controls for CBD precinct

The Dubbo Central Business District (CBD) contains numerous heritage items of both State and local significance. The CBD is the primary commercial area in the city and the region that services a catchment in excess of 120,000 people.

Objectives

- To ensure the heritage characteristic/streetscape of the CBD is maintained.
- To ensure that redevelopment in the vicinity of heritage items does not detrimentally impact on the heritage significance of those items.

Performance criteria The heritage character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Demolition	
P1 Heritage items should be retained.	A1.1 Demolition of a heritage item shall be accompanied by a Heritage Impact Statement. A1.2 Development applications for demolition need to address the capacity of the replacement buildings to contribute to the character of the heritage precinct.
Change of use	
P2 Any change of use of a heritage item needs to consider the impact which the proposed development may have on the land including significant trees, planting and vehicle parking etc.	A2.1 Where a change is necessary, a new use comparable to the original one may be preferable. A2.2 A change of use that requires minimal alteration to the original fabric is preferred. A2.3 Existing spaces and access patterns should be conserved without modification as far as possible.
Significance, character and setting	
P3 Development adjoining or in the vicinity of heritage items shall be designed to relate to the significance and the character of the adjoining building and the heritage precinct.	A3.1 Development applications shall be accompanied by a Heritage Impact Statement which should be discussed with Council's Heritage Advisor. A3.2 New buildings are designed in a contemporary manner that is sympathetic to the heritage precinct. Note: Large proposals will require a Heritage Impact Statement which should be discussed with Council's Heritage Advisor.

Performance criteria The heritage character objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria	
Scale			
P4	In designing new buildings, the size, shape and height shall reflect the predominant height and proportions of adjacent buildings within the heritage precinct.	A4.1	Differences in building height between existing buildings and new development is not more than one storey when viewed from the public street and adjoining properties.
Material, colour and details			
P5	Development shall relate to and use the materials, colour and details of adjacent heritage items and the surrounding heritage precinct.	A5.1	New materials may be introduced provided that they are complementary to the significance of the heritage precinct.
Visual setting			
P6	Development shall visually relate to the streetscape of the heritage precinct.	A6.1	Development shall not visually dominate or obscure views or sightlines to adjoining heritage items.
		A6.2	Development shall enhance and complement the streetscape and amenity of the heritage precinct.
Roofs			
P7	Roof shape and material shall relate to adjoining buildings and the surrounding heritage precinct.	A7.1	Development shall reflect similar heights and pitch plus utilise appropriate materials in keeping with the character of the heritage precinct.
Signage			
P8	Signage is in keeping with the existing character of the heritage precinct.	A8.1	Any signage shall be contemporary and complement the character and significance of the heritage precinct.

3.4.11.1 Verandahs and shop fronts

In the 1900s Dubbo's main streets, being Macquarie and Talbragar, were predominantly lined with verandahs as a protection against the sun and the rain as recorded in early photographs and architectural drawings.

Typically, they were erected building-by-building either as part of the original construction or as later additions. They either sloped or curved towards the kerb and occasionally contained a barrel-vaulted central arch. Shop verandahs were usually single-storey and hotels were often double-storey.

Suspended awnings became popular from the 1920s and were generally timber-framed with the fascia clad in flat galvanised sheet steel. The underside was often lined with pressed metal panels.

Objectives

- To ensure that sympathetic construction occurs within areas that retain or originally had verandahs as part of the heritage precinct.
- To ensure appropriate conservation, restoration and alteration of verandahs and shop fronts occurs within commercial areas.
- To enhance the understanding and appearance of heritage items through the use of appropriate verandahs and shop fronts.

Performance criteria The heritage character objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria	
P1	The verandah/shop front shall be suitable for the building and the heritage precinct.	A1.1	Verandahs and awnings are reconstructed where detailed evidence exists of the original or early verandah or awning including materials, design, details and proportions.
		A1.2	Where it is known that a verandah or awning was originally a part of the building, however where inadequate evidence exists, a low-key simple design without historic detailing is preferable.
		A1.3	Where a building was designed to not include a verandah, alternative solutions such as double glazing and internal blinds shall be considered.
		A1.4	Original verandahs, awnings and shop fronts on heritage items or in the heritage precinct shall be retained and conserved.
		A1.5	New shop fronts and verandahs shall be designed specifically for the building. They shall be contemporary in nature but sympathetic in height, proportion and form to the adjacent and surrounding heritage precinct.
		A1.6	Verandah roofs shall be painted the same colour as the main roof unless evidence exists of another colour (eg striping).

Performance criteria The heritage character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
	A1.7 Modern awnings are generally inappropriate on contributory buildings.

3.4.11.2 Signage

It is recognised that the need for signage is an essential part of carrying out a business activity. However, inappropriate or excess signage can detract from the appearance of a heritage item, heritage precinct or streetscape.

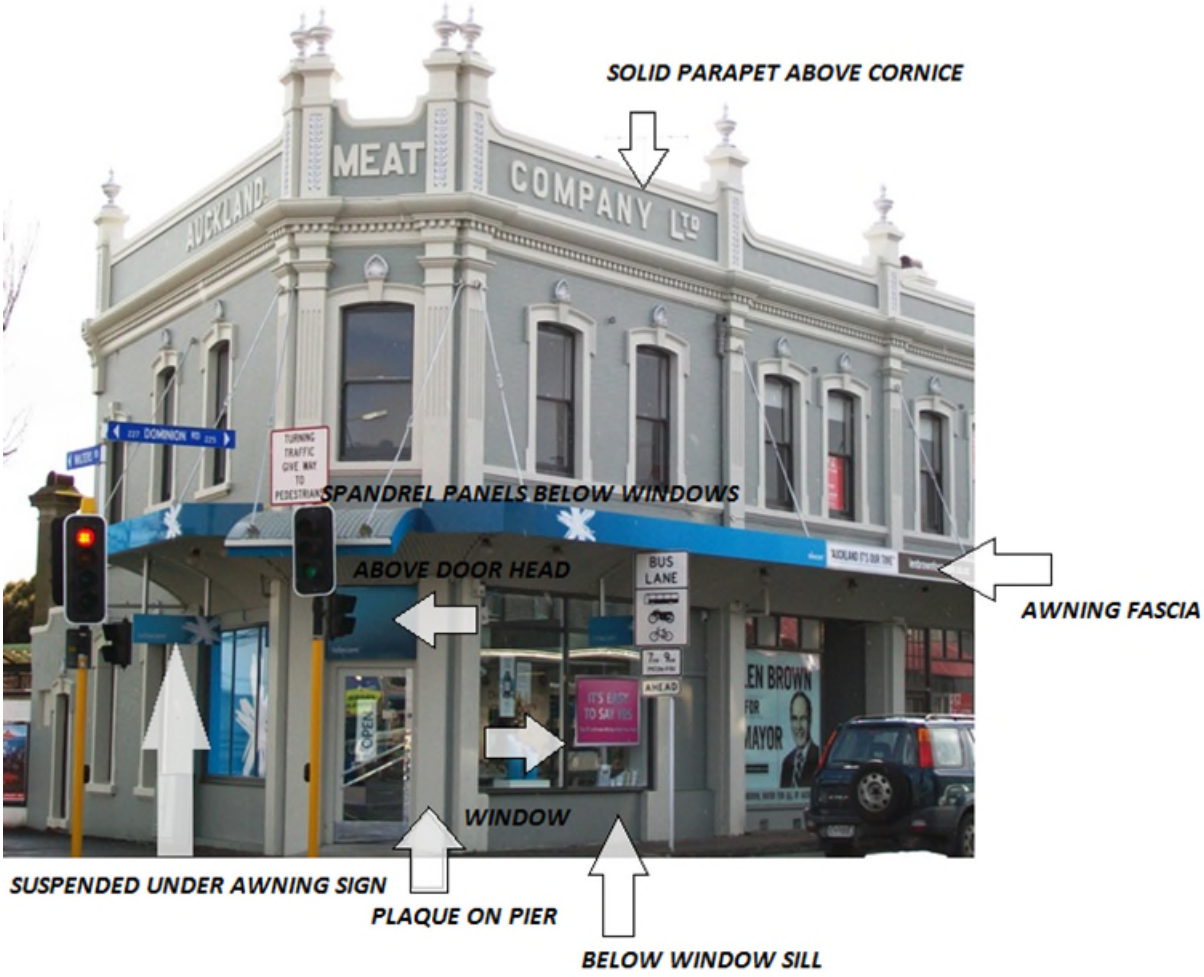
Objective

- To ensure that signage does not have a detrimental effect on the cultural heritage significance of a place.

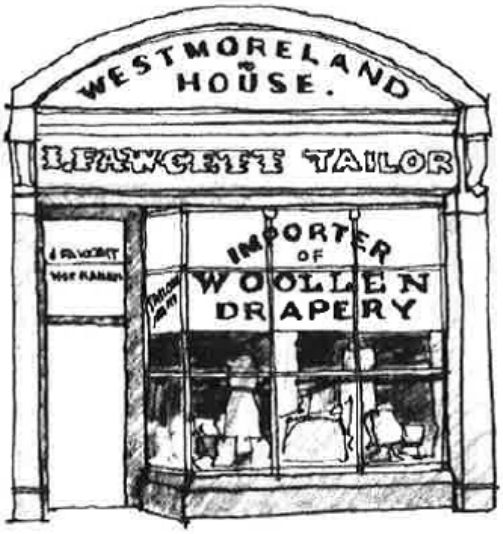
Performance criteria The heritage character objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria	
P1	Signs on individual buildings within a heritage precinct shall be discreet and of an appropriate size so as not to dominate the building and surrounds.	A1.1	The principle of 'less is more' is usually appropriate when considering the number of signs to be affixed to a heritage item or on property in a heritage precinct.
		A1.2	Advertising shall be placed in locations on the building that would traditionally have been used as advertising areas. If the building has no such locations, a small sign fixed on the fence or, where there is sufficient space, a small free-standing sign shall be used.
		A1.3	Sky sign opportunities will be rare. No signs should break a historic parapet or roof line of a building. Possible exceptions are single-storey verandah roof lines where signs sometimes project above verandah spouting or across the verandah roof.
		A1.4	The location of a sign on a side wall shall be carefully considered. The sign shall not dominate the wall or detract from historic significance of the heritage item.
		A1.5	The architectural characteristics of a building shall dominate. For example, signs shall not be placed on first floor verandahs, balustrades, in front of windows or in front of cast iron verandah frieze work.
		A1.6	Signage does not necessarily have to be attached to a building and where there is sufficient space, owners or tenants should explore free-standing signage options.

Performance criteria The heritage character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
	A1.7 Modern standardised 'trademark' advertising may not always be appropriate. Some modification may be necessary to the size, materials and illumination of 'trademark' advertising where affixed to heritage items or in heritage precincts. A1.8 New signs shall not be painted on unpainted masonry walls. A1.9 Fluorescent and iridescent paints shall be avoided.
Multiple tenants in heritage items P2 The number of signs shall be restricted to avoid visual clutter.	A2.1 Places with multiple owners or tenants shall prepare a signage policy for the whole of the heritage item. A2.2 Signs that are not related to the owner or major tenant of the site will not be supported. A2.3 General advertising signage will not be permitted unless it is on a building where such advertising is the cultural norm, for example, on theatres.

Figure 1. Traditional location of signage



Identifying sign panels



Traditional signs

Upper level opportunities

3.4.12 Development controls for residential precincts

It is considered appropriate to retain the existing character of the roof of a heritage item, keeping its form, structure, materials and detailing.

Chimneys can also form an important part of a roof form and can be indicative of a building's design. They are often highly visible, decorative and can contribute to a significant building or group of buildings.

Windows and doors

Changes to windows and doors can have a dramatic effect on the appearance of the building as a whole. The various historic styles each have their own distinct window and door treatments and the logic of a design can be lost through the introduction of unsympathetic or inappropriate new elements, through the removal or destruction of original or early design elements.

Objectives

- To ensure that the external features of a heritage listed, contributory or neutral dwelling are conserved in an appropriate manner.
- To enhance the understanding, appearance and significance of heritage places through the use of appropriate external features.

Performance criteria The heritage character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Windows	
P1 Window and door dimensions and spacings shall be maintained.	A1.1 Windows shall be repaired rather than replaced if they contribute to the significance of the heritage item and are largely sound and intact. A1.2 New window openings to principle façades and elevations are avoided. A1.3 New window openings shall be sympathetically designed but clearly distinguishable as a contemporary alteration. A1.4 Inappropriate 'modernisations' such as horizontal metal sliders and fixed modern frames shall not be used and if present shall be replaced where they detract from the significance of the heritage item. A1.5 Filled in or previously damaged window openings may be reconstructed. Any replaced windows shall match historic profiles, shapes, dimensions, details and materials.
Roofs	
P2 The original form of the roof shall be maintained.	A2.1 Any repair work shall be undertaken in the traditional material of the roof.

Performance criteria The heritage character objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
	A2.2 Consideration shall be given to important views of a significant building when considering the introduction of new elements to the roof such as skylights, solar collectors or satellite dishes. A2.3 Where galvanised iron is replaced, unpainted zincalume shall not be used. Note: Very durable galvanised steel is available it long lengths and can be curved where required. It may be advisable to use the thickest available coating. A2.4 Where previously painted galvanised iron is replaced the use of pre-painted zincalume will be considered. Council's Heritage Advisor should be consulted in the first instance.
Chimneys P3 Original chimneys shall be retained and conserved.	A3.1 Repairs to chimneys shall be in materials to match the original.
Skylights and dormer windows P4 Installation of dormer or attic windows shall not detract from, or dominate the appearance of the roof line.	A4.1 Where possible they shall be installed in the rear or side elevations but also taking into account the silhouette of the roof. In some instances skylights might be preferred to dormers and this will depend upon the elevation and roof pitch. A4.2 Skylights shall not be located on front or street elevations or be visible from front or side streets. A4.3 Flat glass skylights are preferable to PVC or 'bubble' skylights which shall be avoided.
Solar Panels P5 Development for a solar energy system shall not detract from or dominate the appearance of the roof.	A5.1 The solar energy system/panels shall not be attached to any roof of a heritage item facing a primary road. A5.2 They shall be installed in the rear or side elevations and also take into account the silhouette of the roof.

Performance criteria The heritage character objectives may be achieved where:		Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria	
Brick walls			
P6	Minor additions, alterations or repairs to a heritage item shall match that of the original. Major additions may incorporate a complementary material.	P6.1	Match the colour, texture, dimensions, bonding pattern, mortar colour and content and profile to the original material.
Stone walls			
P7	Minor additions, alterations or repairs to a heritage item shall match that of the original. Major additions may incorporate a complementary material.	P7.1	Match the durability, composition, porosity, colour, texture, size, profile and to source the location of the original material. The use of artificial stone for repairs shall be avoided.
Stuccoed walls			
P8	Additions, alterations or repairs to a heritage item shall match that of the original. Major additions may incorporate a complementary material.	P8.1	A stucco mix no stronger or stiffer than the original stucco shall be used. Modern formulations with high proportions of Portland cement shall be avoided.
Timber walls			
P9	Additions, alterations or repairs to a heritage item shall match that of the original. Major additions may incorporate a complementary material.	P9.1 P9.2 P9.3	Original timber cladding shall not be covered or replaced with artificial cladding such as vinyl or aluminium. Timber shall not be sand-blasted. Exterior timber shall be properly finished to prevent its deterioration.

References
• Dubbo Local Environmental Plan 2011
• Building Code of Australia
• Dubbo Urban Heritage Review 2006/2007
• Rural Heritage Review 2002 Volumes 1 to 4

3.4.13 Additional reading

- A Guide to the Heritage System, Heritage Office (revised 2005)
- Assessing Heritage Significance, Heritage Office 2001
- Conservation Management documents, Heritage Office and Department of Urban Affairs and Planning 1996 (revised 2002)
- Conservation Management Plan: A Checklist, Heritage Office 2003
- Design in Context: Guidelines for Infill Development in the Historic Environment, Heritage Office 2005
- The Economic of Heritage Listing, Heritage Office 2001
- Federation Architecture Guidelines, Heritage Council of NSW, 1982
- How to carry out work on heritage buildings and sites, Heritage Office 1995 (revised 1998)
- Local Government Heritage Guidelines, Heritage Office 2002

- Maintenance Series, Heritage Office 1998 (online edition 2004)
- Salt attack and rising damp: A guide to salt damp in historic and older buildings, Heritage Office 2008
- Statements of Heritage Impact, Heritage Office and Department of Urban Affairs and Planning 1996 (revised 2002)
- Street Smart: Corporate Development in Historic Town Centres, Heritage Office 1998

3.5 Parking

3.5.1 Introduction

This Section provides for the physical provision of onsite car parking spaces for various types of development within the Dubbo Local Government Area (LGA).

The requirements of this Section apply to all development applications received by Council to construct or use buildings or to change the use of the land or buildings.

It is not intended that this Section should cover all likely situations. The purpose of this information is to provide a practical guide to aid in the preparation of development applications to be submitted to Council. It also provides practical solutions to the provision of vehicle parking in conjunction with development. This chapter is not meant to be specific to every development type. Proponents are reminded that particular development activities may require additional parking based on local conditions and the characteristics of development. In cases where this Section does not include requirements for a specific development, other means of assessment/guidance shall be used such as the Roads and Maritime Services (formerly known as the Roads and Traffic Authority) for traffic-generating development.

The dimensions detailed are minimum requirements. Individual circumstances may require the use of dimensions different from those specified in order to provide satisfactory access and manoeuvrability conditions.

The aim of this Section is to provide guidelines which will result in car parking areas being constructed which are efficient and attractive and which provide reasonable access, circulation, manoeuvrability and adequate-size parking bays.

3.5.2 Vehicle parking provision

This section specifies the minimum number of vehicle parking spaces to be provided for a number of land use activities included in the Dubbo Local Environmental Plan (DLEP) 2011.

Council will determine the car parking requirement for land use activities not referred to in the table below based on the specific characteristics of the proposed development and the Roads and Maritime Services Guide for Traffic Generating Development.

Ancillary or incidental uses will be assessed as part of the main use of the building (eg the office of a supermarket will be included in the area of the supermarket and will not be treated as a separate office use).

A use comprising of a combination of two or more uses, such as a combined motor sales and repairs, will be assessed as if the two uses existed independently and the required onsite parking provisions will be the aggregation of the independently derived requirements.

Net lettable area (NLA) means the overall useable area of the building excluding amenities, stairways, lift-wells, public foyers and plant rooms.

No account shall be taken of spaces which do not have direct access to a driveway or which are double banked (stacked) or obstructed in any way when assessing the car parking spaces provided.

If a particular type of development is not included in the vehicle parking schedule provided below or the proposed development has characteristics which require further consideration of the level of vehicle parking for the development, it is suggested that you contact Council's Building and Development Services officers prior to the preparation of a development application to further discuss the characteristics of your development.

3.5.3 Required rate of vehicle parking

Column 1 Land and building use	Column 2 Rate of provision
Residential accommodation	
Dwelling houses	One space per one or two bedrooms; Two spaces per three or more bedrooms; and Space(s) shall be provided behind the building line.
Dual occupancies, multi-dwelling housing and semi-detached dwellings Note: Parking rate per separate domicile	One space for one bedroom premises; Two spaces per two or more bedrooms; and Space(s) shall be provided behind the building line.
Boarding houses, hostels and the like	One space per manager; One space per two staff onsite at any one time; and One space per bedroom
Residential flat buildings and shop-top housing (housing component only)	One space per one bedroom unit; 1.3 spaces per two bedroom unit; 1.5 spaces in excess of two bedrooms; and One space for visitor parking for every four units or part thereof
SEPP (Housing for Seniors or People with a Disability) 2004	
Residential care facilities	One parking space for each 10 beds in the residential care facility (or one parking space for each 15 beds if the facility provides care only for persons with dementia) plus one parking space for each two persons to be employed in connection with the development and on duty at any one time.
Hostels	One parking space suitable for an ambulance; One parking space for each five dwellings in the hostel plus one parking space for each two persons to be employed in connection with the development and on duty at any one time plus 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider.

Column 1 Land and building use	Column 2 Rate of provision
Self-contained dwellings	One car space for each five dwellings where the development application is made by, or is made by a person jointly with, a social housing provider[1].
Tourist and visitor accommodation	
Bed and breakfast accommodation	One space per lettable bedroom plus two spaces for the permanent occupants of the dwelling. Note: Space(s) shall be provided behind the building line.
Caravan parks and camping grounds	One space per manager; plus bus parking, plus one space per site, plus visitor parking of one space per 10 tourist sites, plus one space per five permanent sites.
Serviced apartments	One space for one bedroom premises; and Two spaces per two or more bedrooms Note: Space(s) shall be provided behind the building line.
Commercial premises	
Business premises (including banks, post offices, hairdressers, etc), office premises and the like	One space per 40 m^2 of NLA
Bulky goods premises	One space per 50 m^2 of NLA;
Entertainment facility	One space per 6.5 m^2 of NLA;
Pubs	One space per 25m² of NLA
Restaurants/cafes	One space per 25 m^2 of NLA Note: A 'change of use' from a commercial use to a restaurant/café in the B1 or B3 zones is exempt from the requirement to provide additional off-street parking where it involves no increase in floor area. Any increase in floor area will require parking to be provided at the above rate for the additional floor area only.
Takeaway food and drink premises where no onsite seating is provided	One space per 25m² of NLA
Function centres	One space per three guests based on the capacity of the premises as per the Building Code of Australia.

Column 1 Land and building use	Column 2 Rate of provision
Registered clubs	One space per 5 m^2 of licensed floor area; and One space per 5 m^2 of dining area.
Retail premises including supermarkets, department stores and shopping centres	Small shops and neighbourhood shops: One space per 25 m^2 of NLA Shopping centres: Up to 20,000 m^2 of NLA; and One space per 20 m^2 Over 20,000 m^2 of NLA; and One space per 25 m^2 for area greater than 20,000 m^2
Service stations (including convenience stores)	Six spaces per work-bay plus one space per two employees on duty at any one time plus one space per 25 m^2 of NLA of convenience store plus one space per three seats of restaurant component.
Mobile takeaway food vans	Minimum of five spaces available specifically for this use.
Community land uses	
Health consulting rooms	One space per 25 m^2 of NLA
Hospitals and the like	One space per 10 beds plus one space per each resident or staff doctor plus one space for each employee on duty at any one time plus ambulance parking.
Medical centres	One space per 25 m^2 of NLA
Educational establishments	
Infants and primary schools and secondary schools Higher education establishments, tertiary schools and colleges	One space per 1.5 staff plus one space per 10 students in year 12 plus adequate student set-down/pick-up areas, bus turning areas plus parking for auditoriums and sports stadia. One space per 1.5 staff plus one space per five students plus one space per five live-in students plus parking and turning areas for auditoriums and sports stadia.
Child care centres	One space per four children
Community facility (where a use is not specified)	One space per 20 m^2 of public area.
Place of public worship, funeral homes, mortuaries and the like	One space per five seats plus additional provision for overflow parking onsite.
Industrial land uses	
Industries (other than motor vehicle repair workshops)	One space per 90 m² of NLA

Column 1 Land and building use	Column 2 Rate of provision
Transport depots	One car space per staff plus one space per truck parking as required. Where other uses incorporated (see respective rates).
Vehicle body repair workshop (including body building, panel building, panel beating, spray painting and chassis restoration)	One space per 40 m^2 of office/administration area plus one space per 55 m^2 of motor vehicle repair workshop area.
Vehicle repair station (including repairs, sales and the fitting of accessories)	One space per 40 m^2 of office/administration area plus one space per 25 m^2 of spare parts or vehicle accessory display area plus one space per 55 m^2 of motor vehicle repair workshop area.
Warehouses or distribution centres	One space per 250 m^2 of NLA
Recreation land uses	
Recreation facilities: ▪ Squash courts ▪ Tennis courts ▪ Bowling alleys ▪ Bowling greens ▪ Gymnasiums	 ▪ Three spaces per court; ▪ Three spaces per court; ▪ Three spaces per alley; ▪ 30 spaces for first green plus15 spaces per each extra green; and ▪ Seven spaces per 100 m^2 of NLA
Recreation facilities (major)	One space per 10 seats
Bicycle parking	
▪ Retail and bulky goods showrooms ▪ Shopping centres ▪ Takeaway food shops (>20 seats) ▪ Swimming pools ▪ Primary schools ▪ Secondary schools ▪ Museums and art galleries ▪ Libraries and community centres	▪ 1/250 m^2 NLA* ▪ 1/100 m^2 NLA* ▪ 1/10 seats* ▪ 1 per lane* ▪ 1/20 students > Year 4 ▪ 1/20 students ▪ 1/200 m^2 of public area ▪ 1/50 m^2 of public area

* Minimum of five lockable bicycle spaces to be provided.

[1] ***social housing provider*** means any of the following:

(a) The New South Wales Land and Housing Corporation;
(b) The Department of Housing;
(c) A community housing organisation registered with the Office of Community Housing of the Department of Housing;
(d) The Aboriginal Housing Office;
(e) A registered Aboriginal housing organisation within the meaning of the *Aboriginal Housing Act 1998*;
(f) The Department of Ageing, Disability and Home Care;
(g) A local government authority that provides affordable housing; and
(h) A not-for-profit organisation that is a direct provider of rental housing to tenants.

Note: Parking rates and requirements for people with a disability are detailed in Chapter 2.2 Access and Mobility, Appendix 2 Off-Street Car Parking.

Note: Existing premises and heritage items may have historical credits in relation parking, including paid Section 94 contributions in relation to parking. These should be documented when submitting development applications for the redevelopment of the particular sites.

3.5.4 Legislative requirements

State Environmental Planning Policy (SEPP) (Infrastructure) 2007 has specific requirements in relation to 'traffic-generating development'. Clause 103 Traffic-generating development states the requirements and procedures to be followed for development described in Schedule 3 Traffic-generating developments to be referred to the Roads and Maritime Services (RMS) and includes the consent authority taking into consideration any submission made in response by the RMS.

3.5.5 Vehicle parking credits

Council in consideration of vehicle parking requirements for a development will take into account the current level of development on the land and the applicable vehicle parking associated with the current development. This will be undertaken through an analysis of any development consent and the applicable parking requirement for the specified land use activity in this Section.

In consideration of vehicle parking credits, Council will only consider the currently or last approved land use activity (if the land is vacant).

Where an existing development is found to have vehicle parking credits attributed, Council will consider any applicable vehicle parking credits in the overall parking requirements for a specific development.

3.5.6 Standard of provision

Car parking should normally be provided on the site of the development however, Council will consider the provision of other appropriately-zoned land owned or leased with a positive covenant in favour of the applicant or developer and Council, on the proviso that the alternate location is convenient to the subject development, safe to both pedestrians and motorists and practical for the purpose - this is deemed to satisfy the requirement. Any land leased by means of a positive covenant for car parking purposes (land use) can only be released, varied or modified with the consent of Council.

The layout and dimensions of car parking areas shall be in accordance with the design standards as set out in Schedule 1 and in accordance with AUSTROADS and Australian Standard AS2890.1:2004. All required car parking areas, driveways, turning areas and loading areas shall be paved in a bitumen seal coat, asphaltic or bituminous concrete, cement concrete, concrete paving blocks or brick paving blocks.

3.5.7 Construction requirements

The standard of wearing surface required will be dependent upon the type of development proposed having regard to traffic loadings. The pavement design incorporates the sub-base and wearing surface. The sub-base should be designed by a certified practicing engineer. As a general rule the following surfaces will be required as a minimum standard:

Residential flat buildings, multi-dwelling housing and shop-top housing – driveways, turning areas, loading areas and car parking areas – two coat bitumen seal;

Serviced apartments development – driveways, turning areas, loading areas – bituminous or asphaltic concrete; car parking areas - two coat bitumen seal;

Commercial development – driveways, turning areas and loading areas – bituminous or asphaltic concrete; car parking areas – two coat bitumen seal; and

Industrial development – driveways, turning areas and loading areas – concrete, bituminous or asphaltic concrete; car parking areas – two coat bitumen seal, provided such area is not used as a driveway, turning or loading area. In rural areas, paving to driveways, turning areas, loading areas and car parking areas shall be at the discretion of the Director Environmental Services.

All parking spaces shall be suitably marked by lines or other approved means. Free and uninterrupted access to car parking areas shall be maintained at all times.

3.5.8 Parking aisles

The use of 'dead-end' or 'blind' car parking aisles is not recommended where the length of the aisle exceeds 15 m from the nearest circulation aisle. The purpose of this requirement is to prevent vehicles reversing along aisles and interfering with the normal flow of traffic.

Where aisles are in effect internal roads leading to parking areas or individual garages, such as occur in multi-dwelling developments, the following minimum dimensions apply, assuming that no parking is permitted on either side of access-way between:

- 0 to 50 spaces or service bay – 6 m wide; and
- 50 plus spaces or service bays – 6.5 m wide.

Widths need to be increased by 2.7 m or 4.8 m if parallel parking is permitted on one or both sides of the access-way respectively.

3.5.9 Manoeuvrability

Minimum turning paths for vehicles acceptable to Council for car parking area design are set out in Schedule 1: Design Standards.

Council will not accept the use of turning circles for vehicles of smaller dimensions than those standard vehicles shown in those drawings.

For entrances and exits from a road onto the site, turning paths are to be in accordance with AUSTROADS '*Desirable minimum radius (turning speeds 5-15 km/h)*'.

Vehicle turning paths within the site, as a minimum, are to be in accordance with AUSTROADS '*Absolute minimum radius (for use at mandatory stop only. Turning speed up to 5 km/h)*'.

3.5.10 Internal drainage of paved areas and water sensitive urban design

3.5.10.1 Development incorporating less than 10 off-street parking spaces

Internal stormwater from paved areas of developments (other than class 1a dwellings) shall be designed to comply with the current edition of the Building Code of Australia.

Provision in the stormwater design for relief surface drainage to Council's street system or temporary onsite pooling in the event of more intense storm events shall be made. Overflow drainage from roofs and paved areas and surcharges from piped systems shall not be permitted to enter adjoining private

lands and if necessary, the system shall be increased in capacity to reduce such an occurrence to at least the '1 in 50 year' recurrence level.

3.5.10.2 Development incorporating 15 or more off-street parking spaces

Paved areas/car parks associated with developments requiring 15 or more off-street parking spaces shall adopt Water Sensitive Urban Design (WSUD) principles with any off-site flows to comply with 3.4.1 above.

WSUD offers an alternative to the above traditional approach to stormwater management through onsite reuse of the water whereby stormwater is regarded as a resource rather than a burden.

Parking areas in particular can be a large generator of run-off and polluted stormwater. Gently sloping grassed or landscaped basins (see Photo 1) may be used to capture water for reuse as well as to allow for filtration and the deposition of sediment. This is usually accomplished by incorporating specifically designed inlet structures that permit the temporary storage of water.

Suggested WSUD principles to incorporate in parking areas include:

- Porous pavement: 'overflow' or infrequently used parking areas could be constructed with porous pavement;
- Car park storage detention: incorporate gently sloping grassed areas or recessed basins into car parks to encourage detention and treatment of run-off;
- Infiltration: use infiltration trenches where appropriate to minimise run-off from the site;
- Retain natural drainage paths; and
- Landscape: incorporate vegetation to improve amenity and water use.

Detailed drainage plans with construction designs and calculations (specifying the WSUD together with provision for off-site flows complying with 3.4.1 above) are required to be submitted with the construction certificate application except where a construction certificate is not required. In such circumstances the detailed design and construction plans are to be lodged with Council in association with the development application or submitted to and approved by Council prior to construction commencing.

3.5.11 Additional drainage information

The following design parameters from AS/NZ S3500.3 are reiterated for information:

Arrestors

Arrestors shall be installed to remove contamination, generally silt or oil or both, from stormwater prior to discharge to the stormwater system.

Inspection Openings

Inspection openings shall be installed except for Class 1 buildings and where inlet/stormwater pits are provided.
With respect to stormwater systems draining relatively small catchments (ie generally less than 150 m^2), Council may give consideration to varying the requirement to install an arrestor(s). Arrestors serving car park areas, unless acceptable evidence is otherwise presented to justify its deletion, will be required to be designed to remove oil in addition to silt.

Council will not approve of stormwater drainage systems relying solely on surface drainage to a vehicular cross-over interception channel unless levels prevent the design of a piped system or the surface catchment is relatively small (ie generally less than 150 m^2). Should Council permit the use of a vehicular cross-over interception channel it shall be designed with a:

- Minimum clear channel opening width of 200 mm;
- 'Medium' grate load rating (ie wheel loadings not exceeding 3,500 kg) for residential and commercial developments; and
- 'Heavy' grate load rating (ie up to 8,000 kg) for industrial developments.

Further, in such circumstances, any roof water from the development is to be piped separately to the Council's stormwater system or a WSUD system not discharged onto the surface drainage paved area.

When bitumen surfaces are proposed, concrete spoon drains are required to be constructed if the depressions are used to carry surface run-off to the piped drainage system rather than concrete integral kerb and gutter. No surface drainage will be permitted to discharge across Council's footways or reserves.

Sump and sump systems to drain basement car parks are not generally favoured by Council because of the problems due to pump breakdown or power failure. However, where no alternative exists, a suitably-designed and sized system with back-up pump facilities will be considered.

Note: Conceptual designs for all internal drainage of paved areas shall be submitted to Council in conjunction with the development application to indicate:

(a) How and where the development is to be drained;
(b) Do actual site levels (to Australian Height Datum [AHD]) permit drainage to the point(s) of discharge proposed; and
(c) Sufficient details as to whether the system configuration will generally be in accordance with Council's policy requirements.

The detailed drainage plans with construction designs and calculations are required to be submitted with the construction certificate application except where a construction certificate is not required. In such circumstances the detailed design and construction plans are to be lodged with Council in association with the development application or submitted to and approved by Council prior to construction commencing.

3.5.12 Access requirements

Access driveways – safety considerations

Public safety is the main consideration when planning the location of access to a development. The location of access depends on the following factors:

(a) Type of road frontage;
(b) Sight distance;
(c) Intersections; and
(d) Potential conflicts.

3.5.12.1 Type of road frontage

Direct access across the boundary with a major road is to be avoided wherever possible.

In non-urban areas, particularly on high speed roads, access will be subject to special consideration determined by consultation with the RMS and/or the local or regional Traffic Committee and in some instances, depending upon the nature of the development, Council's Traffic Development Committee.

Auxiliary lanes (deceleration and acceleration lanes) may need to be provided to minimise conflicts between entering/exiting traffic and fast-moving through traffic. In many cases, right turn movements into a site may need to be banned unless an exclusive right turn bay is provided.

3.5.12.2 Sight distance

It is advisable that access driveways be located so as to obtain maximum sight distance. It is necessary that any vehicle entering or leaving the driveway is visible to approaching vehicles and pedestrians. The absolute minimum requirement to achieve this is stopping sight distance. This is known as Approach Sight Distance (ASD).

Ideally, the sight distance required is that which enables the driver of a vehicle waiting to leave a driveway to select a gap in the through traffic and to join the street without causing major disruption. This is the desirable sight distance. This is known as Safe Intersection Sight Distance (SISD).

AS/NZS 2890.1:2004: Off-Street Car Parking gives minimum and desirable sight distances for a range of frontage road speeds.

3.5.12.3 Intersections

Intersections - refer to AS/NZS 2890.1:2004: Off-Street Car Parking for further information on the positioning of driveways from intersections. Driveways shall be constructed at least 6 m from the corner of the intersection.

3.5.12.4 Potential conflicts

Potential conflicts associated with driveways are often proportional to the traffic generating potential of the development which they serve.

Where possible, avoid positioning driveways with high traffic volumes in the following locations:

(a) Major roads;
(b) Close to intersections;
(c) Opposite other developments generating a large amount of traffic (unless separated by a median);
(d) Where there is a heavy and constant pedestrian movement along the footpath;
(e) Where right turning traffic entering the facility may obstruct through traffic; and
(f) Where traffic using the driveways interferes with or blocks the operations of bus stops, taxi ranks, loading zones or pedestrian crossings.

3.5.12.5 Signposting and marking

Clear and precise marking of a parking area is of prime importance in the prevention of 'choking' of the access aisles, vehicle conflict and for the general use of the facility. Details of all proposed signposting and marking for parking areas shall be submitted with the development application for Council's consideration.

One-way markings shall be clearly set out on the pavement in such a manner as to be easily readable and understandable to the users of the car park. In certain situations the installation of signs to Council's satisfaction may be required over and above the normal requirements.

White paint or markers shall be used for pavement marking.

All parking bay delineations, arrows and other information painted on the pavement shall be marked using white paint or approved markers. Delineations should not be less than 75 mm or greater than 100 mm wide.

3.5.12.6 Driveway crossing widths

The width requirements of various types of developments vary with the different uses proposed and the volume of traffic using the footpath crossing, site location etc.

Selection of driveway type based on number of parking spaces

	Road frontage	Number of car parking spaces served by the driveway					Heavy vehicles
		< 25	25-100	101-300	301-600	>600	
Driveway type	Major	1-2	2-3	3-4	4	5	7
	Minor	1	1-2	2-3	3-4	4	6

Dimensions for driveway types

Type	Entry width (metres)	Exit width (metres)	Minimum separation of driveways (metres)	Splay at kerb line (metres)	Kerb return turnout radius (metres)
1	3 – 6	Combined	NA	0.5	-
2	6 – 9	Combined	NA	1	-
3	6	4 – 6	1 – 3	1	2 – 9
4	6 – 8	6 – 8	1 – 3	1	2 – 9
5	Direct feed from a controlled intersection via a dedicated public roadway				
6	8 – 10	8 – 10	3	1	2 – 9
7	10 – 12	10 – 12	3	1	2 – 9

As a general rule, the 'Guide to Traffic Generating Developments' issued by the RMS shall apply or the requirements contained in this chapter.

3.5.12.7 Garages

When garages are provided in parking areas associated with residential flat buildings or shop-top housing, the following minimum dimensions will apply:

- Minimum internal width – 3 m; and
- Minimum width between door jambs – 2.75 m.

Minimum aisle width to allow straight (90^0) adequate access to garages are:

- 6.7 m where the door jamb width is 2.75 m; and
- 6.2 m where the door jamb width is 2.90 m.

Minimum widths to garage door openings between door jambs may be reduced to 2.4 m provided the:

(a) Driveway entrance is 180^0 to the garage door or has a deviation to such entrance of no more than 30^0 set-back a minimum 7.5 m; and
(b) Aisle width to allow adequate straight (at 90^0) access to garages is greater than 7.5 m.

3.5.12.8 Construction, grades and cross-falls of parking areas

The maximum acceptable longitudinal grade for parking is 10%. For all areas the minimum longitudinal grade and the minimum cross-fall grade shall be as follows:

Type of surface	Minimum longitudinal grade	Minimum cross-fall
Bituminous seal coat	0.5 %	3.0 %
Asphaltic concrete	0.5 %	2.5 %
Cement concrete	0.35 %	2.0 %

Note: Construction details of all proposed parking areas shall be submitted to and approved by Council prior to work commencing.

3.5.12.9 Head room/clearance

The minimum clear head room/clearance required in an undercover parking area which will be used by passenger vehicles only is 2.3 m between the floor and overhead obstructions (eg plumbing, lighting, signposting and other fixtures attached to the ceiling).

Where vehicles other than passenger vehicles will use an area, the minimum clear head room required is 4.6 m. On sites where it is certain that van type vehicles are the largest vehicles which will use the area, a minimum clear head room of 2.6 m will be accepted. Particular attention shall be paid to head room requirements at ramps.

Undercover car parking spaces, excluding garages associated with single dwellings or dual occupancy developments, shall have the minimum dimensions of 6 m long by 3 m wide. Where spaces for disabled persons are provided undercover, a minimum headroom clearance of 2.5 m shall be provided in accordance with AS/NZS 2890.1:2004.

3.5.12.10 Holding areas (on-street queuing)

Provision is required and assessed on merit for the storage of vehicles approaching or exiting a car parking area. The use of the public road for this purpose is not satisfactory.

3.5.12.11 Loading docks and service areas

Adequate provision is to be made onsite for the loading, unloading and manoeuvring of all delivery vehicles including service vehicles such as garbage trucks and courier vans. Particular care should be taken that all standard design vehicles can reverse, load and unload into and out of all loading areas without causing conflict to the movement of traffic onsite or in the adjacent street or pedestrians. Delivery vehicles shall stand entirely within the site during all loading and unloading operations and shall be clear of car parking, access aisles, pedestrian access-ways and adjacent streets and footpaths.

For details of acceptable loading area requirements, reference is made to the 'Guide to Traffic Generating Developments' by RMS or the Australian Standard AS 2890.2 – 'Off-Street Parking Part 2: Commercial Vehicles Facilities'.

Details regarding the estimated type, size and frequency of delivery vehicles visiting the development are to be submitted with the development application.

3.5.12.12 Pedestrian access through parking areas

It is considered highly desirable that pedestrians be separated from vehicular traffic as much as is physically possible. To this end, it is recommended that consideration be given to the provision of pedestrian thoroughfares within the parking area. Such areas may be suitably integrated with the landscaping proposals for the parking area. If provided, pedestrian thoroughfares shall be provided on alignments desirable to pedestrians.

3.5.12.13 Circulating roadways and ramps

Design of circulating roadways and ramps shall be in accordance with AS/NZS 2890.1:2004.

Special care shall be given to ramp grading in the design stages to ensure that the 'break-over' angle coming onto or off a ramp is not so severe as to cause scraping, impairment of vision or a pedestrian hazard.

3.5.12.14 Large residential development and service vehicles

In a large residential development provision is required to be made for delivery vehicles, and removalist vehicles etc to be accommodated close to a suitable entrance to the building.

These vehicles shall be able to drive in a forward direction when entering and leaving the site.

In some developments provision may be made for off-street collection of garbage from a mobile compaction unit. Provision of the access of such vehicles to the collection point is required. These units may require loading from the sides and sufficient room is necessary to allow easy access to the loading area of the unit by the operators.

3.5.12.15 Vehicle washbays

Where a vehicle washbay is provided in an off-street car parking area, waste water from car washing bays shall not discharge to Council's stormwater drainage system. It is to be discharged to the sewer in accordance with the requirements of and to the satisfaction of Council. The car washbay is to be provided with a roof and bund wall constructed in a manner to prevent access of stormwater into Council's sewerage system.

A waste treatment device will be required on all vehicle washbays prior to discharging into Council's sewerage system.

Note: A trade waste agreement with Council will also be required.

3.5.12.16 Stack parking

The provision of stack parking is not favoured. Its use will only be permitted for a limited number of vehicles and only under special circumstances. The applicant will need to demonstrate a real need for stack parking because of difficult site conditions. The applicant will also need to demonstrate that the provision of stack parking will not adversely affect the use of the site. Stack parking will not be permitted in complexes which involve more than one tenant occupying the site.

3.5.12.17 Mechanical parking

An application to provide for car parking by the use of mechanical devices will be considered on its merits. Such an application should reflect the broad aims and principles of this standard.

3.5.12.18 Small car spaces

All bay sizes are required to be of the dimensions set out in this chapter. The provision of an undersized bay for the use by small cars will not be permitted except where those parking spaces are in excess of the minimum number of car spaces required for the development.

3.5.12.19 Landscaping

The landscaping of a sealed car park is an important feature which serves to reduce the harsh effect often created by large, open asphalt or concrete areas. Landscaping design shall be an integral part of the car park layout design.

3.5.12.20 Contribution in lieu of physical provision

In cases of developments (except residential) where, in the opinion of Council, the provision of off-street parking is not physically possible, Council may give consideration to the acceptance of a cash contribution for each required car parking space at a rate determined by Council's Section 94 Urban Roads and Car Parking Contributions Plan.

3.5.12.21 Special considerations

- Serviced apartments, restaurants/cafes and function centres

The parking provision for restaurants/cafes and function centres (and the like) may be reduced where it is demonstrated by way of a parking study that the time of peak demand for parking associated with each facility does not coincide with normal business hours or where common usage reduces total demand. Each case will be considered on its individual merits.

- Parking requirements for heavy vehicles (coaches, trucks, trailers, large vehicles etc)

Parking requirements for heavy vehicles are different to those for cars having regard to both size and functional differences. Applicants are referred to the 'Guide and Traffic Generating Developments' by the RMS to obtain standards for the design of parking areas for such vehicles.

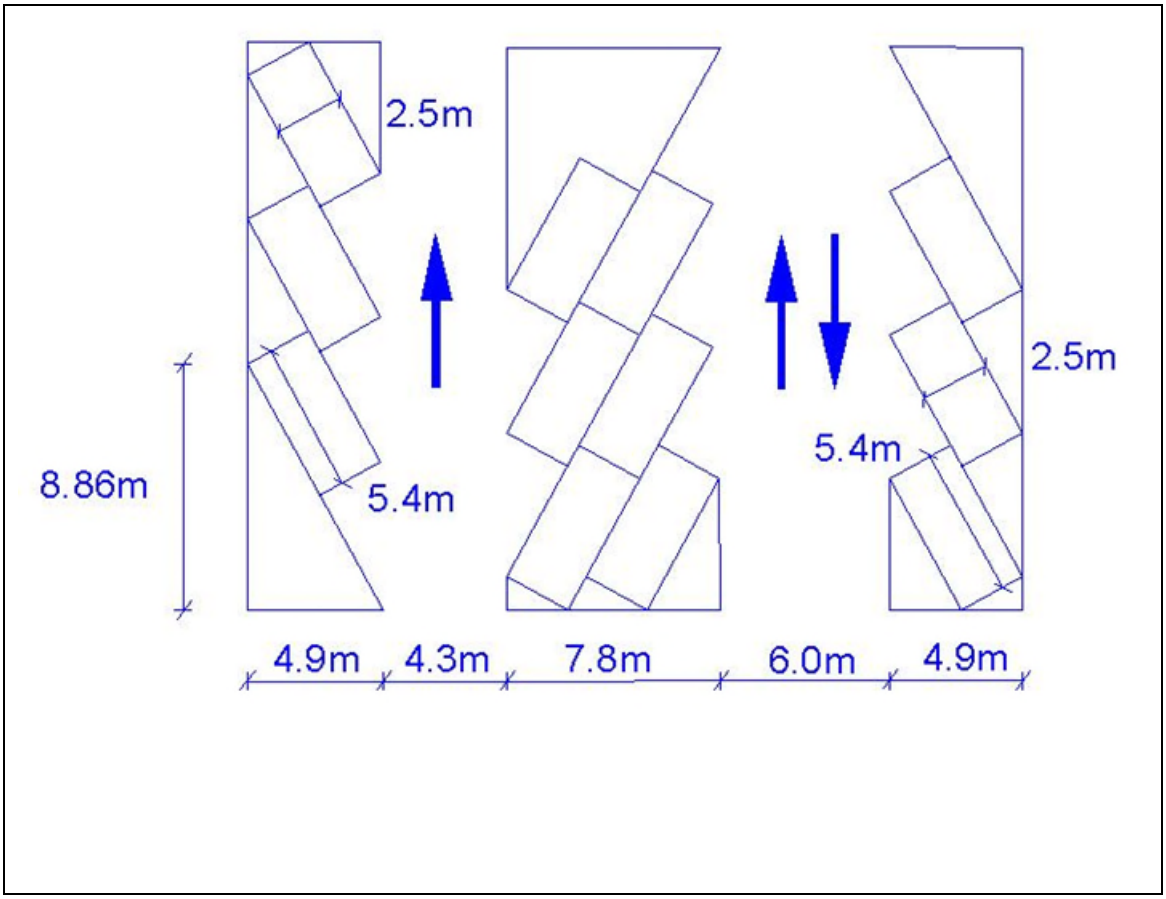
3.5.12.22 Parking for persons with a disability

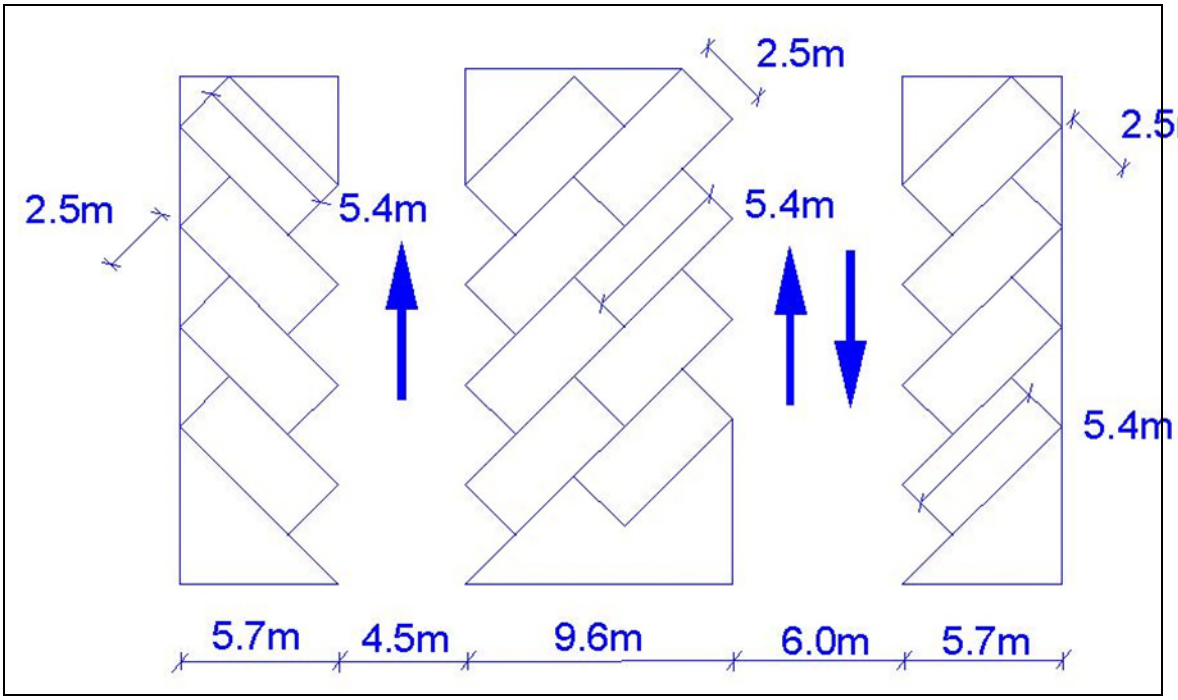
Parking spaces for persons with a disability are to be provided and signposted in accordance with the requirements of the Australian Standard AS/NZS 2890.1:2004 and Schedule 1. Clear access from these car parks to the building/facility being served shall be provided. Where spaces are provided undercover, a minimum vertical headroom clearance of 2.5 m shall be provided in accordance with AS/NZS 2890.1:2004.

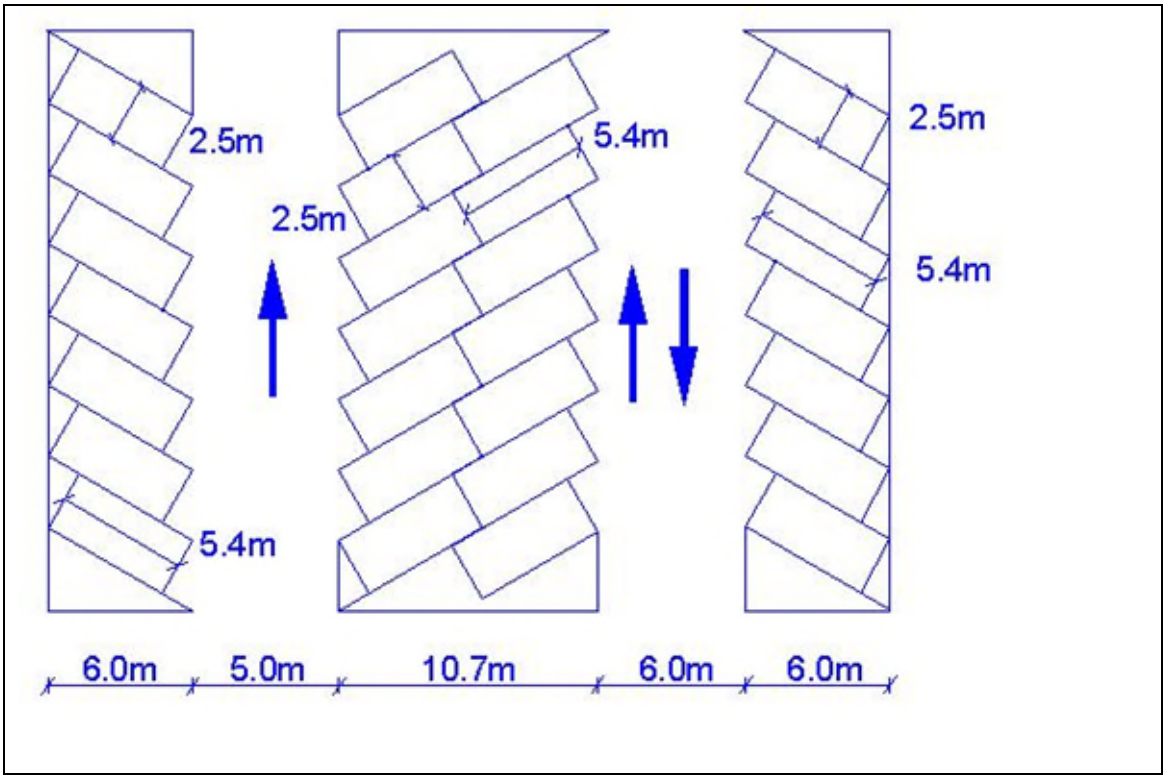
The number of accessible car parking spaces required to be provided is prescribed in Table D3.5 of the BCA.

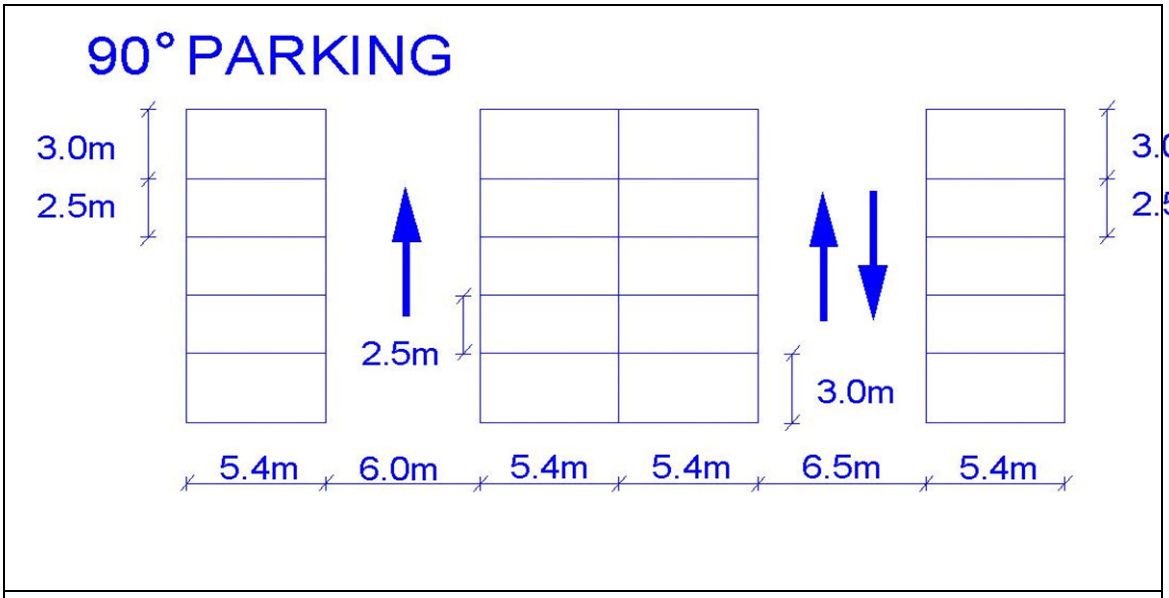
Schedule 1: Design standards

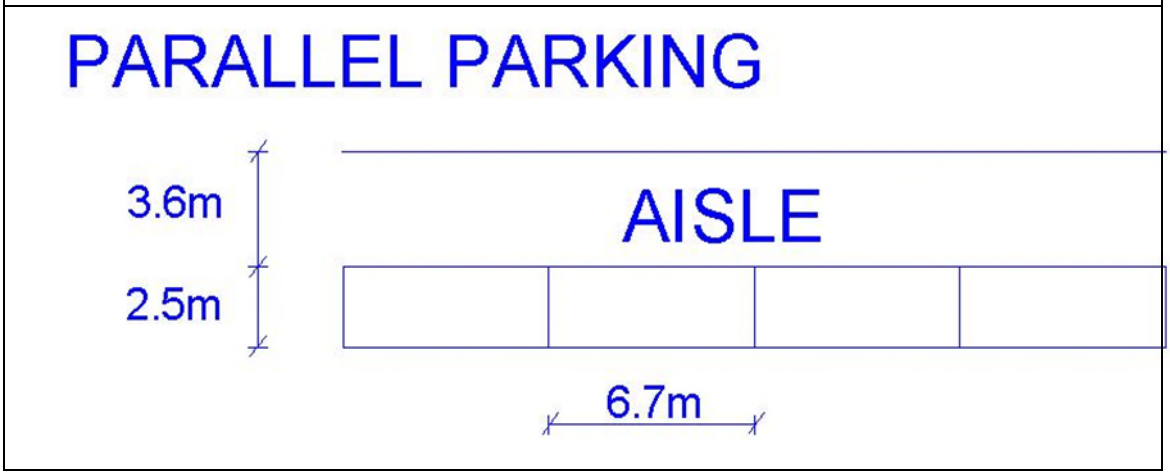
Off-street car parking layout



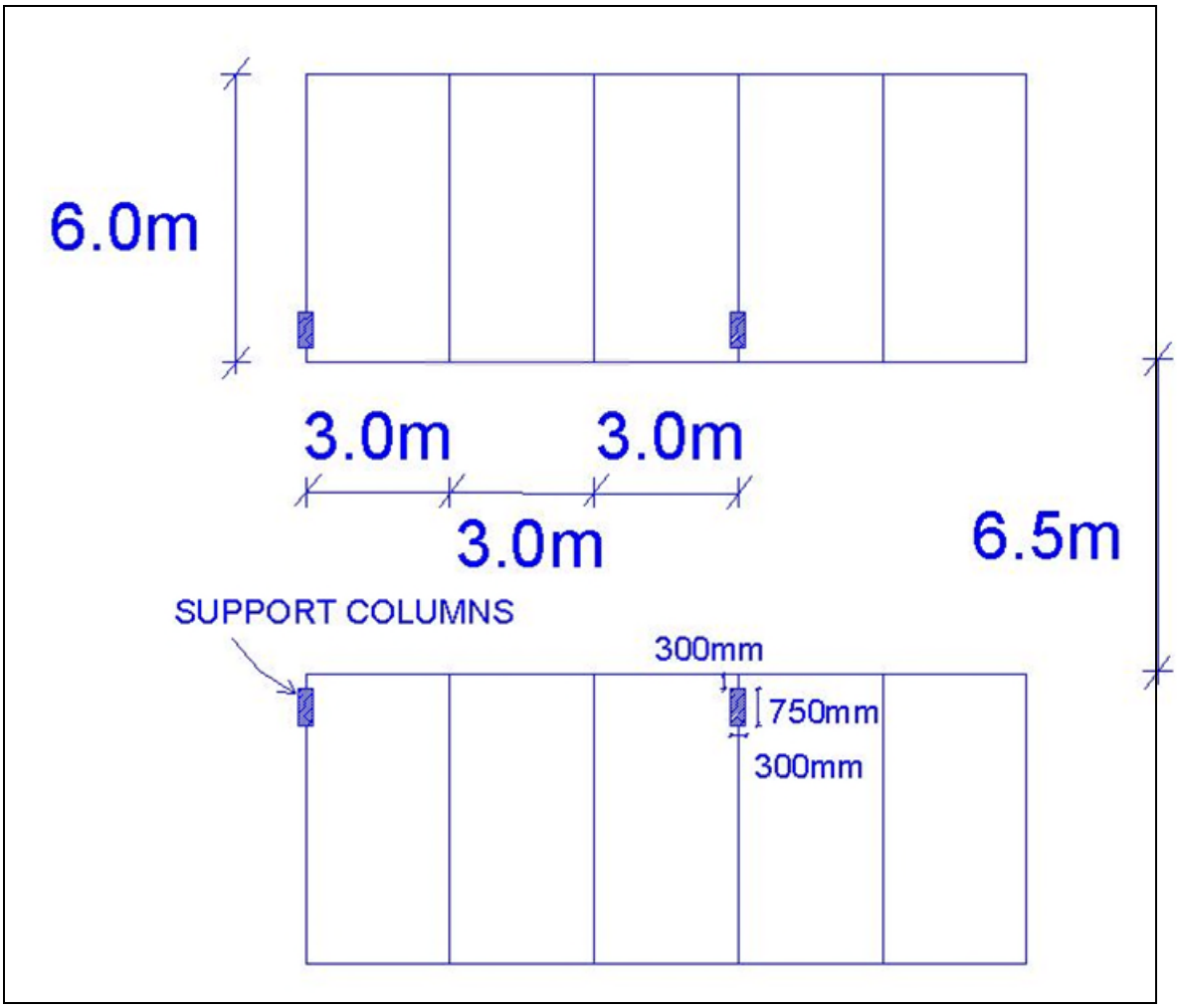

2.5m
2.5m
5.4m
5.4m
2.5m
5.4m
5.7m
4.5m
9.6m
6.0m
5.7m


2.5m
2.5m
5.4m
5.4m
2.5m
5.4m
6.0m
5.0m
10.7m
6.0m
6.0m

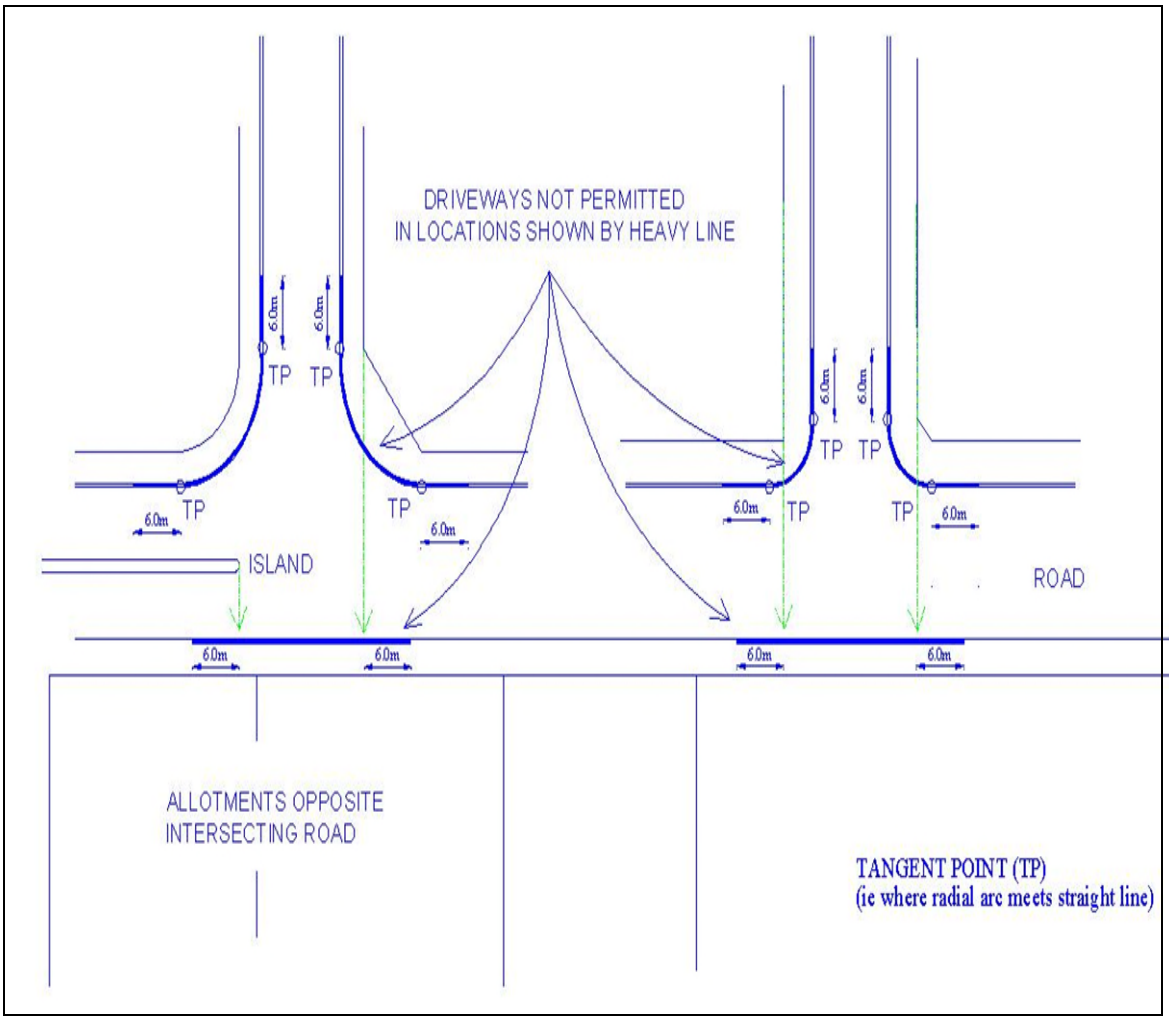

90° PARKING
3.0m
2.5m
2.5m
3.0m
3.0m
2.5m
5.4m
6.0m
5.4m
5.4m
6.5m
5.4m


PARALLEL PARKING
3.6m
2.5m
AISLE
6.7m

Example of layout for undercover car parking area



Prohibited driveway locations



3.6 Dubbo City Regional Airport Controls

3.6.1 Introduction

The Dubbo City Regional Airport is a regional airport licensed by the Civil Aviation Safety Authority (CASA) to operate regular public transport and general aviation aircraft operations.

The Airport is situated five kilometres north-west of Dubbo and is serviced by a number of airlines. In the 2009/2010 period, the Airport transported 171,261 passengers.

Approximately 136 regular public transport flights per week operate from the Airport as well as charter flights, general aviation flight training and air-freight operations.

The Airport is operated and maintained by Council with the regular public transport airlines operating under regulations as set from time-to-time by Airservices Australia and CASA.

3.6.2 Airport operations overview

Objectives

- To continue to operate the Airport to provide a commercial return on investment to the community;
- To provide airport facilities for, and encourage the operation of, economic and viable air services to and from Dubbo;
- To meet the needs of commuters to and from Dubbo within the financial constraint of the 'user pays' system;
- To ensure that the operations of the Airport are in accordance with the relevant regulations and that perceived emergency needs are able to be responded to;
- To constantly review, evaluate and update operational procedures in order to stay relevant and effective;
- To provide the air users of Dubbo with a multi-purpose aerodrome as the basis for their operation;
- To attract development to the Airport that would complement airport operations and be of benefit to the City of Dubbo in general; and
- To have planned sufficient area for development to meet the anticipated demand in the next five years.

3.6.3 Obstacle limitation surface map

Any development on land designated as being affected by the Obstacle Limitation Surface Map (attached as Appendix 1) is required to address Clause 7.7 Airspace Operations of the Dubbo Local Environmental Plan 2011. Clause 7.7 Airspace operations reads as follows:

(1) "The objectives of this clause are as follows:

(a) to provide for the effective and ongoing operation of Dubbo City Regional Airport by ensuring that such operation is not compromised by proposed development that penetrates the Obstacle Limitation Surface for that airport,

(b) to protect the community from undue risk from that operation.

(2) If a development application is received and the consent authority is satisfied that the proposed development will penetrate the Obstacle Limitation Surface, the consent authority must not grant development consent unless it has consulted with the relevant Commonwealth body about the application.

(3) The consent authority may grant development consent for the development if the relevant Commonwealth body advises that:

(a) the development will penetrate the Obstacle Limitation Surface but it has no objection to its construction, or

(b) the development will not penetrate the Obstacle Limitation Surface.

(4) The consent authority must not grant development consent for the development if the relevant Commonwealth body advises that the development will penetrate the Obstacle Limitation Surface and should not be constructed.

(5) The consent authority must not grant development consent for development that will penetrate the Obstacle Limitation Surface unless the consent authority is satisfied that the development will not create an obstruction, hazard or other potential hazard to aircraft accessing the Airport (including a hazard or potential hazard relating to light sources or bird strike)."

3.6.4 Noise exposure forecast contour map

The Noise Exposure Forecast Contour Map (attached as Appendix 2) identifies an area centred over the actual Airport runway and extending largely north-east and south-west. Any development application within this area will need to demonstrate that any future dwellings or other noise sensitive developments will meet the 'indoor design sound levels' as required by Clause 7.8(3)(c), as detailed below.

DLEP 2011, Clause 7.8 Development in areas subject to aircraft noise, reads as follows:

(1) "The objectives of this clause are as follows:

(a) to prevent certain noise sensitive developments from being located near the Dubbo City Regional Airport and its flight paths,

(b) to assist in minimising the impact of aircraft noise from the Airport and its flight paths by requiring appropriate noise attenuation measures in noise sensitive buildings,

(c) to ensure that land use and development in the vicinity of the Airport does not hinder or have any other adverse impact on the ongoing, safe and efficient operation of the Airport.

(2) This clause applies to development that:

(a) is on land that:

(i) is near the Dubbo City Regional Airport, and

(ii) is in an ANEF contour of 20 or greater, and

(b) the consent authority considers is likely to be adversely affected by aircraft noise.

(3) Before determining a development application for development to which this clause applies, the consent authority:

(a) must consider whether the development will result in an increase in the number of dwellings or people affected by aircraft noise, and

(b) must consider the location of the development in relation to the criteria set out in Table 2.1 (Building Site Acceptability Based on ANEF Zones) in AS 2021—2000, and

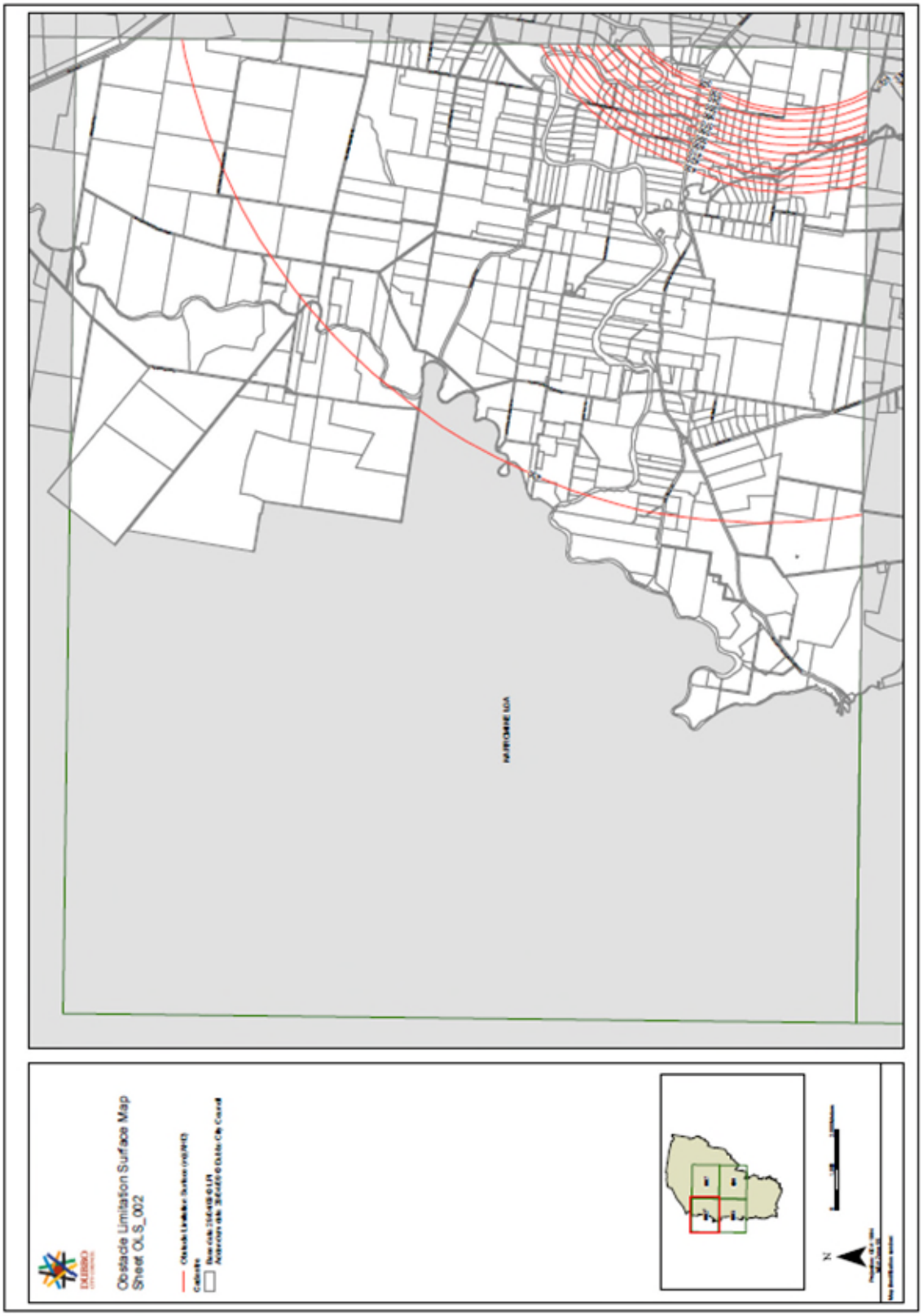
(c) must be satisfied the development will meet the indoor design sound levels shown in Table 3.3 (Indoor Design Sound Levels for Determination of Aircraft Noise Reduction) in AS 2021—2000.

(4) In this clause:

***ANEF contour** means a noise exposure contour shown as an ANEF contour on the Noise Exposure Forecast Contour Map for the Dubbo City Regional Airport prepared by the Department of the Commonwealth responsible for airports.*

***AS 2021—2000** means AS 2021—2000, Acoustics—Aircraft noise intrusion—Building siting and construction."*

Appendix 1: Obstacle limitation surface maps




Obstacle Limitation Surface Map
Sheet OLS_003


Obstacle Limitation Surface Map
Sheet OLS_007


Obstacle Limitation Surface Map
Sheet OLS_008

Appendix 2: Noise exposure contour map

3.7 Environmental Management

3.7.1 Introduction

Permissibility of a development, as indicated in the Dubbo Local Environmental Plan (LEP) 2011, does not necessarily mean the land is suitable for that development.

This Section provides guidance relating to the City's environmental values in relation to biodiversity, riparian areas, waterways and groundwater vulnerability. It also guides development that may be effected by bushfire risk.

3.7.2 Biodiversity and threatened species

3.7.2.1 Introduction

The conservation of biodiversity and in particular threatened species is a key part of protecting our natural heritage and maintaining attractive, sustainable and productive landscapes. The importance of this issue at local, State and national levels was highlighted by the introduction of legislation (Threatened Species Conservation (TSC) Act 1995) and subsequently the Environment, Protection and Biodiversity Conservation (EPBC) Act aimed at managing threatened species and ecological communities.

Objectives

In New South Wales the key piece of legislation relating to the protection and management of biodiversity and threatened species is the TSC Act 1995.

The objectives of the TSC Act 1995 are to:

(1) Conserve biological diversity and promote ecologically sustainable development;
(2) Prevent the extinction and promote the recovery of threatened species, populations and ecological communities;
(3) Protect the critical habitat of those species, populations and ecological communities that are endangered;
(4) Eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities;
(5) Ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed; and
(6) Encourage the conservation of threatened species, populations and ecological communities through cooperative management.

Consultation and cooperation with landholders, conservation groups, agencies, local councils and the general community are essential to combating biodiversity loss. As such, provisions for consultation and cooperation are key elements of the TSC Act.

3.7.3 Relevant legislation

3.7.3.1 Environmental Planning and Assessment Act 1979

The Act has a number of wide-ranging objectives including:

(i) The proper management, development and conservation of natural and artificial resources including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for

the purpose of promoting the social and economic welfare of the community and a better environment; and

(vi) The protection of the environment, including the protection and conservation of native animals and plants including threatened species, populations and ecological communities and their habitats.

There is a specific clause in relation to threatened species, populations or ecological communities or their habitats which reads as follows:

5A Significant effect on threatened species, populations or ecological communities, or their habitats

(1) For the purposes of this Act and, in particular, in the administration of sections 78A, 79B, 79C, 111 and 112, the following must be taken into account in deciding whether there is likely to be a significant effect on threatened species, populations or ecological communities or their habitats:

(a) Each of the factors listed in subsection (2),

(b) Any assessment guidelines.

(2) The following factors must be taken into account in making a determination under this section:

(a) In the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

(b) In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

(c) In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

(d) In relation to the habitat of a threatened species, population or ecological community:

(i) The extent to which habitat is likely to be removed or modified as a result of the action proposed, and

(ii) Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

(iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

(e) Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

(f) Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

(g) Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

(3) *In this section:*

Assessment guidelines *means assessment guidelines issued and in force under section 94A of the Threatened Species Conservation Act 1995 or, subject to section 5C, section 220ZZA of the Fisheries Management Act 1994.*

Key threatening process *has the same meaning as in the Threatened Species Conservation Act 1995 or subject to section 5C, Part 7A of the Fisheries Management Act 1994.*

3.7.4 Dubbo Local Environmental Plan 2011

3.7.4.1 Introduction

The Dubbo LEP 2011 aims to ensure environmental and cultural heritage is adequately protected to ensure its continued conservation.

The Dubbo LEP 2011 contains two zones specifically for environmental protection and management. These are the E1 National Parks and Nature Reserves and the E3 Environmental Management zones.

The E1 National Parks and Nature Reserves zoning applies to national parks and state reserves, located mainly in the north-eastern portion of the Dubbo Local Government Area (LGA). The Goonoo National Park and State Conservation Area cover an area of approximately 62,000 hectares.

The E3 Environmental Management zone is generally located along the flood-affected lands adjoining the Macquarie River within the urban areas of the Dubbo LGA. The objectives of this zone are:

- *To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values;*
- *To provide for a limited range of development that does not have an adverse effect on those values;*
- *To ensure development is compatible with the flood hazard of the Macquarie and Talbragar rivers; and*
- *To ensure development does not create outbreaks of saline lands or exacerbate the existence of existing saline lands.*

3.7.4.2 Relevant clauses

Specific clauses of the Dubbo LEP 2011 provide requirements for the conservation and management of significant natural environments in the Dubbo Local Government Area as provided below:

Clause 7.2 Natural resource – biodiversity,
Clause 7.4 Natural resource – riparian land and waterways,
Clause 7.5 Groundwater vulnerability

The Plan provides a number of maps designating specific areas to assist in the protection, maintenance or improvement in the natural landscape and to ensure that any development address these issues.

The Clauses are provided as below:

Clause 7.2 Natural resource - biodiversity

(1) *The objectives of this clause are to protect, maintain and improve the diversity of native vegetation, including:*

(a) *Protecting biological diversity of native flora and fauna, and*

(b) *Protecting the ecological processes necessary for their continued existence, and*

(c) *Encouraging the recovery of threatened species, communities or populations and their habitats.*

(2) This clause applies to development on land that is identified on the Natural Resource—Biodiversity map.

(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority has taken into consideration the following matters:

(a) Identification of any potential adverse impact of the proposed development on any of the following:

(i) A native vegetation community;

(ii) The habitat of any threatened species, population or ecological community;

(iii) A regionally significant species of plant, animal or habitat;

(iv) A habitat corridor;

(v) A wetland; and

(vi) The biodiversity values within a reserve, including a road reserve or a stock route.

(b) A description of any proposed measures to be undertaken to ameliorate any such potential adverse impact;

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development is consistent with the objectives of this clause; and:

(a) The development is designed, sited and managed to avoid the potential adverse environmental impact; or

(b) If a potential adverse impact cannot be avoided, the development:

(i) Is designed and sited so as to have minimum adverse impact;

(ii) Incorporates effective measures so as to have minimal adverse impact; and

(iii) Mitigates any residual adverse impact through the restoration of any existing disturbed or modified area on the site.

(5) In this clause:

***Natural Resource - Biodiversity Map** means the Dubbo Local Environmental Plan 2011 Natural Resource - Biodiversity Map.*

Clause 7.4 Natural resource - riparian land and waterways

(1) The objectives of this clause are to protect or improve:

(a) Water quality within waterways;

(b) Stability of the bed and banks of waterways;

(c) Aquatic and riparian habitats;

(d) Ecological processes within waterways and riparian areas;

(e) Threatened aquatic species, communities, populations and their habitats; and

(f) Scenic and cultural heritage values of waterways and riparian areas.

(2) This clause applies to land that is:

(a) Identified on the Natural Resource - Water Map; or

(b) Situated within 40 metres of the bank or shore (measured horizontally from the top of the bank or shore) of a waterway on land identified in subclause (a).

(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority has taken into consideration the following matters:

(a) Identification of any potential adverse impact on any of the following:

(i) Water quality within the waterway;

(ii) Aquatic and riparian habitats and ecosystems;

(iii) Stability of the bed, shore and banks of the waterway;

(iv) The free passage of fish and other aquatic organisms within or along the waterway; and

(v) Habitat of any threatened species, population or ecological community.

(b) The likelihood that the development will increase water extraction from the waterway for domestic or stock use and the potential impact of any extraction on the waterway; and

(c) A description of all proposed measures that may be undertaken to ameliorate any potential adverse impact.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development is consistent with the objectives of this clause; and:

(a) The development is designed, sited and managed to avoid any potential adverse environmental impact; or

(b) If a potential adverse impact cannot be avoided, the development:

(i) Is designed and sited so as to have minimum adverse impact;

(ii) Incorporates effective measures so as to have minimal adverse impact; and

(iii) Mitigates any adverse impact through the restoration of any existing disturbed area on the site.

(5) In this clause:

***Natural Resource - Water Map** means the Dubbo Local Environmental Plan 2011 Natural Resource -Water Map.*

Clause 7.5 Groundwater vulnerability

(1) The objective of this clause is to maintain the hydrological functions of key groundwater systems and to protect vulnerable groundwater resources from depletion and contamination as a result of inappropriate development.

(2) This clause applies to the land identified as 'Groundwater vulnerability' on the Natural Resource—Groundwater Vulnerability Map.

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider:

(a) Whether or not the development (including any onsite storage or disposal of solid or liquid waste chemicals) will cause any groundwater contamination or any adverse effect on groundwater dependent ecosystems; and

(b) The cumulative impact (including the impact on nearby groundwater extraction for potable water supply or stock water supply) of the development and any other existing development on groundwater.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:

(a) The development is designed, sited and will be managed to avoid any significant adverse environmental impact; or

(b) If that impact cannot be avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact; or

(c) If that impact cannot be minimised—the development will be managed to mitigate that impact.

(5) In this clause:

***Natural Resource - Groundwater Vulnerability Map** means the Dubbo LEP 2011 Natural Resource - Groundwater Vulnerability Map.*

3.7.5 Threatened Species Conservation Act 1995

All development is required to comply with the biodiversity, riparian land, waterways and groundwater vulnerability clauses in the Dubbo LEP 2011.

Any development not meeting these requirements will be subject to the provisions of the Threatened Species Conservation (TSC) Act 1995. In this regard, Council may require additional information including a Seven Part Test of significance.

If a Seven Part Test is required for a proposed development or activity before development consent can be granted, it is likely the assessment will need to consider whether there is likely to be a significant effect on any threatened species, population or ecological community or their habitat.

If after completion of a Seven Part Test a significant impact is considered likely, a more detailed assessment in the form of a Species Impact Statement (SIS) may be required.

It is suggested that you contact Council's Environmental Services Division to discuss the requirements of your development in the first instance.

Key threatening processes in New South Wales

The following is a list of the 'key threatening processes in New South Wales' included in Schedule 3 of the TSC Act 1995. Any proposals involving these activities will be subject to assessment under the TSC Act 1995.

Key threatening processes

- Alteration of habitat following subsidence due to longwall mining;
- Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands;
- Anthropogenic climate change;
- Bushrock removal;
- Clearing of native vegetation;
- Competition and grazing by the feral European Rabbit, Oryctolagus cuniculus (L.);
- Competition and habitat degradation by feral goats, Capra hircus Linnaeus 1758;
- Competition from feral honey bees, Apis mellifera (L.);
- Death or injury to marine species following capture in shark control programs on ocean beaches;
- Entanglement in or ingestion of anthropogenic debris in marine and estuarine environments;
- Forest eucalypt dieback associated with over-abundant psyllids and Bell Miners;
- Herbivory and environmental degradation caused by feral deer;
- High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition;
- Importation of Red Imported Fire Ants Solenopsis invicta Buren 1972;
- Infection by Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species and populations;
- Infection of frogs by amphibian Chytrid causing the disease Chytridiomycosis;
- Infection of native plants by Phytophthora Cinnamomi;
- Introduction and establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae;
- Introduction of the Large Earth Bumblebee Bombus terrestris (L.);
- Invasion and establishment of exotic vines and scramblers;
- Invasion and establishment of Scotch Broom (Cytisus scoparius);
- Invasion and establishment of the Cane Toad (Bufo marinus);
- Invasion, establishment and spread of Lantana (Lantana camara L. sens. lat);

- Invasion of native plant communities by African Olive Olea europaea L. subsp. cuspidata (Wall ex G. Don Cirferri);
- Invasion of native plant communities by Chrysanthemoides monilifera;
- Invasion of native plant communities by exotic perennial grasses;
- Invasion of the Yellow Crazy Ant, Anoplolepis gracilipes (Fr. Smith) into NSW.
- Loss of hollow-bearing trees;
- Loss or degradation (or both) of sites used for hill-topping by butterflies;
- Predation and hybridisation by feral dogs, Canis lupus familiaris;
- Predation by Gambusia holbrooki Girard, 1859 (Plague Minnow or Mosquito Fish);
- Predation by the European Red Fox Vulpes vulpes (Linnaeus, 1758);
- Predation by the feral cat, Felis catus (Linnaeus, 1758);
- Predation by the Ship Rat Rattus rattus on Lord Howe Island;
- Predation, habitat degradation, competition and disease transmission by feral pigs, Sus scrofa Linnaeus 1758; and
- Removal of dead wood and dead trees.

3.7.6 Preservation of trees and vegetation

3.7.6.1 Introduction

Trees and vegetation within the urban and rural context improve the liveability, appearance and biodiversity of localities by contributing to the character and scenic values of streetscapes and landscapes of urban and rural environments.

This section seeks to ensure that adequate protection is provided for existing trees and vegetation including those trees on or adjoining land subject to construction and demolition works. This Section further seeks to encourage new plantings, maintenance, retention, growth, prevention of degradation and the controlling of weeds as part of development activities.

3.7.6.2 Protection of trees and vegetation during construction

Objective

To ensure safeguards are in place for the protection of existing onsite trees during the site planning and construction stages.

3.7.6.3 Controls

- Prior to commencement of development/building works (at the site analysis stage), a comprehensive assessment of each tree on the site should be undertaken by an appropriately qualified specialist;
- Where possible, no excavation or soil addition should take place within the Tree Protection Zone (TPZ) as specified in the Australian Standard – Protection of trees on development sites (AS 4970-2009). This protection may be achieved by defining the area to be protected with fences and barriers throughout the construction period. The under-boring of a tree, as opposed to open trenching, may also avoid damage to the root system.

  No damage (either through trenching, earthworks or soil compaction) to the TPZ is permitted within the E3 Environmental Management zone;
- Avoid drainage changes that may cause waterlogging or excess loss of soil moisture;
- Avoid the spillage of chemicals, oil, fuel, detergent and other contaminants; and
- Provide access to trees for the purposes of maintenance and irrigation.

To confirm whether the site/trees are listed in Council's current Significant Tree Register, please contact Council's Parks and Landcare Division on (02) 6801 4000.

3.7.7 Selection and siting of trees and vegetation

Objectives

- To ensure that any new development enhances its surroundings;
- To maintain a healthy biodiversity within the city through appropriate management and reinstatement of vegetation;
- To reinforce the gateways into Dubbo; and
- To contribute to the liveability of Dubbo.

3.7.7.1 Controls

- The selection of trees should take into account (as a minimum) the following matters:
  - Environmental tolerance and impact;
  - Drought tolerance;
  - Appearance and size;
  - Performance record;
  - Resistance to disease; and
  - Maintenance costs.

Note: In selecting and siting trees, compliance should be achieved with all relevant Sections of Development Control Plan (DCP) 2013 including any sections that contain specific landscaping requirements.

3.7.8 Native Vegetation Act 2003

The NSW Government introduced the Native Vegetation Act 2003 to manage broadscale land clearing across the State. Regulations relating to the implementation of the Act were also introduced.

Broadscale land clearing is defined as cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ring-barking, uprooting or burning native vegetation. It includes, for example:

- Any type of ploughing that kills native groundcover;
- The under–scrubbing of native forests;
- Herbicide spray drift that kills or destroys native vegetation; or
- Thinning of native woodlands.

Objectives

The objects of the Native Vegetation Act 2003 are:

(1) To provide for, encourage and promote the management of native vegetation on a regional basis in the social, economic and environmental interests of the State;
(2) To prevent broadscale clearing unless it improves or maintains environmental outcomes;
(3) To protect native vegetation of high conservation value having regard to its contribution to such matters as water quality, biodiversity or the prevention of salinity or land degradation;
(4) To improve the condition of existing native vegetation particularly where it has high conservation value; and
(5) To encourage the revegetation and the rehabilitation of land with appropriate native vegetation in accordance with the principles of ecologically sustainable development.

The land this Act applies to includes the following zones under Dubbo LEP 2011:

- RU1 Primary Production;
- RU2 Rural Landscape;
- RU3 Forestry;
- RU4 Primary Production Small Lots;
- R5 Large Lot Residential;
- SP2 Infrastructure;
- E1 National Parks and Nature Reserves;
- E3 Environmental Management; and
- W2 Recreational Waterways.

3.7.8.1 Controls

The Native Vegetation Act 2003 introduced a new approach to managing native vegetation across the State based on voluntary agreements between landholders and Catchment Management Authorities (CMA). These agreements are called Property Vegetation Plans (PVP).

Under the Native Vegetation Act 2003, the CMA can only approve the clearing of remnant native vegetation or protected regrowth that will improve or maintain environmental outcomes. All clearing needs approval through either a PVP or development consent from your local Council, unless it is:

- On land that is excluded from the Native Vegetation Act 2003;
- Categorised as excluded clearing; or
- A permitted clearing activity.

Other exemptions include:

- Pruning, lopping or slashing of native groundcover that does not kill the native vegetation;
- Removal of dead timber except for the commercial collection of firewood;
- Work as part of a Bushfire Management Plan under the Rural Fires Act 1997 or in relation to emergency fire fighting;
- Work directed by a surveyor relating to the Surveying Act 2002;
- Clearing for a licence, permit, authority or approval under the Water Management Act 2000; and
- Clearing permitted by the Roads Act 1993.

Note: Dubbo City Council is the authority empowered with the control and eradication of noxious weeds within the Dubbo City Local Government Area.

Council is responsible for controlling noxious weeds on land under its jurisdiction, on roadsides and vacant Crown Land. It is responsible for ensuring that all owners/occupiers of private land fulfil their obligations under the Noxious Weeds Act 1993.

3.7.9 Environmentally sensitive land

3.7.9.1 Introduction

This Section applies to land zoned E3 Environmental Management or land subject to the Natural Resource – Biodiversity, Natural Resource – Water or Natural Resource - Groundwater Vulnerability maps of DLEP 2011, specified as follows:

(1) Land that is identified on the Natural Resource – Biodiversity Map;

(2) Land that is:

(a) Identified on the Natural Resource – Water Map; or

(b) Situated within 40 m of the bank or shore (measured horizontally from the top of the bank or shore) of a waterway on land identified in subclause (a).

(3) Land identified as 'Groundwater vulnerability' on the Natural Resource – Groundwater Vulnerability map.

Objectives

- To support the controls and objectives for the E3 Environmental Management zone and the provisions in Clauses 7.2, 7.4 and 7.5 of the Dubbo LEP 2011;
- Protect, maintain or improve the diversity of the native flora and fauna and the stability of landscapes;
- Protect or improve ecological processes and water quality within waterways and riparian areas;
- Protect threatened aquatic species, communities, populations and their habitats and encourage their recovery;
- Protect scenic and cultural heritage values of waterways and riparian areas; and
- Protect and preserve groundwater sources.

3.7.9.2 Controls

Development is to be consistent with any Management Plan prepared for land in the E3 zone.

Salinity

(1) An application for development consent on land identified on the Dubbo LEP 2011 Natural Resources – Biodiversity maps shall be accompanied by a report that addresses the following matters (as applicable):

(a) Identification of any potential adverse impact of the proposed development on any of the following:

(i) A native vegetation community;

(ii) The habitat of any threatened species, population or ecological community;

(iii) A regionally, State or nationally significant species of plant, animal or habitat;

(iv) A habitat corridor;

(v) A wetland;

(vi) The biodiversity values within a reserve including a road reserve or a stock route; and

(b) A description of any proposed measures to be undertaken to ameliorate any such potential adverse impact;

(2) Damage to the Tree Protection Zone (TPZ) as specified in AS4970-2009 (Protection of trees on development sites - Australian Standard) is to be avoided. This includes both the cutting of roots and/or the compaction of soil within the TPZ;

(3) Any soil disturbance within the E3 zone or the biodiversity overlay area should be rehabilitated using native grasses and forbs (herbaceous flowering plants);

(4) To ensure that any native plantings are retained or asset protection zones maintained, the owner may be required to apply a covenant to the land as part of the conditions of consent which would require native planting and/or asset protection zones to be retained; and

(5) Fencing of native vegetation is not to include barbed wire and is to have a bottom strand no lower than 400 mm above the ground unless rabbit proof fencing is being used.

Water

(1) An application for development consent on land identified on the Natural Resource – Water Maps (Appendix 2) or situated within 40 m of the bank or shore (measured horizontally from the top of the bank or shore) of a waterway on land identified on the Natural Resource – Water Maps shall be accompanied by a report that addresses the following (as applicable):

(a) Identification of any potential adverse impact on any of the following:

- (i) Water quality within the waterway;
- (ii) Aquatic and riparian habitats and ecosystems;
- (iii) Stability of the bed, shore and banks of the waterway;
- (iv) The free passage of fish and other aquatic organisms within or along the waterway;
- (v) Habitat of any threatened species, population or ecological community;

(b) The likelihood that the development will increase water extraction from the waterway for domestic or stock use and the potential impact of any extraction on the waterway; and

(c) A description of all proposed measures that may be undertaken to ameliorate any potential adverse impact.

Where the clause applies, development consent must not be granted unless the consent authority is satisfied that the development is consistent with the objectives of this clause and:

(a) The development is designed, sited and managed to avoid the potential adverse environmental impact; or

(b) If a potential adverse impact cannot be avoided, the development:

- (i) Is designed and sited so as to have minimum adverse impact;
- (ii) Incorporates effective measures so as to have minimal adverse impact; and
- (iii) Mitigates any residual adverse impact through the restoration of any existing disturbed or modified area on the site.

Groundwater

(1) An application for development consent on land identified on the Dubbo LEP 2011 Natural Resource –Groundwater Vulnerability Maps for development identified as 'Groundwater vulnerability' on the Natural Resource – Groundwater Vulnerability Map shall be accompanied by a report or documentation that addresses the following (as applicable):

(a) Whether or not the development (including any onsite storage or disposal of solid or liquid waste chemicals) will cause any groundwater contamination or any adverse effect on groundwater dependent ecosystems; and

(b) The cumulative impact (including the impact on nearby groundwater extraction for potable water supply or stock water supply) of the development and any other existing development on groundwater.

Where the clause applies, development consent must not be granted unless the consent authority is satisfied that:

(a) The development is designed, sited and will be managed to avoid any significant adverse environmental impact;
(b) If that impact cannot be avoided by adopting feasible alternatives - the development is designed, sited and will be managed to minimise that impact; or
(c) If that impact cannot be minimised - the development will be managed to mitigate that impact.

Land and soil classification

Class VI lands

Requirement: soil conservation practices including limitation of stock, broadcasting of seed and fertiliser, prevention of fire and destruction of vermin. May include some isolated structural works.

Productivity will vary due to soil depth and fertility and comprise the less productive grazing lands. If used for 'hobby farms' adequate provision shall be made for water supply, effluent disposal, safe building sites and access roads.

Class VII lands

Requirement: land best protected by green timber

Characterised by areas of steep slopes, shallow soils and/or rock outcrop. Adequate ground protection must be maintained by limiting grazing and minimising damage by fire. Destruction of trees is generally not recommended but partial clearing for grazing purposes under strict management controls can occur on small areas of low erosion hazard. Where clearing has occurred in the past, unstable soil and terrain sites should be returned to timber cover.

Class VIII lands

Requirement: cliffs, lakes or swamps and other lands unsuitable for agricultural or pastoral production

Land is unusable for agricultural or pastoral uses. Recommended uses are those compatible with preservation of the natural vegetation: water supply catchments; wildlife refuges; National; and State parks.

Any soil disturbance within the E3 zone or Natural Resource Sensitivity – Land maps area should be rehabilitated using native grasses and forbs (herbaceous flowering plants).

3.7.10 Bushfire prone land

3.7.10.1 Introduction

This section applies to all land identified wholly or partly as bushfire-prone on the Bushfire Prone Land Map or referenced on the 149 Certificate.

Objectives

(1) To minimise the risk to property and the community from bushfire and to minimise the impact of fire protection measures on the regions biodiversity;
(2) To ensure bushfire protection is afforded to all new allotments and to minimise the impact of bushfires; and
(3) To ensure bushfire protection can be afforded to existing settlement areas in a manner that does not limit future growth.

3.7.10.2 Controls

(1) All development is to comply with the provisions of the Rural Fire Service's *Planning for Bushfire Protection 2006*. This document is available at www.rfs.nsw.gov.au

Chapter 4

Urban Release Area Plans (Not Provided)

Dubbo Development Control Plan 2013

Dictionary

Definitions quoted from Dubbo LEP 2011 are as per the gazettal of the LEP. Any subsequent amendments to the LEP will be taken to be the applicable definition.

AAR – means Agricultural Analysis Review
Act – means the Environmental Planning and Assessment Act 1979
AWTS – means aerated waste water treatment systems
Brothel - has the same meaning as in the Act (Dubbo LEP 2011)
Brothel - means a brothel within the meaning of the Restricted Premises Act 1943, other than premises used or likely to be used for the purposes of prostitution by no more than one prostitute (Environmental Planning and Assessment Act 1979)
Brothel - means premises:
(a) Habitually used for the purposes of prostitution, or
(b) That have been used for the purposes of prostitution and are likely to be used again for that purpose, or
(c) That have been expressly or implicitly:
(i) Advertised (whether by advertisements in or on the premises, newspapers, directories or the internet or by other means), or
(ii) Represented as being used for the purposes of prostitution and that are likely to be used for the purposes of prostitution.
Premises may constitute a brothel even though used by only one prostitute for the purposes of prostitution (Restricted Premises Act 1943).
BCA – means Building Code of Australia
Broadscale Clearing - For the purposes of this Act, **broadscale clearing** of native vegetation means the clearing of any remnant native vegetation or protected regrowth.
Classified road has the same meaning as in the Roads Act 1993.

Note. The term is defined as follows:

classified road means any of the following:
(a) a main road;
(b) a highway;
(c) a freeway;
(d) a controlled access road;
(e) a secondary road;
(f) a tourist road;
(g) a tollway;
(h) a transit way; and
(i) a State work.
(See *Roads Act 1993* for meanings of these terms.)

Clearing native vegetation

(1) For the purposes of this Act, ***clearing*** native vegetation means any one or more of the following:
(a) Cutting down, felling, thinning, logging or removing native vegetation; and
(b) Killing, destroying, poisoning, ring-barking, uprooting or burning native vegetation.

DA – means Development Application
DCC - means Dubbo City Council

DPI - means the Department of Planning and Infrastructure (most recently known as the Department of Planning)

Dubbo Ga LALC - means Dubbo Ga Local Aboriginal Land Council

Domestic solid waste - means any matter or thing arising from the normal day-to-day activities of a habitable building

Domestic liquid waste - means any matter or thing, whether solid or liquid or a combination of solids and liquids, arising from the normal day-to-day activities of a habitable building which has been removed by way of plumbing from either a water closet, bathroom, laundry or kitchen

Ecologically sustainable development (ESD) has the same meaning as in the Act.

EPA Act 1979 - means the Environmental Planning and Assessment Act 1979

EPA - means the Environment Protection Authority

Flood planning level means the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 m freeboard.

Front boundary means the property boundary which is common with the road reserve to which the site has frontage (or, for 'battle-axe' allotments, the boundary closest to the road, excluding the access driveway).

Home based child care establishment has the same meaning as in the Dubbo LEP 2011

Home business has the same meaning as in the Dubbo LEP 2011

Home industry has the same meaning as in the Dubbo LEP 2011

LEP means Dubbo Local Environmental Plan 2011

Landscaped area has the same meaning as in the Dubbo LEP 2011

Multi-density housing has the same meaning as in the Dubbo LEP 2011

Minimum set-back means the minimum distance between the boundaries of a site (or their vertical projections) and any point on the external wall of a building erected or proposed to be erected on a site.

Native vegetation

(1) For the purposes of this Act, **native vegetation** means any of the following types of indigenous vegetation:
   (a) Trees (including any sapling or shrub or any scrub);
   (b) Understorey plants;
   (c) Groundcover (being any type of herbaceous vegetation); and
   (d) Plants occurring in a wetland.

(2) Vegetation is **indigenous** if it is of a species of vegetation or if it comprises species of vegetation that existed in the State before European settlement; and

(3) For the purposes of this Act, **native vegetation** does not include any mangroves, seagrasses or any other type of marine vegetation to which section 205 of the *Fisheries Management Act 1994* applies.

Net Leasable Area the floor space of a building that is available for lease. Net leasable area excludes hall ways and areas devoted to elevators, air conditioning and other utilities.

North point in any discussion relating to the orientation of a dwelling or part thereof, a reference to 'north' is a reference to true solar north and not magnetic or compass north. True solar north varies from magnetic north depending on the location.

NPWS - means the National Parks and Wildlife Service

OE&H - means the Office of Environment and Heritage (most recently known as the Department of Environment, Climate Change and Water)

Obstacle Limitation Surface means the Obstacle Limitation Surface shown on the Obstacle Limitation Surface Map.

Obstacle Limitation Surface Map means the Obstacle Limitation Surface Map for Dubbo City Regional Airport prepared by the relevant Commonwealth body.

Primary frontage in relation to a property boundary means the boundary to which the front of a dwelling house or main building on a lot faces or is proposed to face.

Principle Private Open Space is the area external to a building (including an area of land, terrace, balcony or deck) that is provided adjacent to a habitable room (other than a bedroom) with a minimum dimension of 3.5 m.

Private Open Space means an area external to a building (including an area of land, terrace, balcony or deck) that is used for private outdoor purposes ancillary to the use of the building.

Protected regrowth

(1) For the purposes of this Act, ***protected regrowth*** means any native vegetation that is regrowth and that is identified as protected regrowth for the purposes of this Act in:
  (a) A (PVP);
  (b) An environmental planning instrument;
  (c) A Natural Resource Management Plan of a kind prescribed by the regulations; or
  (d) An Interim Protection Order under this section;

(2) For the purposes of this Act, ***protected regrowth*** also includes any native vegetation that is regrowth and that has been grown or preserved (whether before or after the commencement of this Act) with the assistance of public funds granted for biodiversity conservation purposes;

(3) Before native vegetation is identified as protected regrowth in an instrument referred to in subsection (1)(a) to (c), the person or body making or approving the instrument must be satisfied that, based on available scientific evidence, the preservation of the vegetation is consistent with State-wide natural resource management standards and targets adopted for the purposes of the *Catchment Management Authorities Act 2003*;

(4) Before native vegetation is identified as protected regrowth in a (PVP), the Minister is to have regard to the social and economic implications of the preservation of the vegetation;

(5) The Minister may make and publish an Interim Protection Order for the purpose of protecting regrowth from being cleared pending an assessment of whether it should be identified as protected regrowth;

(6) The regulations may make provision for or with respect to the making, duration and revocation of, and other matters relating to, Interim Protection Orders under this section; and

(7) The landholder of any land affected by an Interim Protection Order under this section may appeal to the Land and Environment Court against the making of the order.

Regulation – means the Environmental Planning and Assessment Regulation 2000.

Relevant Commonwealth body means the body, under Commonwealth legislation, that is responsible for approvals for development that penetrates the Obstacle Limitation Surface for Dubbo City Regional Airport.

Remnant native vegetation and regrowth

(1) For the purposes of this Act, ***remnant native vegetation*** means any native vegetation other than regrowth;

(2) For the purposes of this Act, ***regrowth*** means any native vegetation that has regrown since the earlier of the following dates:
  (a) 1 January 1983 in the case of land in the Western Division and 1 January 1990 in the case of other land;
  (b) The date specified in a Property Vegetation Plan (PVP) for the purposes of this definition (in exceptional circumstances being a date based on existing rotational farming practices);

(3) In subsection (2)(b), ***existing rotational farming practices*** means rotational farming practices:
  (a) That are reasonable and in accordance with accepted farming practice;
  (b) That have been in place since the date specified in the plan; and

(4) Regrowth does not include any native vegetation that has regrown following unlawful clearing of remnant native vegetation or following clearing of remnant native vegetation caused by bushfire, flood, drought or other natural cause.

Residential flat building means a building that comprises or includes:

(a) Three or more storeys (not including levels below ground level provided for car parking or storage, or both, that protrude less than 1.2 m above ground level); and

(b) Four or more self-contained dwellings (whether or not the building includes uses for other purposes, such as shops), but does not include a Class 1a building or a Class 1b building under the Building Code of Australia.

Routine agricultural management activities

(1) For the purposes of this Act, ***routine agricultural management activities*** means any of the following activities on land carried out by or on behalf of the landholder:

(a) The construction, operation and maintenance of rural infrastructure:

(i) Including (subject to the regulations) dams, permanent fences, buildings, windmills, bores, air strips (in the Western Division), stockyards, and farm roads; but

(ii) Not including rural infrastructure in areas zoned as rural-residential under environmental planning instruments or on small holdings (as defined in the regulations);

(b) The removal of noxious weeds under the *Noxious Weeds Act 1993*;

(c) The control of noxious animals under the *Rural Lands Protection Act 1998*;

(d) The collection of firewood (except for commercial purposes);

(e) The harvesting or other clearing of native vegetation planted for commercial purposes;

(f) The lopping of native vegetation for stock fodder (including uprooting mulga in the Western Division in areas officially declared to be drought-affected);

(g) Traditional Aboriginal cultural activities (except commercial activities);

(h) The maintenance of public utilities (such as those associated with the transmission of electricity, the supply of water, the supply of gas and electronic communication);

(i) Any activity reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property; and

(2) The regulations may make provision for or with respect to extending, limiting or varying the activities that are routine agricultural management activities and subsection (1) is to be construed accordingly.

Secondary frontage in relation to a property boundary means a boundary that is not a primary frontage.

Secure Developments means developments which are fully fenced or otherwise designed to prevent unauthorised public access to the bulk of the site (eg preventing ready access to residences as well as common areas - but not referring only to fencing around pools or the like).

Semi-detached housing has the same meaning as in the Dubbo LEP 2011

Sex services premises means a brothel but does not include home occupation (sex services)

Side or rear boundary means any property boundary, other than a front boundary, of a site.

Site means the legal allotment(s) of land to which an application for consent to carry out development relates.

Site Area has the same meaning as in the Dubbo LEP 2011

Solar access is the term applies to the ability of a solar collector that is part of, or situated on, a dwelling or lot (including open space and clothes drying area) to capture sunlight and take advantage of that energy to a reasonable level. (Source - SEDA DCP)

Solar collectors means any building element or appliance specifically designed to capture or collect the sun's rays for the benefit of the occupants (eg windows including clerestory or highlight) windows, solar hot water collector panels and photovoltaic (solar-electricity) cells/panels. (Source - SEDA DCP)

Sunlight means light from the sun. (Source - Concise Oxford Dictionary)

TSC – means Threatened Species Conservation Act 1995

Waste - means:

(a) Any substance (whether solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment; or

(b) Any discarded, rejected, unwanted, surplus or abandoned substance; or

(c) Any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, reprocessing, recovery or purification by a separate operation from that which produce the substance; or

(d) Any substance prescribed by the regulations to be waste for the purposes of this Act.

A substance is not precluded from being waste for the purpose of this Act merely because it can be reprocessed, re-used or recycled (s. 5 WMMA 1995).