Daisy Hill Estate
Development Control Plan

Adopted by Council on .....(date)

TABLE OF CONTENTS

Part 1 Introduction

1.1 Name and Application of this Plan

This Development Control Plan (DCP) is known as the Daisy Hill Development Control Plan.

1.2 Purpose of this Plan

The purpose of this plan is to:

- Provide guidance to developers/applicants/builders in the design of development proposals for land to which this Plan applies.
- Communicate the planning, design and environmental objectives and controls against which the Consent Authority will assess development applications in the Daisy Hill Estate.
- Provide guidance on the orderly, efficient and environmentally sensitive development of the Daisy Hill Estate.
- Promote quality urban design outcomes within the context of environmental, social and economic sustainability.
- Guide future development in a manner that represents appropriate salinity management within the Daisy Hill Estate and address potential downstream impacts on Troy Gully.
- Reinforce the outcomes of the Daisy Hill Salinity Management Strategy.

1.3 Statutory Context

This Plan has been prepared in accordance with Section 3.43 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 and commenced on .....

The Plan should be read in conjunction with the Dubbo Local Environmental Plan 2011 and the Dubbo Development Control Plan 2013 (DCP).

1.4 Application of Plan

This DCP applies to the land known as 'Daisy Hill' being land identified (outlined red) as Lots 661 and 662 DP 565756; Lots 64 and 65 DP 754287; Lots 316 and 317 DP 754308; and Lot 200 DP 825059 and as shown in Figure 1 below:

Figure 1: Area to which this Plan applies

1.5 Background

This Plan has been written to guide development of the subject land. The development controls provided here rely on the proponent demonstrating how development of the land meets the objectives of each relevant element and the associated performance criteria.

1.6 Relationship to other Plans and Documents

Under the Act, Council is required to take into consideration the relevant provisions of this Plan in determining an application for development on land to which this Plan applies.

In the event of any inconsistency between an Environmental Planning Instrument (EPI) and this Plan, the provisions of the EPI will prevail.

Council in the assessment of a development application will consider all matters specified in Section 4.15 (previously s79C) of the Act. Compliance with any EPI or this Plan does not infer development consent will be granted.

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 the sections in the Plan incorporate design elements that are required to be considered and addressed by a proponent in the design process.

Each section of the Plan has a consistent format to allow for ease of use and understanding. The objectives of each section are stated at the top of the page and development is required to 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 more flexibility in design, while the column on the right provides standard solutions that are acceptable to Council.

If a proponent chooses not to use the 'Acceptable Solutions' in the right-hand column, written detail must be provided with any development application specifying how the design satisfies the 'Performance Criteria' in the left-hand column.

An example of how an element of the Plan is structured is provided as follows

Performance criteria The streetscape 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 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 3m from the front of the building to achieve a stepped height.

1.8 Strategic Context

The Dubbo Urban Areas Development Strategy (UADS) 1996 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.

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 achievement of the Strategy components in zoning land for the sustainable development of the city.

The following figure details the context of the planning documents applicable to residential lands.

The Dubbo Urban Areas Development Strategy consists of the following components:

- Residential Areas Development Strategy;
- Commercial Areas Development Strategy (Repealed);
- Industrial Areas Development Strategy (Repealed);
- Institutional Areas Development Strategy (Repealed);
- Recreational Areas Development Strategy; and
- Future Directions and Structure Plan.
- Employment Lands Strategy

The UADS was created to manage the development and conservation of land within the urban area of the city through ensuring the Central Business District is at the centre of the City.

The Strategy allows for further residential development within the Eastern Sub District subject to appropriate management of potential salinity impacts.

1.9 Salinity Context

The salinity studies and modelling undertaken in respect of the Daisy Hill Estate found as follows:

- The soil analysis results indicated very low to low soil salinity in the upper 6m of soil across the majority of the Estate.

- Higher soil salinity levels were identified in the eastern section of the Estate in an area identified by the soils analysis as the interface between the Pilliga Sandstone and Purlewaugh Formation geological units. This area is referred to as the *Richmond Estate Hydro-geological Landscape.*

- Groundwater is identified at depths of greater than 10m across the majority of the Estate with groundwater detected at depths of 16m over at least half of the site.

- Groundwater is identified at 1.4m below the surface in the central northern section of the Estate.

- Groundwater depth varies with rainfall.

- Preliminary exposure classification of the Richmond Estate Hydro-geological Landscape based on soil samples collected at the expected footing depth of 500mm for buildings is generally non-saline and classified as A1.

This DCP refers to the following documents in respect of salinity:

- *Salinity Management Strategy, Daisy Hill Rural-residential Estate*, Envirowest Consulting, December 2019 (the SMS).

- *Vegetation Management Plan for the Daisy Hill Subdivision*, Soilwater Consultants, 1 April 2019 (the VMP).

- *On-Site Effluent Management Study, Daisy Hill Estate,* Envirowest Consulting, 1 April 2019.

1.10 Notification of Development

Council will generally not publicly notify any development application for a dwelling house within the area to which the Plan applies. However, if in the opinion of the Council a proposed development could impact the amenity of surrounding development, Council may publicly notify and/or advertise the development application in local print media.

Any development application received by Council for non-residential development will be publicly notified to adjoining and adjacent property owners in the immediate locality who in the opinion of Council may be impacted by the proposed development.

Part 2 Large Lot Residential Development and Subdivision

2.1 Residential Subdivision Controls

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

This section lists subdivision design elements under the following headings:

Element 1 Neighbourhood Design
Element 2 Lot Layout
Element 3 Landscaping
Element 4 Infrastructure
Element 5 Street Design and Road Hierarchy
Element 6 Stormwater Management
Element 7 Heritage
Element 8 Salinity

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 (i.e. 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.

- 'References' to relevant clauses of the DLEP, 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 to live in and have a high level of safety for residents and visitors. Good neighbourhood design considers how residents will interact within the neighbourhood and considers the street and pedestrian networks in addition to housing.

Objectives

- To efficiently utilise land and maintain the semi-rural character of the estate.
- To emphasise the natural attributes of the site and reinforce neighbourhood identity through the incorporation of visible features such as existing established trees and vegetation corridors.
- To provide new vegetation reserves and corridors not only for the purpose of salinity mitigation but also to create a well landscaped estate for improved residential amenity.
- To encourage aesthetically pleasing neighbourhood design that caters for a broad diversity of housing needs.
- To provide neighbourhoods that offer opportunities for social interaction.
- To ensure motor vehicles do not dominate the neighbourhood.
- To establish a clear residential structure that facilitates a 'sense of neighbourhood' and encourages walking and cycling within the estate and connections into adjoining estates.

Performance criteria The neighbourhood design objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Natural Features	
P1 Natural features in the area are recognised in the design of the subdivision	A1.1 Where practicable, watercourses and natural vegetation are retained in the design of the subdivision. A1.2 The road pattern recognises the natural drainage patterns across the site so as to minimise the depth of earthworks in areas of saline subsoil.

P2 Lot dimensions respond to the topography and the road layout to ensure the semi-rural character is maintained and enhanced.	A2.1 A minimum lot frontage of 50 metres measured at the front building line/street facing building line should be provided to all lots.
Landscaping P3 Subdivision design allows for generous landscaping of the public domain to assist with salinity mitigation as well as enhance the visual amenity of the area.	A3.1 The public road network and other public spaces are landscaped in accordance with the SMS and the VMP for the estate. A3.2 Road reserve width is sufficient to allow proper traffic function as well as accommodate the vegetation zones identified in the SMS and the VMP for the estate.
Safety by Design P4 Neighbourhood design provides for passive surveillance of residences and public areas to enhance personal safety and minimise the potential for crime.	A4.1 The subdivision layout minimises narrow pedestrian pathways between or behind development and sound barriers and fencing which remove or reduce passive surveillance of higher order roads. A4.2 Neighbourhood design enhances legibility and way-finding through an easily-understood street layout. A4.3 Neighbourhoods are designed with high levels of physical connectivity for pedestrians, cyclists and vehicles, both within and to adjacent neighbourhoods.
Connectivity P5 Street networks provide good external connections for local vehicle, pedestrian and cycle movements	A5.1 The subdivision layout will not include cul de sacs. A5.2 The overall subdivision development shall achieve a minimum Internal Connectivity Index (ICI) score of 1.30. Note: The importance of a well-connected subdivision which can be achieved through a good ICI is further explained below under *Internal Connectivity Index*.

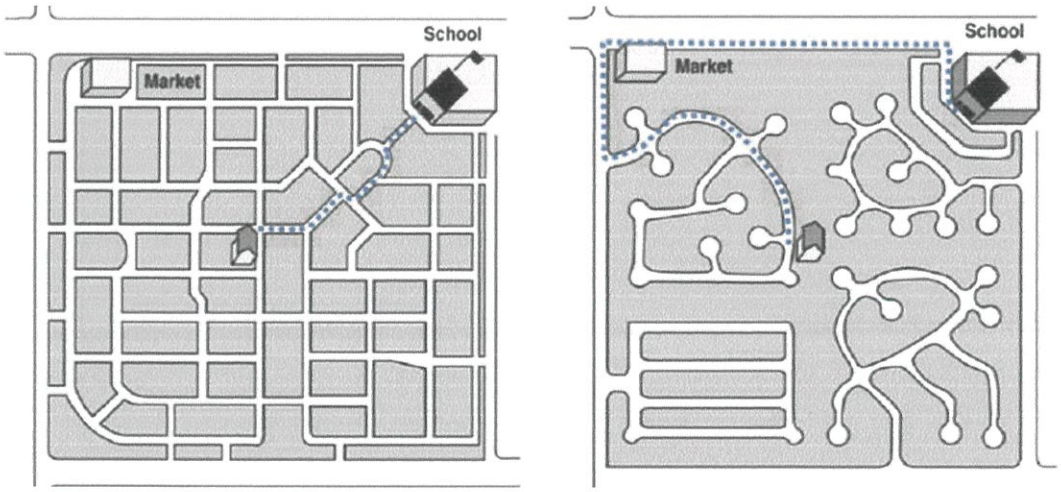
	A5.3 The overall subdivision development shall incorporate the principles of the *Movement and Place Framework from Regional NSW Services and Infrastructure Plan* where applicable.
Fencing P6 Fencing is consistent with the semi-rural nature of the area.	A6.1 Fencing is to be rural character in height, materials and structure.

Internal Connectivity Index

The Internal Connectivity Index (ICI) is calculated by the number of street links divided by the number of street nodes (Ewing, 1996). A link is defined as a segment of road between two intersections or from an intersection to a cul-de-sac, including road segments leading from the adjoining highway network or adjacent development.

A node is defined as an intersection and the end of a cul-de sac. They do not include the end of a stub-out at the property line. The higher the connectivity index, the more connected the roadway network. Residential subdivisions that are dominated by cul-de-sacs provide discontinuous street networks, reduce the number of footpaths, provide few alternate travel routes and tend to force all trips onto a limited number of arterial roads.

Figure 2 shows two examples of a subdivision. The example on the left shows a well-connected subdivision layout that minimises the distance to travel from a dwelling house to a focal point. The example on the right shows the same trip through a poorly connected subdivision



A well-connected subdivision layout

A poorly-connected subdivision layout

Figure 2. Subdivision connectivity examples

References

- *Salinity Management Strategy, Daisy Hill Rural-residential Estate*, Envirowest Consulting, December 2019 (the SMS)
- *Vegetation Management Plan for the Daisy Hill Subdivision*, Soilwater Consultants, 1 April 2019 (the VMP).

Element 2. Lot Layout

Introduction

The provision of an efficient and effective lot layout can allow for the creation of neighbourhoods that encourage connectivity and achieve quality urban design outcomes. A range of lot sizes is encouraged to suit a variety of household type and requirements. Lot design and orientation should facilitate the provision of appropriate private open space areas as well as effective solar access to internal and external living areas.

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.

An appropriate subdivision layout can minimise potential salinity impacts. The size and location of lots should relate to the areas of low and low to moderate salinity risk within the site. Larger lots have been assessed to have a lower irrigation density and are therefore more appropriately located over areas of low to moderate salinity risk. The areas of low salinity risk have been assessed as suitable for smaller lots.

Vegetation reserves are considered an appropriate measure for salinity mitigation management as they are intended to reduce soil moisture, provide drawdown of excess soil moisture and increase the depth to groundwater. The vegetation reserves will be incorporated in the road reserves to ensure effective spatial distribution across the site.

Objectives

- To incorporate measures in the subdivision design to minimise recharge to water tables and to maintain runoff to streams.
- To minimise earthworks disturbances in areas of saline subsoil.
- To provide lot sizes to suit a variety of household types and requirements whilst considering the semi-rural setting of the area.
- To create attractive residential streets by carefully planning the location of garages and driveways within street frontages and improving the presentation of dwelling houses.

Performance criteria The lot layout objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Salinity	
P1 Smaller lots overlay areas of low salinity risk; and larger lots overlay the areas of low-moderate salinity risk.	A1.1 The lot layout is generally consistent with the Conceptual Subdivision Plan (refer SMS).

P2	The road pattern recognises the natural drainage patterns across the site so as to minimise the depth of earthworks in areas of saline subsoil.	A2.1 The road layout is generally consistent with the Conceptual Subdivision Plan (refer SMS).
P3	Vegetation zones are distributed strategically across the site.	A3.1 The subdivision layout is consistent with the Conceptual Subdivision Plan (refer SMS and the VMP).
Rural Setting		
P4	Lots are designed to optimise outlook to the semi-rural setting.	A4.1 There is no applicable Acceptable Solution to this Performance Criteria.
Lot Design		
P5	The design of lots provides vehicular access to the rear or side of lots where front access is restricted or not possible, particularly narrow lots where front garaging is not permitted.	A5.1 There is no applicable Acceptable Solution to this Performance Criteria.
P6	A range of lot types (area, frontage, depth and access) is provided to ensure a mix of housing designs and styles.	A6.1 Within the Estate, the subdivision design shall promote a differentiation in design and housing product.
Battle-Axe Lots		
P7	Neighbourhood design provides for passive surveillance of residences and public areas to enhance personal safety and minimise the potential for crime.	A7.1 Battle-axe lots are minimised in the subdivision design.
Corner Lots		
P8	Corner lots are of sufficient dimensions and size to enable residential controls to be met.	A8.1 Corner lots are to be designed to allow residential accommodation to positively address both street frontages as indicated in Figure 3.

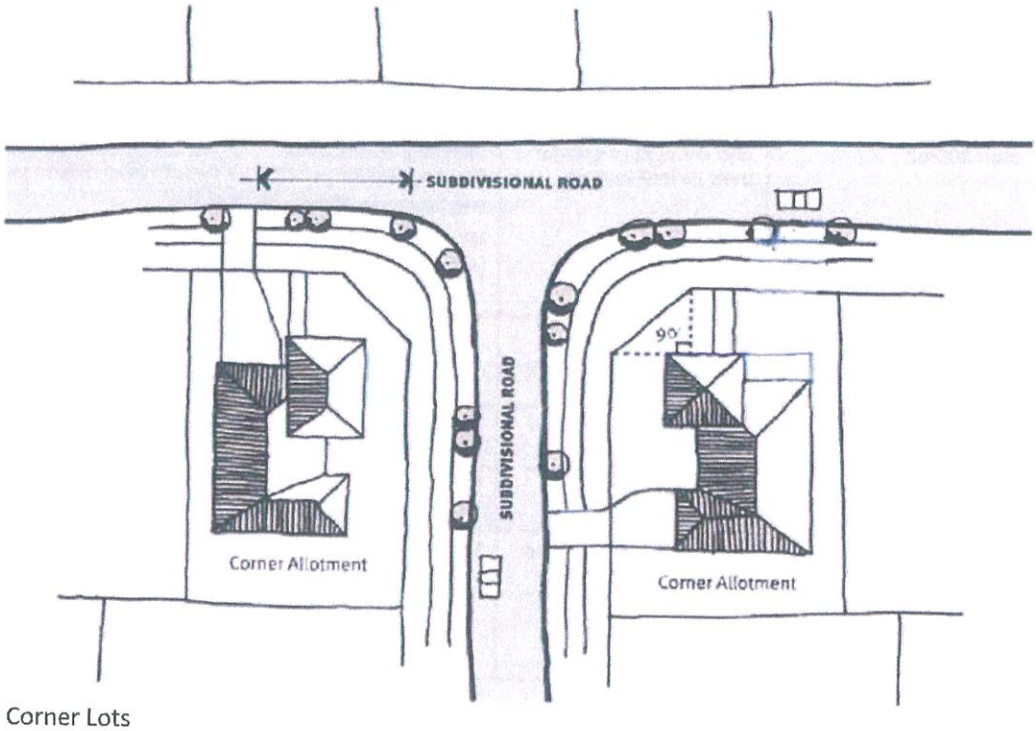


Figure 3: Corner Lots

Conceptual Layout and Staging Plan

The Daisy Hill Estate DCP Conceptual Layout and Staging Plan is depicted below.

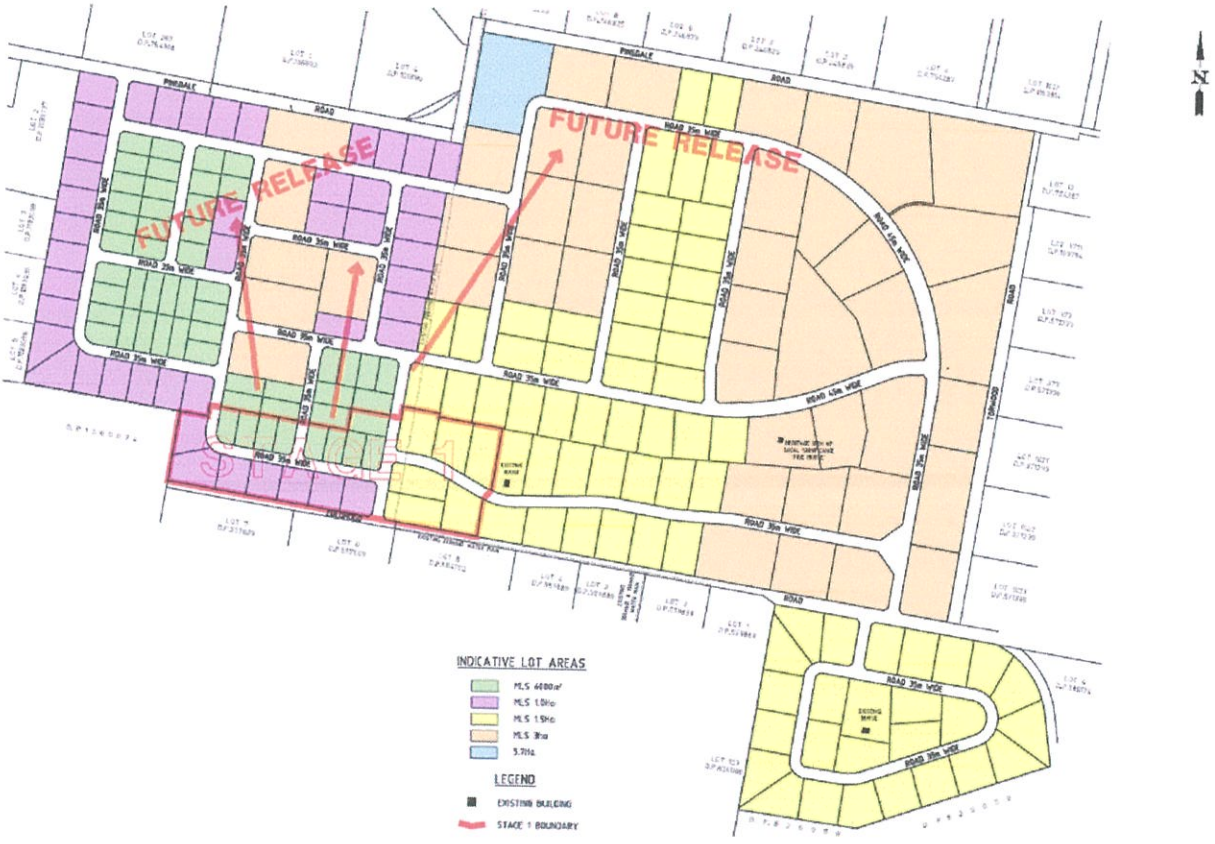


Figure 4: Daisy Hill Estate DCP Conceptual Layout and Staging Plan

It is important to note that the layout depicted on the Plan is conceptual only and subject to the development assessment process; the provisions of this DCP; and council approval.

To enable early identification and potential mitigation of any groundwater impacts, lots shall be released in stages.

The indicative Stage 1 release as shown on the plan has been determined by the availability of services (i.e. power, water and telecommunications) off Eulomogo road. The release of subsequent stages/lots will be to the north and west subject to market demands and availability of services.

References

- *Salinity Management Strategy, Daisy Hill Rural-residential Estate*, Envirowest Consulting, December 2019 (the SMS)
- *Vegetation Management Plan for the Daisy Hill Subdivision*, Soilwater Consultants, 1 April 2019 (the VMP).

Element 3. Landscaping

Introduction

Appropriate landscaping can be used to uptake excess soil moisture and minimise groundwater recharge to reduce potential salinity impacts. Shallow rooted species will be able to capture low intensity events while deep rooted species will be able to capture drainage through the profile and/or generated from lateral subsurface flow from upper slopes of the site.

Given their strategic distribution across the site, appropriately landscaped road reserves represent an important measure in this regard.

Appropriate landscaping contributes to the residential amenity of the area.

Objectives

- To establish vegetation reserves across the Estate to:
  - Reduce discrete landscape recharge
  - Dry out the landscape by diffuse actions
  - Intercept shallow lateral flow and shallow groundwater
  - Minimise recharge to water tables and maintain runoff to streams
- To utilise appropriate plant species that offer effective water management.
- To utilise appropriate plant species that are environmentally sustainable.
- To provide landscaping that contributes to the identity and environmental health of the community.
- To ensure streetscape components do not detrimentally affect solar access to individual dwellings.

Performance criteria The landscaping objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Road reserves and Public Spaces	
P1 The road reserves and other public space within the estate are vegetated so as to promote an uptake of soil moisture and minimise groundwater recharge	A1.1 The public road network and other public space are landscaped with reference to the VMP. A1.2 The road reserve widths identified on the Conceptual Subdivision Plan are adopted so as to fully accommodate the proposed vegetation zones that are identified in the VMP.

	A1.3 The required landscaping is undertaken in line with the staged release of lots.
Plant Selection P2 The landscaping includes a mix of both shallow and deep rooting plant species with good drought and waterlogging tolerance for water management.	A2.1 Landscaping is undertaken using the species and planting pattern/density identified in the VMP.
Vegetation Zones P3 Vegetation zones are distributed strategically across the site.	A3.1 The subdivision layout is consistent with the Conceptual Subdivision Plan (refer SMS) and the VMP.
Sustainability P4 Landscaping is undertaken in an environmentally sustainable manner which limits the time and costs associated with maintenance.	A4.1 Existing native trees are retained wherever possible. A4.2 Landscaping is undertaken using the species identified in the VMP, being native species that are suitable to the local area, and require a minimal amount of watering.
Street Trees P5 Street trees are selected to provide summer shading while not impeding solar access to dwellings in winter.	A5.1 Taller tree species nominated in the VMP are planted on the northern side of east-west aligned streets, while shorter species are planted on the southern side.

A detailed landscape pan is required to be submitted with any development application for subdivision of the land with the following information required to be included in the landscape plan:

Minimum Information Standard

1. Any land proposed to be dedicated to Council and the location of 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 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.

References

- *Salinity Management Strategy, Daisy Hill Rural-residential Estate*, Envirowest Consulting, December 2019 (the SMS)
- *Vegetation Management Plan for the Daisy Hill Subdivision*, Soilwater Consultants, 1 April 2019 (the VMP).

Element 4. Infrastructure

Objectives

- To ensure residential areas are serviced with essential services in a cost-effective and timely manner.
- To ensure residential areas are adequately serviced with water infrastructure.
- To ensure new infrastructure (including roads, services, underground pipes and conduits) are built to withstand the effects of salinity.

Performance criteria The infrastructure objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Provision of Utility Services	
P1 Design and provision of utility services including water, electricity and communication services are cost-effective over their lifecycle and incorporate provisions to minimise adverse environmental impacts in the short and long term.	A1.1 The design and provision of utility services conforms to the requirements of Dubbo Regional Council and all relevant service authorities. A1.2 Water services are to be provided to each allotment at full cost to the developer. A1.3 Water services are to be designed and constructed in accordance with the requirements of AUS-SPEC (Dubbo Regional Council version) Development Specification Series – Design and Development Specification Services – Construction. A1.4 Electricity supply is provided in accordance with the requirements of the energy supply authority. A1.5 Activities near or within Electricity Easements or close to Electricity Infrastructure comply with ISSC 20 Guideline for the Management of Activities within Electricity Easements and Close to Electricity Infrastructure 2012.

	A1.6 The development is connected to a telecommunications system provided in accordance with the requirements of the appropriate authority. A1.7 An approved effluent disposal system is installed and located so it is: – Not situated on flood-affected land; – Not within or adjacent to drainage lines; – Not likely to contaminate surface or ground-water supplies. – In accordance with the on-site effluent management study for Daisy Hill Estate.
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).
Construction Techniques P3 Construction techniques are appropriate for the salinity risk and engineering solutions are implemented to minimise impacts on infrastructure	A3.1 Service lines and road construction works comply with the measures outlined in the SMS. A3.2 Site specific testing is to be undertaken to confirm exposure classification at the design stage for infrastructure. Note: Preliminary exposure classification of the *Richmond Estate Hydro-geological Landscape* based on soil samples collected at the expected footing depth of 500mm is generally non-saline and classified as A1.

	A3.3 Salt protected materials for services, (e.g. salt resistant drainage pipes, casing of underground services) are used where relevant. A3.4 Design characteristic strength for concrete and the minimum reinforcement cover for concrete is to accord with Australian Standard AS2870: Residential Slabs & Footings, pertaining to aggressive soils, as summarised in the SMS. A3.5 Imported fill is to be tested for salinity.

References

- *Salinity Management Strategy, Daisy Hill Rural-residential Estate*, Envirowest Consulting, December 2019 (the SMS)
- *Vegetation Management Plan for the Daisy Hill Subdivision*, Soilwater Consultants, 1 April 2019 (the VMP).
- *On-Site Effluent Management Study, Daisy Hill Estate,* Envirowest Consulting, 1 April 2019

Element 5. Street Design and Road Hierarchy

Objectives

- To ensure streets fulfil their designated function within the street network.
- To facilitate public service utilities.
- Encourage street designs that accommodate drainage systems.
- 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. – Location, construction and maintenance of public utilities.	A1.1 The road hierarchy generally complies with the Conceptual Subdivision Plan. A1.2 The road hierarchy is designed and constructed in accordance with Aus-Spec (Dubbo Regional Council version). A1.3 The road layout provides appropriate connectivity as approved by Council, between adjoining residential estates for both vehicular, pedestrian and cyclist movement. A1.4 The road layout shall incorporate the principles of the *Movement and Place Framework from Regional NSW Service and Infrastructure Plan* where applicable.
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. – Pedestrian/cycle pathways. – Overland flow paths. – Salinity management measures.

	A2.2 The road reserve widths identified on the Conceptual Subdivision Plan (refer SMS) are adopted so as to fully accommodate the proposed vegetation zones that are identified in the VMP.
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.	There is no applicable Acceptable Solution to this Performance Criteria.
P4 Driveway egress movements do not create a safety hazard.	A4.1 The lot size is large enough to facilitate forward entry and exit to and from each lot.
Geometric Design P5 Bus routes have a carriageway width that: – Allows for the movement of buses unimpeded by parked cars. – Safely accommodates cyclists. – 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, and slow points is consistent with the vehicle speed intended for each street.	There is no applicable Acceptable Solution to this Performance Criteria.
P7 Car parking is provided in accordance with projected needs determined by: – The number and size of probable future dwellings. – The car parking requirements of likely future residents. – Availability of public transport. – Likely future onsite parking provisions. – Location of non-residential uses such as schools/shops. – The occasional need for overflow parking.	There is no applicable Acceptable Solution to this Performance Criteria.

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 access ways including adequate manoeuvrability between the street and lots. – Fit in with adopted street network and hierarchy objectives and any related traffic movement plans. – Be cost effective. – Achieve relevant streetscape objectives.	There is no applicable Acceptable Solution to this Performance Criteria.

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 costs and maintenance.
  - Contribute positively to environmental enhancement of catchment areas.
- To manage any water leaving the site (during construction and operation) with stormwater treatment measures.
- To manage salinity by incorporating appropriate stormwater drainage measures at the subdivision stage that:
  - Minimise water logging.
  - Maintain natural flows where practical.
  - Are structurally adequate in areas of saline subsoil.

Performance criteria The stormwater management objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Stormwater Drainage Design	
P1 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.	A1.1 The design and construction of the stormwater drainage system is in accordance with the requirements of Australian Rainfall and Runoff 2019 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 10% AEP. These systems are to be evident as 'self-draining' without impacting on flooding of residential houses etc.

P2 Natural streams and vegetation are retained wherever practicable and safe, to maximise community benefit.	A2.1 Natural depressions and vegetation are incorporated into the stormwater drainage system for the subdivision and open space requirements.
P3 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	A3.1 The system allows for the safe passage of vehicles at reduced speeds on streets which have been affected by run-off from a 10% AEP event.
Site Drainage P4 Subdivision design and layout provides for adequate site drainage.	A4.1 Inter-allotment drainage via swales is provided to accept run-off from all existing or future impervious areas that are likely to be directly connected.
Natural Drainage Patterns P5 Minimise the alteration of natural drainage patterns through construction of roads and drainage.	A5.1 The road layout is generally consistent with the Conceptual Subdivision Plan (refer SMS). A5.2 Road drains and outlets are designed to avoid large volumes of runoff infiltrating the ground at any one location. A5.3 Runoff from roads and other hard areas are discharged to a drainage network which is adjacent to the vegetation buffers. A5.4 Surface drains enable water to be moved off-site by the intermittent drainage lines across the site. These drainage lines are to follow the existing surface water flows.
Surface Water Storages P6 Surface water storages (dams) are restricted to reduce the potential for leaking and recharge of groundwater.	A6.1 The existing dams within the site are to be backfilled at the subdivision stage. A6.2 New dams are prohibited. A Section 88B Restriction on the Use of Land in favour of Dubbo Regional Council applies to each lot to this effect.

	A6.3 No on-site stormwater detention basins are to be installed.
Leakage and Recharge P7 Drainage infrastructure is of a standard that limits the potential for leakage and recharge of groundwater.	A7.1 Works comply with the measures outlined in the SMS.

References

- *Salinity Management Strategy, Daisy Hill Rural-residential Estate*, Envirowest Consulting, December 2019 (the SMS)
- *Vegetation Management Plan for the Daisy Hill Subdivision*, Soilwater Consultants, 1 April 2019 (the VMP).

Element 7. Heritage

Objective

- To ensure that subdivision does not have a detrimental effect on heritage values.

Performance criteria The heritage objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Heritage Values	
P1 Identified heritage items are not adversely affected by future development.	A1.1 The heritage item (Pise House, Item I109) is contained entirely within a proposed lot and provided with generous curtilage. A1.2 The identified aboriginal item (scarred tree) is contained entirely within a proposed lot and provided with generous curtilage. A1.3 A heritage assessment is required to be submitted with any application near or in the vicinity of heritage items. The heritage assessment should identify the impact area.

Element 8. Salinity

Objectives

- To manage/prevent potential sources of groundwater recharge.
- Encourage appropriate water and landscaping engineering in relation to roadside drains; and drainage around buildings and landscaped areas to minimise waterlogging.
- Guide future development in a manner that represents appropriate salinity management within the Daisy Hill Estate and address potential downstream impacts on Troy Gully.
- Reinforce the outcomes of the Daisy Hill Salinity Management Strategy.

Performance criteria The salinity objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Lot Layout	
P1 The road pattern recognises the natural drainage patterns across the site so as to minimise the depth of earthworks in areas of saline subsoil.	A1.1 The road layout is generally consistent with the Conceptual Subdivision Plan (refer SMS).
P2 Smaller lots overlay areas of low salinity risk; and larger lots overlay the areas of low-moderate salinity risk.	A2.1 The lot layout is generally consistent with the Conceptual Subdivision Plan (refer SMS).
P3 Vegetation zones are distributed strategically across the site.	A3.1 The subdivision layout is consistent with the Conceptual Subdivision Plan (refer SMS and the VMP).
Landscaping	
P4 The road reserves and other public space within the estate are vegetated so as to promote an uptake of soil moisture and minimise groundwater recharge	A4.1 The public road network and other public space are landscaped with reference to the VMP. A4.2 The road reserve widths identified on the Conceptual Subdivision Plan are adopted so as to fully accommodate the proposed vegetation zones that are identified in the VMP. A4.3 The required landscaping is undertaken in line with the staged release of lots.

P5 The landscaping includes a mix of both shallow and deep rooting plant species with good drought and waterlogging tolerance for water management.	A5.1 Landscaping is undertaken using the species and planting pattern/density identified in the Vegetation Management Plan.
P6 Vegetation zones are distributed strategically across the site.	A6.1 The subdivision layout is consistent with the DCP Conceptual Subdivision Plan and the Vegetation Management Plan.
Infrastructure P7 Construction techniques are appropriate for the salinity risk and engineering solutions are implemented to minimise impacts on infrastructure	A7.1 Service lines and road construction works comply with the measures outlined in the SMS. A7.2 Site specific testing is to be undertaken to confirm exposure classification at the design stage for infrastructure. Note: Preliminary exposure classification of the *Richmond Estate Hydro-geological Landscape* based on soil samples collected at the expected footing depth of 500mm is generally non-saline and classified as A1. A7.3 Salt protected materials for services, (e.g. salt resistant drainage pipes, casing of underground services) are used where relevant. A7.4 Design characteristic strength for concrete and the minimum reinforcement cover for concrete is to accord with Australian Standard AS2870: Residential Slabs & Footings, pertaining to aggressive soils, as summarised in SMS. A7.5 Imported fill is to be tested for salinity.
Stormwater Drainage P8 Minimise the alteration of natural drainage patterns through construction of roads and drainage.	A8.1 The road layout is generally consistent with the Conceptual Subdivision Plan (refer SMS). A8.2 Road drains and outlets are designed to avoid large volumes of runoff infiltrating the ground at any one location.

	A8.3 Runoff from roads and other hard areas are discharged to a drainage network which is adjacent to the vegetation buffers. A8.4 No in-ground on-site stormwater detention basins are to be installed. A8.5 Surface drains enable water to be moved off-site by the intermittent drainage lines across the site. These drainage lines are to follow the existing surface water flows.
P9 Surface water storages (dams) and onsite stormwater detention are restricted to reduce the potential for leaking and recharge of groundwater.	A9.1 The existing dams within the site are to be backfilled at the subdivision stage. A9.2 New dams are prohibited. A Section 88B Restriction on the Use of Land in favour of Dubbo Regional Council applies to each lot to this effect. A9.3 No in-ground on-site stormwater detention basins are to be installed.
P10 Drainage infrastructure is of a standard that limits the potential for leakage and recharge of groundwater.	A10.1 Works comply with the measures outlined in the SMS. A10.2 No in-ground on-site stormwater detention basins are to be installed.
P11 Backwash water from swimming pools does not contribute to groundwater recharge.	A11.1 Swimming pools are regulated to utilise paper filters rather than sand filters. Paper filters do not require backwashing therefore reducing recharge to groundwater. A Section 88B Restriction on the Use of Land in favour of Dubbo Regional Council applies to each lot to this effect.
Staging, Monitoring & Revegetation P12 On-going monitoring of groundwater levels, staging, and revegetation is undertaken so that any impacts of development can be identified at an early stage and appropriate mitigation measures implemented if necessary.	A12.1 Lots are to be released in stages as outlined in the SMS to enable early identification and potential mitigation of any groundwater impacts.

	A12.2 On the downstream side of each stage of development, a monitoring well is to be installed and monitored bi-monthly A12.3 On-going monitoring of groundwater levels in existing monitoring bores on and within 1km of the site is to be undertaken as a matter of course so that any impacts of development can be identified at an early stage and mitigation measures implemented if necessary.
Salinity Management Strategy P13 Development satisfies the aims of the *Dubbo City Urban Salinity Management Strategy* and accord with the *Dubbo City Urban Salinity Implementation Plan.*	A13.1 Development meets the relevant aspects of the SMS.

References

- *Salinity Management Strategy, Daisy Hill Rural-residential Estate*, Envirowest Consulting, December 2019 (the SMS)
- *Vegetation Management Plan for the Daisy Hill Subdivision*, Soilwater Consultants, 1 April 2019 (the VMP).
- Refer brochure on Council website dubbo.nsw.gov.au – *Salinity in Your Backyard.*
- Publication: *Building in a Saline Environment* – refer www.environment.nsw.gov.au

2.2 Residential Design

This section is designed to encourage 'best practice' solutions and clearly explain requirements for the development of Residential Accommodation.

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.

- To facilitate large lot residential accommodation with an economic use of infrastructure.

This section lists design elements under the following headings:

Element 1 Streetscape Character
Element 2 Building Setbacks
Element 3 Solar Access
Element 4 Private Open Space and Landscaping
Element 5 Infrastructure
Element 6 Domestic Wastewater
Element 7 Vehicular Access and Car Parking
Element 8 Secondary Dwellings
Element 9 Heritage
Element 10 Waste Management
Element 11 Non-Residential Uses
Element 12 Signage
Element 13 Salinity

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 (i.e. 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.

- 'References' to relevant clauses of the DLEP, other relevant legislation, Council policies and literature relevant to the design element.

Element 1. Streetscape Character

Objectives

- To design residential housing development to complement the large lot residential streetscape and emerging neighbourhood character.
- To design residential housing in keeping with the desired future streetscape and neighbourhood character.
- To provide a mix of dwelling sizes complementing the character of the area and that accommodate for many 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 For lots in the size range of 6,000m^2 dwellings adjacent to the public street, address the street by having a front door facing the street.
P2 The development is to be designed to respect and reinforce the positive characteristics of the neighbourhood, including: • Built form. • Bulk and scale. • Vegetation • Topography	A2.1 Design elements to consider include: • Massing and proportions. • Roof form and pitch. • 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. • Building setbacks.
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.
P4 Outbuildings, 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.	A4.1 Outbuildings, garages or parking structures are located in line with or behind the alignment of the front façade/ entrance of the dwelling.

Fencing P5 Fencing is consistent with the semi-rural character of the area.	A5.1 Rural style fencing (netting, hinge-joint or similar) is encouraged along all boundaries of lots. A5.2 The use of colorbond fencing is not encouraged. A5.3 Barbed/razor wire or electrical fencing is not permitted.
P6 Front fences enable outlook from the development to the street or open space to facilitate surveillance and safety.	A6.1 Front fences have a maximum height of 1.2m if solid or less than 50% transparent and 1.5m if greater than 50% transparent.
P7 Gates are designed to ensure pedestrian and motorist safety.	A7.1 Where a driveway is provided through a solid fence, adequate visibility for the driver is maintained.

Element 2. Building Setbacks

Objectives

- To ensure that the setback of a building from the property boundaries, the height and length of walls, site coverage and visual bulk contribute to an open, semi-rural setting.
- To ensure habitable rooms of dwellings and private open space within the development and in adjacent development can receive adequate sunlight, ventilation, privacy and amenity.

Performance criteria The building setback objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Front Boundary Setback – Dwellings and Ancillary Structures P1 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 locality. Residential development on corner allotments shall address both street frontages. 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. This applies to a dwelling house and any ancillary structure that is attached or detached to a dwelling house.	A1.1 For lots up to 1.5 hectares, a minimum setback of 10m from the front property boundary where no streetscape setback has been established. A1.2 For lots larger than 1.5 hectares, a minimum setback of 20m from the front property boundary where no streetscape setback has been established.
Side and Rear Boundary Setbacks – Dwellings and Ancillary Structures P2 The setback of development from the side and rear boundaries of the allotment is consistent with established setbacks or is consistent with the desired amenity of the locality.	A2.1 For lots up to 1.5 hectares the secondary (side) setback is 5m. A2.2 For lots larger than 1.5 hectares the secondary (side) setback is 10m.
P3 The location of outbuildings, 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.	A3.1 Outbuildings, garages or carports are located in line with or behind the alignment of the front façade/ entrance of the dwelling.

Element 3. Solar Access

Objectives

- To ensure all development provides an acceptable level of solar access for occupants.
- 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.	A1.1 On lots with an east/west orientation, the setback 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. A1.2 A roof area sufficient to meet the space requirements for a solar hot water service is provided where it faces within 20° of north and receives direct sunlight between the hours of 9 am and 3 pm on 22 June. A1.3 Outdoor clothes drying areas are located to ensure adequate sunlight and ventilation are provided between the hours of 9 am and 3 pm on 22 June to a plane of 1m 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 am and 3 pm on 22 June. A2.2 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 A1.2. A2.3 The solar impact of development shall be shown with the submission of shadow diagrams taken on 22 June (winter solstice).

House orientation not encouraged

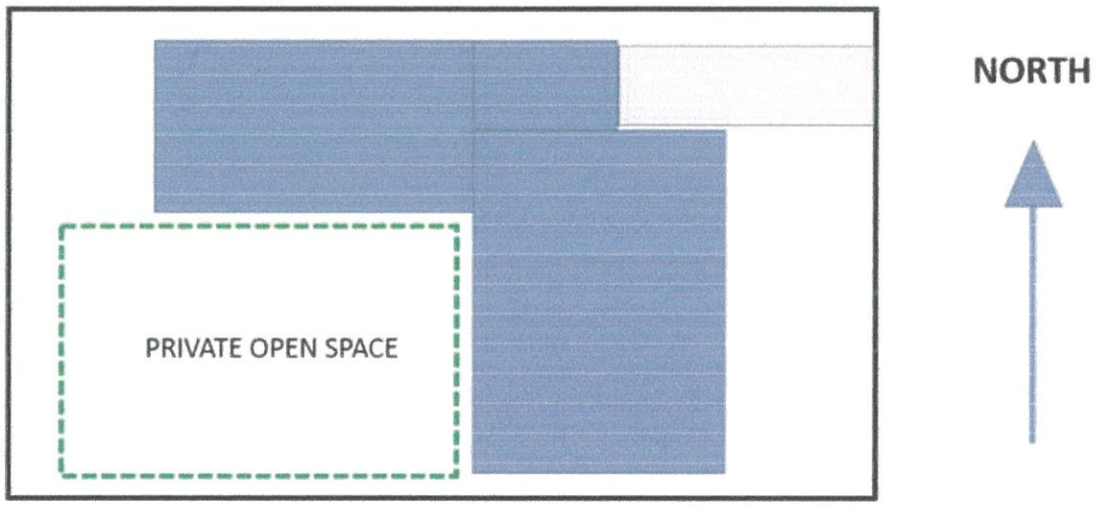


Figure 5: Siting of Dwellings on east/west lots

Rationale

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

House orientation encouraged

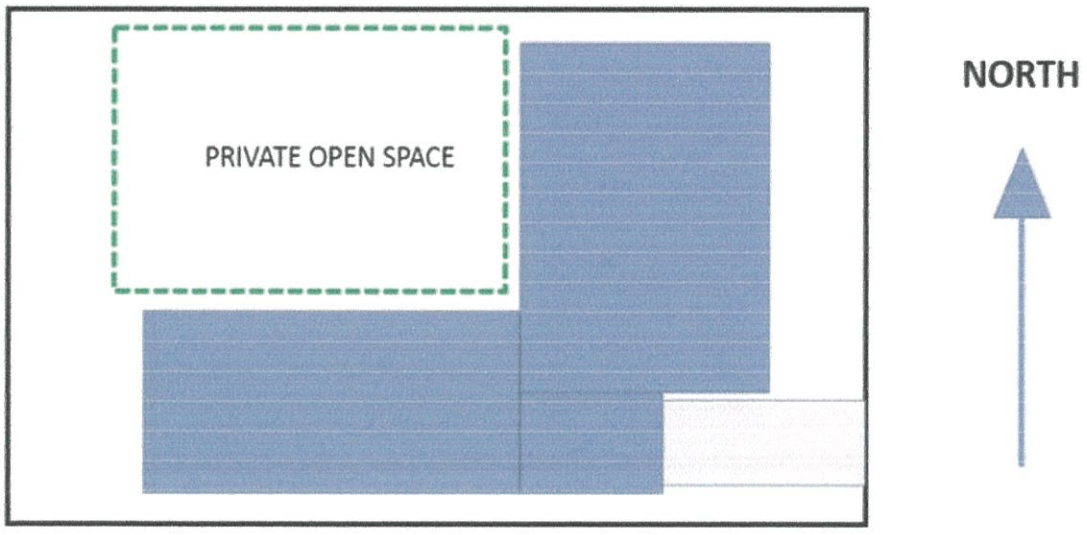


Figure 6: Siting of Dwellings on east/west lots

Rationale

A dwelling built close to the southern boundary enables winter sunlight to enter habitable rooms in the dwelling. Good solar access is available to private open space during winter.

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.
- 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.	A1.1 Dwelling houses and secondary dwelling developments shall have a Principal 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 $30m^2$ and a minimum dimension of 5m. This area can include covered (not enclosed) outdoor entertainment areas.
P2 Private open space is easily accessible by the occupants of the development and provides an acceptable level of privacy.	A2.1 All Principal Private Open Space (PPOS) is directly accessible 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 located to not impact infrastructure, development on the site or development adjoining the site.	A3.1 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. A3.2 Landscape species are selected and located to ensure the amenity of adjoining and adjacent properties is not impacted.

	This shall ensure that inappropriate vegetation is not provided that reduces the level of solar access enjoyed by adjoining and adjacent properties and is likely to provide any safety impacts to residents.
P4 Landscaping activities are undertaken in an environmentally sustainable manner which limits the time and costs associated with maintenance. The discharge of water into the landscape is minimised by encouraging waterwise gardens.	A4.1 Existing native trees are retained where possible. A4.2 Species selected are suitable for the local climate (refer to the species identified in the Daisy Hill VMP. A4.3 Species selected require a minimal amount of watering (Waterwise Gardening). A4.4 Landscaping does not impact ground-water levels by over watering resulting in ground-water level increases or the pollution of waters. A4.5 The size of lawn areas requiring irrigation is limited to 1,300m^2. A Section 88B Restriction on the Use of Land in favour of Dubbo Regional Council applies to each lot to this effect. A4.6 Landscaping is provided with a timed watering system and moisture meter to determine if watering is required.

A detailed landscape plan is required to be submitted with a development application for a dwelling house. The table below specifies the level of information required to be included for landscape plans:

Minimum Information Standard

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 maintenance regime.

6. The plan shall be drawn to a recognised scale.

The landscape plan shall be prepared by a building design professional or appropriately qualified and experienced horticultural professional preparing the development plans.

References

Vegetation Management Plan for the Daisy Hill Subdivision, Soilwater Consultants, 1 April 2019 (the VMP).

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 NATSPEC 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. A2.2 Connection to the electricity supply is provided in accordance with the requirements of the energy supply authority.
P3 The development is connected to reticulated water supply and electricity systems and to gas where available.	A3.1 Development is connected to Council's reticulated water supply to Council's requirements. A3.2 (including separate water meters where the development is to be subdivided).

Element 6: Domestic Wastewater

Objective

- To ensure domestic wastewater disposal is carried out in a manner which is environmentally responsible and sustainable.
- The ensure domestic wastewater disposal does not generate adverse impacts in terms of salinity.

Performance criteria The domestic wastewater objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Salinity Protection P1 On site effluent disposal occurs via secondary treatment and irrigated application systems appropriately sized to prevent percolation of water below the root zone.	A1.1 For the area within the Estate identified as red earth soil the recommended effluent system is surface irrigation with an irrigation area of 537m^2 and secondary treatment system accredited by NSW Health. A1.2 For the area within the Estate identified as earthy sand soil the recommended effluent system is surface irrigation with an irrigation area of 723m^2 and secondary treatment system accredited by NSW Health. (refer: *On-site effluent management study, Daisy Hill Estate, Envirowest Consulting, 1 April 2019)*
Domestic Wastewater Disposal P2 Domestic liquid waste is disposed of in an environmentally and legally acceptable manner.	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.
P3 The amount of liquid waste generated is minimised.	A3.1 Dual-flush toilet systems are provided in conjunction with water saving fittings and appliances.

Recommended buffer distances for onsite sewage disposal systems (septic tanks)	
All land application systems	– 100m to permanent surface waters (eg river, streams lakes etc); – 40m to dams, intermittent waterways and drainage channels etc; – The buffer to domestic groundwater wells shall be in accordance with Section 4.3.3 of the *On-Site Effluent Management Study, Daisy Hill Estate*, Envirowest Consulting, 1 April 2019.
Surface spray irrigation	– 6m if area up-gradient and 3m if area down-gradient of driveways and property boundaries; – 15m to dwellings; – 3m to paths and walkways; and – 6m to swimming pools.
Surface drip and trickle irrigation	– 6m if area up-gradient and 3m if area down-gradient of swimming pools, property boundaries, driveways and buildings.
Subsurface irrigation	– 6m if area up-gradient and 3m if area down-gradient of swimming pools, property boundaries, driveways and buildings.
Absorption systems	– 12m if area up-gradient and 6m if area down-gradient of property boundary; and – 6m if area up-gradient and 3m 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.	
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

On-Site Effluent Management Study, Daisy Hill Estate, Envirowest Consulting, 1 April 2019.

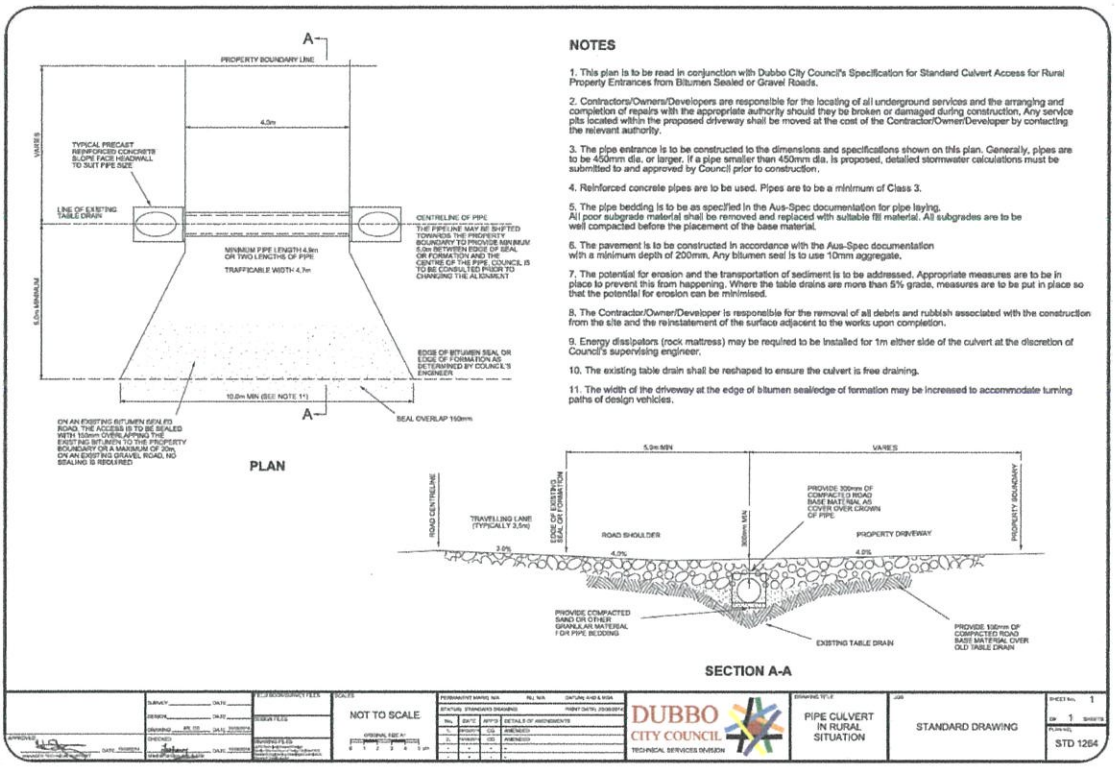
Environment Health and Protection Guidelines – Onsite Sewage Management for Single Households 1998.

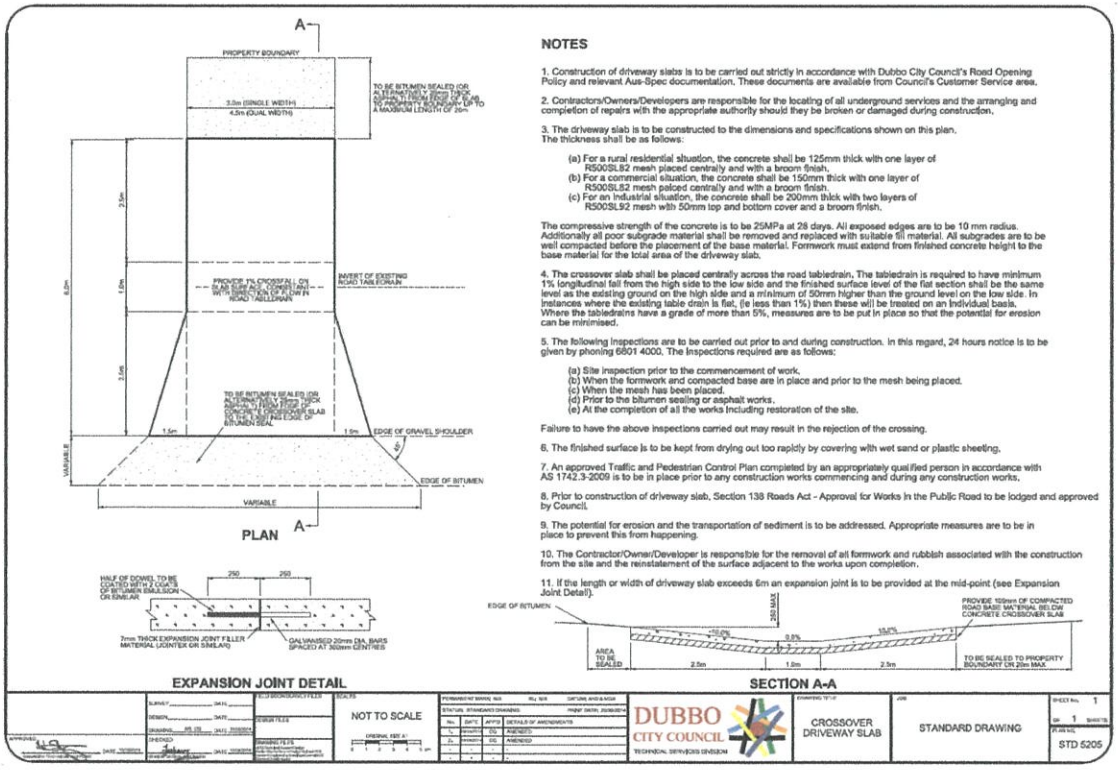
Element 7. Vehicular Access and Car Parking

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.
- To avoid parking and traffic difficulties in the development and the neighbourhood.

Performance criteria The vehicle access and car 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 provide the following vehicle parking: – One bedroom dwelling – one car parking space per dwelling, situated behind the front building setback. – Dwellings 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 setback.
Safety P2 Driveway egress movements do not create a safety hazard.	A2.1 The lot size is large enough to facilitate forward entry and exit to and from and each lot.
Service and Emergency Vehicles P3 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.	A3.1 Accessways are designed to cater for an 'AUSTROADS 8.8m length Design Service Vehicle'.
Access Standard P4 Access between the public road and properties is provided in accordance with relevant Council standards.	A4.1 Accessways are designed to satisfy: – Council Standard Drawing STD 1264 where a pipe culvert is required; – Council Standard Drawing STD 5205 where a crossover driveway slab is required.


A
PROPERTY BOUNDARY LINE
4.0m
VARIES
5.0m MINIMUM
TYPICAL PRECAST REINFORCED CONCRETE SLOPE FACE HEADWALL TO SUIT PIPE SIZE
LINE OF EXISTING TABLE DRAIN
CENTRELINE OF PIPE
THE PIPELINE MAY BE SHIFTED TOWARDS THE PROPERTY BOUNDARY TO PROVIDE MINIMUM 5.0m BETWEEN EDGE OF SEAL OR FORMATION AND THE CENTRE OF THE PIPE. COUNCIL IS TO BE CONSULTED PRIOR TO CHANGING THE ALIGNMENT
MINIMUM PIPE LENGTH 4.9m OR TWO LENGTHS OF PIPE
TRAFFICABLE WIDTH 4.7m
EDGE OF BITUMEN SEAL OR EDGE OF FORMATION AS DETERMINED BY COUNCIL'S ENGINEER
10.0m MIN (SEE NOTE 11)
SEAL OVERLAP 150mm
ON AN EXISTING BITUMEN SEALED ROAD, THE ACCESS IS TO BE SEALED WITH 150mm OVERLAPPING THE EXISTING BITUMEN TO THE PROPERTY BOUNDARY OR A MAXIMUM OF 20m. ON AN EXISTING GRAVEL ROAD, NO SEALING IS REQUIRED
PLAN
NOTES
1. This plan is to be read in conjunction with Dubbo City Council's Specification for Standard Culvert Access for Rural Property Entrances from Bitumen Sealed or Gravel Roads.
2. Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction. Any service pits located within the proposed driveway shall be moved at the cost of the Contractor/Owner/Developer by contacting the relevant authority.
3. The pipe entrance is to be constructed to the dimensions and specifications shown on this plan. Generally, pipes are to be 450mm dia. or larger. If a pipe smaller than 450mm dia. is proposed, detailed stormwater calculations must be submitted to and approved by Council prior to construction.
4. Reinforced concrete pipes are to be used. Pipes are to be a minimum of Class 3.
5. The pipe bedding is to be as specified in the Aus-Spec documentation for pipe laying. All poor subgrade material shall be removed and replaced with suitable fill material. All subgrades are to be well compacted before the placement of the base material.
6. The pavement is to be constructed in accordance with the Aus-Spec documentation with a minimum depth of 200mm. Any bitumen seal is to use 10mm aggregate.
7. The potential for erosion and the transportation of sediment is to be addressed. Appropriate measures are to be in place to prevent this from happening. Where the table drains are more than 5% grade, measures are to be put in place so that the potential for erosion can be minimised.
8. The Contractor/Owner/Developer is responsible for the removal of all debris and rubbish associated with the construction from the site and the reinstatement of the surface adjacent to the works upon completion.
9. Energy dissipators (rock mattress) may be required to be installed for 1m either side of the culvert at the discretion of Council's supervising engineer.
10. The existing table drain shall be reshaped to ensure the culvert is free draining.
11. The width of the driveway at the edge of bitumen seal/edge of formation may be increased to accommodate turning paths of design vehicles.
5.0m MIN
VARIES
ROAD CENTRELINE
TRAVELLING LANE (TYPICALLY 3.5m)
EDGE OF EXISTING SEAL OR FORMATION
ROAD SHOULDER
300mm MIN
PROVIDE 300mm OF COMPACTED ROAD BASE MATERIAL AS COVER OVER CROWN OF PIPE.
PROPERTY DRIVEWAY
PROPERTY BOUNDARY
2.0%
4.0%
4.0%
PROVIDE COMPACTED SAND OR OTHER GRANULAR MATERIAL FOR PIPE BEDDING
EXISTING TABLE DRAIN
PROVIDE 100mm OF COMPACTED ROAD BASE MATERIAL OVER OLD TABLE DRAIN
SECTION A-A
NOT TO SCALE
DUBBO CITY COUNCIL
TECHNICAL SERVICES DIVISION
PIPE CULVERT IN RURAL SITUATION
STANDARD DRAWING
STD 1264


A
PROPERTY BOUNDARY
TO BE BITUMEN SEALED (OR ALTERNATIVELY 150mm THICK ASPHALT) FROM EDGE OF KERB TO PROPERTY BOUNDARY UP TO A MAXIMUM LENGTH OF 20m
3.0m (SINGLE WIDTH)
4.5m (DUAL WIDTH)
6.0m
2.5m
1.5m
2.5m
PROVIDE 1% CROSSFALL ON SLAB SURFACE, COMPLETE WITH TROWELLED FALL ON IN ROAD TABLEDRAIN
INVERT OF EXISTING ROAD TABLEDRAIN
TO BE BITUMEN SEALED (OR ALTERNATIVELY 150mm THICK ASPHALT) FROM EDGE OF SLAB TO EXISTING EDGE OF BITUMEN SEAL
1.5m
1.5m
EDGE OF GRAVEL SHOULDER
VARIABLE
EDGE OF BITUMEN
VARIABLE
PLAN
HALF OF DOWEL TO BE COATED WITH 2 COATS OF BITUMEN EMULSION OR SIMILAR
250
250
7mm THICK EXPANSION JOINT FILLER MATERIAL (CORTEX OR SIMILAR)
GALVANISED 20mm DIA. BARS SPACED AT 300mm CENTRES
EXPANSION JOINT DETAIL
NOTES
1. Construction of driveway slabs is to be carried out strictly in accordance with Dubbo City Council's Road Opening Policy and relevant Aus-Spec documentation. These documents are available from Council's Customer Service area.
2. Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.
3. The driveway slab is to be constructed to the dimensions and specifications shown on this plan. The thickness shall be as follows:
(a) For a rural residential situation, the concrete shall be 125mm thick with one layer of R500SL82 mesh placed centrally and with a broom finish.
(b) For a commercial situation, the concrete shall be 150mm thick with one layer of R500SL82 mesh paced centrally and with a broom finish.
(c) For an industrial situation, the concrete shall be 200mm thick with two layers of R500SL92 mesh with 50mm top and bottom cover and a broom finish.
The compressive strength of the concrete is to be 25MPa at 28 days. All exposed edges are to be 10 mm radius. Additionally all poor subgrade material shall be removed and replaced with suitable fill material. All subgrades are to be well compacted before the placement of the base material. Formwork must extend from finished concrete height to the base material for the total area of the driveway slab.
4. The crossover slab shall be placed centrally across the road tabledrain. The tabledrain is required to have minimum 1% longitudinal fall from the high side to the low side and the finished surface level of the flat section shall be the same level as the existing ground on the high side and a minimum of 50mm higher than the ground level on the low side. In instances where the existing table drain is flat, (ie less than 1%) then these will be treated on an individual basis. Where the tabledrains have a grade of more than 5%, measures are to be put in place so that the potential for erosion can be minimised.
5. The following inspections are to be carried out prior to and during construction. In this regard, 24 hours notice is to be given by phoning 6801 4000. The inspections required are as follows:
(a) Site inspection prior to the commencement of work.
(b) When the formwork and compacted base are in place and prior to the mesh being placed.
(c) When the mesh has been placed.
(d) Prior to the bitumen sealing or asphalt works.
(e) At the completion of all the works including restoration of the site.
Failure to have the above inspections carried out may result in the rejection of the crossing.
6. The finished surface is to be kept from drying out too rapidly by covering with wet sand or plastic sheeting.
7. An approved Traffic and Pedestrian Control Plan completed by an appropriately qualified person in accordance with AS 1742.3-2009 is to be in place prior to any construction works commencing and during any construction works.
8. Prior to construction of driveway slab, Section 138 Roads Act - Approval for Works in the Public Road to be lodged and approved by Council.
9. The potential for erosion and the transportation of sediment is to be addressed. Appropriate measures are to be in place to prevent this from happening.
10. The Contractor/Owner/Developer is responsible for the removal of all formwork and rubbish associated with the construction from the site and the reinstatement of the surface adjacent to the works upon completion.
11. If the length or width of driveway slab exceeds 6m an expansion joint is to be provided at the mid-point (see Expansion Joint Detail).
EDGE OF BITUMEN
250 MAX
PROVIDE 100mm OF COMPACTED ROAD BASE MATERIAL BELOW CONCRETE CROSSOVER SLAB
+10.0%
9.5%
10.0%
AREA TO BE SEALED
2.5m
1.0m
2.5m
TO BE SEALED TO PROPERTY BOUNDARY OR 20m MAX
SECTION A-A
NOT TO SCALE
DUBBO CITY COUNCIL
TECHNICAL SERVICES DIVISION
CROSSOVER DRIVEWAY SLAB
STANDARD DRAWING
STD 5205

Element 8: Secondary Dwellings

Objective

- To integrate secondary dwellings in a manner that complements the large lot residential character of the neighbourhood in terms of siting, built form and visual quality.
- To ensure that that secondary dwellings achieve satisfactory residential amenity in terms of solar access, private open space, and privacy.
- To ensure that that secondary dwellings do not diminish residential amenity for other development in terms of solar access, private open space, and privacy.

Performance criteria The secondary dwelling objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Integration	
P1 The secondary dwelling does not diminish the attractiveness of the streetscape and does not dominate views of the primary dwelling from the street.	A1.1 Detached secondary dwellings are located in line with or behind the alignment of the front façade of the primary dwelling. A1.2 Attached secondary dwellings must form an integral part of the façade and roof line of the primary dwelling A1.3 Secondary dwellings are subject to the same side and rear boundary setbacks as outlined in *Element 2 Building Setbacks* of this DCP.
P2 The secondary dwelling complements existing site improvements and features.	A2.1 Secondary dwellings adopt external materials and finishes that complement those on the primary dwelling. A2.2 Secondary dwellings adopt a finished floor level and ridge height that is generally commensurate with the primary dwelling. A2.3 The establishment of secondary dwellings minimises the impact on existing landscaping. A2.4 The area surrounding the secondary dwelling is to be reinstated at the completion of work to tie in with existing ground level and landscaping.

Solar Access P3 The secondary dwelling 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.	A3.1 Design and orientate the secondary dwelling to achieve effective solar access to the principal living area windows. A3.2 Outdoor clothes drying areas are located to ensure adequate sunlight and ventilation are provided between the hours of 9 am and 3 pm on 22 June to a plane of 1m above the finished ground-level under the drying lines A3.3 A roof area sufficient to meet the space requirements for a solar hot water service is provided where it faces within 20° of north and receives direct sunlight between the hours of 9 am and 3 pm on 22 June.
P4 The proposed secondary dwelling does not reduce the level of solar access currently enjoyed by the primary dwelling or adjoining or adjacent properties.	A4.1 Habitable rooms of the primary dwelling and dwellings on adjoining land receive a minimum of four hours solar access between the hours of 9 am and 3 pm on 22 June. A4.2 Landscaping is designed to ensure that when mature, required areas of private open space on adjoining allotments maintain solar access on 22 June in accordance with A1.2. A4.3 The solar impact of development shall be shown with the submission of shadow diagrams taken on 22 June (winter solstice).
Private Open Space P5 Private open space is of an area and dimension facilitating its intended use.	A5.1 Secondary dwellings shall have a Principal Private Open Space (PPOS) area, in addition to the general Private Open Space (POS). A5.2 The PPOS area for the secondary dwelling has a minimum area of $16m^2$ and a minimum dimension of 4m. This area can include covered (not enclosed) outdoor entertainment areas.

P6 Private open space is easily accessible by the occupants of the secondary dwelling and provides an acceptable level of privacy.	A6.1	The Principal Private Open Space (PPOS) is directly accessible from the main living area.
	A6.2	All private open space is located and screened to provide for the privacy of occupants of the secondary dwelling and the occupants of the primary dwelling and the occupants of dwelling on adjoining land.
Landscaping P7 Landscaping of secondary dwellings is undertaken in an environmentally sustainable manner and integrates with the landscaping for the primary dwelling.	A7.1	Existing native trees and other established trees are retained where possible.
	A7.2	Species selected are suitable for the local climate (refer to the species identified in the Daisy Hill VMP.
	A7.3	Species selected require a minimal amount of watering (Waterwise Gardening).
	A7.4	Landscaping does not impact ground-water levels by over watering resulting in ground-water level increases or the pollution of waters.
	A7.5	For a secondary dwelling, the lawn area requiring irrigation must fit within the 1,300m^2 maximum allowed per property.
	A7.6	Landscaping is provided with a timed watering system and moisture meter to determine if watering is required.
Vehicle Access P8 Secondary dwellings do not generate additional access points onto the public road network.	A8.1	A secondary dwelling must obtain access to and from the public road via the existing entrance that serves the subject land. A second access point is not permitted.

Car Parking P9 Car parking is provided according to projected needs, the location of the land and the characteristics of the immediate locality.	A9.1 Secondary dwellings provide the following vehicle parking: – One bedroom dwelling – one car parking space. – Dwelling with two or more bedrooms – two car parking spaces. – All required spaces for a secondary dwelling shall be situated behind the front building setback of the primary dwelling.

Element 9: Heritage

Objective

- To ensure that development does not have a detrimental effect on heritage values.

Performance criteria The heritage objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
Heritage Values	
P1 Identified heritage items are not adversely affected by future development.	A1.1 Future development near/in the vicinity of a heritage item to be in accordance with any heritage assessment that has been carried out in respect of the particular item at the subdivision stage.

Element 10: 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.	A2.1 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.	A3.1 Waste collection bins are stored behind the building line.

Element 11: 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 use 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 (LA90) 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 12: 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 signage 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 Permitted 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.

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.

Element 13. Salinity

Objectives

- To manage/prevent potential sources of groundwater recharge.
- Encourage appropriate landscaping and drainage around buildings and landscaped areas to minimise waterlogging.
- Guide future development in a manner that represents appropriate salinity management within the Daisy Hill Estate and address potential downstream impacts on Troy Gully.
- Reinforce the outcomes of the Daisy Hill Salinity Management Strategy.

Performance criteria The salinity objectives may be achieved where:	Acceptable solutions The acceptable solutions illustrate one way of meeting the associated performance criteria
P1 Discharge of water into the landscape is minimised by encouraging waterwise gardens	A1.1 The size of lawn areas requiring irrigation is limited to 1,300m^2. A Section 88B Restriction on the Use of Land in favour of Dubbo Regional Council applies to each lot to this effect. A1.2 Landscaping of residential yards is undertaken using the species identified in the VMP. A1.3 The extraction of groundwater for irrigation of residential properties and landscaping is prohibited. A Section 88B Restriction on the Use of Land in favour of Dubbo Regional Council applies to each lot to this effect.
P2 Surface water storages (dams) are prohibited to maintain natural drainage patterns and reduce the potential for leaking and recharge of groundwater.	A2.1 New dams are prohibited. A Section 88B Restriction on the Use of Land in favour of Dubbo Regional Council applies to each lot to this effect. A2.2 All buildings are connected to rainwater tanks for domestic use and to satisfy BASIX requirements. Minimum tank size is 45,000 litres to provide stormwater runoff detention. A Section 88B Restriction on the Use of Land in favour of Dubbo Regional Council applies to each lot to this effect.

P3 On site effluent disposal occurs via secondary treatment and irrigated application systems appropriately sized to prevent percolation of water below the root zone.	A3.1 For the area within the Estate identified as red earth soil the recommended effluent system is surface irrigation with an irrigation area of 537m^2 and secondary treatment system accredited by NSW Health. A3.2 For the area within the Estate identified as earthy sand soil the recommended effluent system is surface irrigation with an irrigation area of 723m^2 and secondary treatment system accredited by NSW Health. (refer: *On-site effluent management study, Daisy Hill Estate, Envirowest Consulting, 1 April 2019)*
P4 Backwash water from swimming pools does not contribute to groundwater recharge.	A4.1 Swimming pools are regulated to utilise paper filters rather than sand filters. Paper filters do not require backwashing therefore reducing recharge to groundwater. A Section 88B Restriction on the Use of Land in favour of Dubbo Regional Council applies to each lot to this effect.
P5 Leaking from drainage pipes and other items is avoided or managed.	A5.1 Landowners regularly check for leaks from pools, taps, downpipes, air conditioning units.
P6 Construction techniques are appropriate for the salinity risk and engineering solutions are implemented to minimise impacts on infrastructure and buildings.	A6.1 Construction works comply with the measures outlined in SMS.
P7 Within the Richmond Estate Hydro-geological Landscape: • Salt protected materials for services, (e.g. salt resistant drainage pipes, casing of underground services) are used. • The depth of cut and exposure of susceptible soils is minimised during development. Ensure fill material is not saline.	A7.1 Site specific testing is to be undertaken to confirm exposure classification at the design/DA stage. Note: Preliminary exposure classification of the *Richmond Estate Hydro-geological Landscape* based on soil samples collected at the expected footing depth of 500mm is generally non-saline and classified as A1.

	A7.2	Design characteristic strength for concrete and the minimum reinforcement cover for concrete is to accord with *Australian Standard AS2870: Residential Slabs & Footings,* pertaining to aggressive soils, as summarised in the SMS.
P8 Development satisfies the aims of the *Dubbo City Urban Salinity Management Strategy* and accord with the *Dubbo City Urban Salinity Implementation Plan.*	A8.1	Development meets the relevant aspects of the SMS for Daisy Hill Estate.

References

- *Salinity Management Strategy, Daisy Hill Rural-residential Estate*, Envirowest Consulting, December 2019 (the SMS)
- *Vegetation Management Plan for the Daisy Hill Subdivision*, Soilwater Consultants, 1 April 2019 (the VMP).
- *On-Site Effluent Management Study, Daisy Hill Estate,* Envirowest Consulting, 1 April 2019.
- Refer brochure on Council website dubbo.nsw.gov.au – *Salinity in Your Backyard.*
- Publication: *Building in a Saline Environment* – refer www.environment.nsw.gov.au