# Part E

## Section 14 – Boorooma Urban Release Area

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14.1. **About the Boorooma Urban Release Area**

Boorooma is identified as an Urban Release Area under Clause 6.3 of the Wagga Wagga Local Environmental Plan (LEP 2010). The Clause requires the preparation of a Development Control Plan (DCP) that addresses criteria listed within that clause.

14.2. **Introduction**

**Where this Section Applies**

This section applies to land located at Boorooma Urban Release Area shown below:

14.3. **Background Reports and Studies**

Relevant studies required to be considered for development within the land to which this section applies:

- Wagga Wagga Local Environmental Plan 2010
- Wagga Wagga Local Environmental Study 2008
- Wagga Wagga Community Strategic Plan 2008-2018
- Wagga Wagga Spatial Plan 2008

14.4. **Features of the Site**

Land features and land uses within Boorooma are important characteristics that influence future development of this site. This Section provides an overview of natural features and existing land uses within the urban release area.

14.4.1. **Site Topography and Landscape Character**

Boorooma East is dominated by a knoll in the centre of the site and is elevated approximately 46m above the Murrumbidgee floodplain (immediately to the south). From the knoll, an escarpment curves east and west across the site. The land slopes steeply south from both the knoll and the escarpment to the Olympic Highway.

Refer to page 12 for further information on environmental characteristics of Boorooma.

Refer to Part 7 of the WWLEP 2010 for information and mapping of Environmentally Sensitive Land.
The escarpment is incised with shallow gullies and protrudes to form a spur to the south west. From north, west and east flanks of the knoll, the land slopes gently down to Farrer Road, the junction of Coolamon Road and the Olympic Highway and a shallow valley on the site's western boundary. Granite outcrops and boulders are visible across much of the site.

The escarpment to the south of the site forms the steepest part of a line of hills that defines the edge of the Murrumbidgee floodplain. Its location makes the escarpment a clearly visible and defining element of the landscape. Its appearance is made more prominent by the rocky outcrops and boulders that characterise the land.

Refer to Figure 1 for additional detail of E4 Environmental Living land constraints.

**Objectives**

O1 To require new development to respond to site features including topography and vegetation.
O2 To avoid adverse impact upon all land with development limitations.

**Controls**

C1 Retain existing vegetation along roads and creek lines.
C2 Protect sloping land and rocky outcrops as visual features of Boorooma.
C3 Roads and pathways should run predominantly along the contours of the land.
C4 Development Applications shall include management and mitigation information for land identified as environmentally sensitive.

**14.4.2. Distribution of Land Uses**

**Objectives**

O1 To locate new development in the most appropriate location within Boorooma.
O2 To manage the impact of development south of the escarpment, in particular visual impact, protective of native vegetation and reducing risk of erosion.

**Controls**

C1 Applications for subdivision should be in accordance with the adopted road layout plans, included as part of this Section.

**14.5. Infrastructure Planning**

This Section provides detail of servicing requirements (electricity, gas, water, sewer, and communications). An indicative staging plan is included as Figure 8 to this plan.
14.5.1. Servicing

Planning for the delivery of services to new development is essential for new urban release areas. Servicing plans must consider topographical constraints to achieve appropriate complementary subdivision design.

Objectives

O1 Provide essential services to new development in Boorooma – water, sewer, electricity, gas, and communications.

O2 Ensure the efficient and cost-effective provision of services.

Controls

C1 New infrastructure shall be located in road corridors.

C2 Subdivision can only be considered where there are appropriate arrangements for servicing (electricity, gas, water, sewer and communications).

C3 The developer shall provide reticulated water supply to all allotments in accordance with the requirements of the service authority. The developer shall be responsible for meeting the cost of internal water reticulation mains and extension of existing mains where necessary.

C4 The developer shall be responsible for providing electricity to all lots in the subdivision to the satisfaction of the service provider.

C5 The developer shall be responsible for providing gas to all lots in the subdivision to the satisfaction of the service provider.

C6 The developer shall be responsible for providing telephone and broadband internet connections for all allotments to the satisfaction of the service provider.

14.5.2. Sewage and Effluent Disposal

Objectives

O1 To ensure that all new development is connected to reticulated mains sewer supply.

Controls

C1 The developer shall be responsible for providing reticulated mains sewer supply to all allotments, including associated pump stations where required, to the satisfaction of Council. Detailed sewer design plans for each stage of subdivision must be submitted with the development application for that stage of subdivision. A sewer catchment plan is included at Figure 9 of this plan.

C2 Sewerage and Drainage provision should be installed in accordance with: Appendix A of Part 2 “Service Areas” of the City of Wagga Wagga Development Servicing Plan for Sewerage 2007, where this plan is applicable, and; the map at appendix A included in Part 2 Service Area of the City Of Wagga Wagga Development Servicing Plan (DSP) for Sewerage 2007, covers the Boorooma Urban Release Area.
14.5.3. External Site Linkages

Staging and subdivision pattern should reflect Council’s strategies for major regional roads and transport servicing, as well as requirements for emergency services access.

Objectives

O1 To provide logical and efficient connection of new staged subdivision to arterial roads.

Controls

C1 Applications for subdivision shall show connection to arterial roads, as well as respond to and integrate with the road layout established in earlier stages of development.

C2 Applications for subdivision shall ensure that, where a proposal impacts on access to an existing dwelling within Boorooma, access to that existing dwelling is incorporated within the subdivision design.

C3 Maintain capacity and level of service provided by existing intersections with the Olympic Highway and with Coolamon Road, and the operation of Farrer Road. Any upgrade works are to be funded by the development of the residential neighbourhood.

14.5.4. Land Release and Subdivision Staging

Staging the release of land within the Boorooma Estate is crucial to achieving the objectives of ecologically sustainable development and the orderly and economic provision of development.

The stages are shown on the attached Staging Plan (Figure 8 of this plan). Staging allows for the planned efficient provision of new infrastructure and services and seeks to avoid inefficient leapfrogging of development.

Objectives

O1 The future development of the neighbourhood will occur in stages, as shown on the Staging Plan. The Staging Plan should be adhered to in order to achieve the objectives of ecologically sustainable development and the orderly and economic provision of services.

Controls

C1 Land release in Boorooma shall occur in accordance with the Staging Plan.

C2 Where development proposals seek to extend infrastructure through undeveloped land, this extension will be the responsibility and at the cost of the developer.
14.6. Environmental Conservation, Biodiversity and Natural Resource Management

14.6.1. Natural Resource Management

Biodiversity protection is effected by Clause 7.3 of the LEP Terrestrial Biodiversity Map—biodiversity. This Clause seeks to protect the biodiversity of remnant vegetation. Where such native vegetation is identified by the corresponding map, the consent authority must consider a report that addresses potential impacts of proposed development on that vegetation.

The Boorooma Urban Release Area is part of the “bio-certified area” under the WWLEP 2010. DECCW has already determined in the Biodiversity Certification Report 2009 that the retention of existing mature trees within the E4 Zone is necessary to achieve an offset ratio of 10:1 across the Wagga Wagga biodiversity certification area.

The biodiversity study conducted by Eco Logical Australia found 25.5ha of Box Gum woodland in low or moderate condition on the ridgeline and slopes in the south of the site and along Farring Street and Amundsen Street. Box Gum woodland is listed as endangered under the TSC Act and as critically endangered under the Commonwealth EPBC Act.

An area of 0.83ha of River Red Gum forest was found in a small floodplain in the south of the site adjacent to the Olympic Highway and was in low condition. River Red Gum forest is listed as vulnerable within the Wagga Wagga LGA. The vulnerable listing reflects the high degree of clearing suffered by this community and the ongoing threats such as weed invasion and grazing which continue to degrade existing remnants.

The remainder of the site was found to comprise cropped paddocks.

In order to develop areas of non-native vegetation, the loss of paddock trees would have to be offset by the preservation of existing trees or the planting of saplings. Offsetting must be undertaken in accordance with DECCW’s recommended offset ratio of 10:1 for native woody vegetation. Sufficient offsets for the loss of paddock trees are likely to be available within retained lands at the site. The recommended structure plan indicates the location and extent of retained lands on the hilltop in the centre of the site and along the watercourse to the west of the site.

References
Wagga Wagga Local Environmental Study 2007 – prepared by Willana Associates.

Objectives
O1 To ensure trees and vegetation that contribute to the environmental and amenity value of the locality and region are preserved.

Explanatory Note(s):

Refer to report entitled “Proposed Biodiversity Certification for the Wagga Wagga Local Environmental Plan 2008”, Department of Environment Climate Change and Water hereafter referred to as the “Biodiversity Certification Report”.

The main implication of “biodiversity certification” in general terms, is that there is no need to undertake detailed threatened species impact assessments at the development application stage for the bio-certified area of the LEP, reducing government regulation whilst improving or maintaining biodiversity.

Refer to Section 5.2 Preservation of trees within WWDCP 2010 for tree preservation objectives and controls.

Within the E4 Zone, all trees containing hollows or with a diameter greater than or equal to 60cm (measured at 140cm from ground level) must be retained.

For all trees outside of the E4 Zone or trees within the E4 Zone less that 60cm, consideration will only be given to their removal following a thorough assessment of their ecological values (see also Section 8.4). An assessment of these trees shall take into account the following matters:

- their potential to provide habitat for wildlife;
- the results of the assessment undertaken in accordance with the requirements of Section 5A of the Environmental Planning and Assessment Act 1979 and the results of any Species Impact Statement if required;
- their function and capacity in reducing groundwater recharge;
- their aesthetic value and their potential to be incorporated as an attractive feature for the area; and
- their age, health and condition.
O2 To maintain and enhance the ecological values of waterways and
wetlands, including water quality, stream integrity, biodiversity
and habitat, within the Boorooma Urban Release area.

O3 To maintain and enhance riparian buffers to preserve the
environmental values associated with waterways and wetlands,
having specific regard to fauna and flora habitats and
ecosystems, stream integrity (including erosion management and
bank stability), land use impacts and recreational/visual amenity.

O4 To enhance the landscape, cultural and ecological qualities of
Boorooma

O5 To conserve existing granite outcrops within the site.

O6 To comply with the Biodiversity Certification Report.

Controls
C1 White Box, Yellow Box, Blakely’s Red Gum Woodland, Swift
Parrot or Superb Parrot habitat is retained within areas zoned
RE1 Public Recreation, E4 Environmental Living or identified in
the Environmentally Sensitive Land Map (attached to clause 7.3
of the Wagga Wagga LEP 2010, and generally not within R1 or
R3 zones. Figure 1 provides detail of the land constraints
associated with the E4 Environmental Living Zone. A plan is to be
submitted with the development application for each stage of
subdivision indicating which trees on the subject land are to
remain and which trees it is proposed to remove.

C2 Compensatory tree plantings must use a minimum 10:1 ratio of
trees planted to trees removed for each native tree to be
removed, and revegetation and landscaping should use locally
native species from seed of local provenance.

C3 Revegetation of riparian areas must use locally native tree and
shrub species.

C4 Existing granite outcrops must be retained in areas of open space
or environmental protection.

C5 Within the E4 Zone, building envelopes must include a 20 metre
wide Asset Protection Zone and must be located to avoid mature
trees with a diameter greater than or equal to 60cm (measured at
140cm from ground level). Such trees must be retained within the
E4 Zone.

C6 Within the E4 Zone, all trees containing hollows or with a diameter
greater than or equal to 60cm (measured at 140cm from ground
level) must be retained.

Explanatory Note(s):
Large mature trees with a diameter greater than or equal to 60cm
(measured at 140cm from ground level) must be retained within the E4
Environmental Living Zone (E4 Zone). Other trees must be retained
wherever possible, following consideration of clause 7.3 of the
LEP. Consideration will only be
given to the removal of these trees
following a thorough assessment of
their value as detailed above.

The Land and Water Management
Plan to be prepared for each stage
of development requires the
following:

- Revegetation and landscaping
  must use locally native species
  from seed of local provenance
  where possible.
- For the purpose of
  regeneration seed must be
  collected from trees to be
  removed.

- Weeds must be adequately
  controlled along the access
  route to limit the seed set prior
to excavation.
- Areas of vegetation must be
  fenced to protect from
  construction activities.
- Revegetated areas must be
  monitored for a period of five
  (5) years to ensure the
  establishment of planted
  vegetation. Within this period
  all plants that die must be
  replaced.
14.6.2. Corridors and Flyways

Objectives
O1 To protect existing wildlife habitat within the area.

O2 To provide for public use of natural areas where this does not affect the environmental role of the area.

Controls
C1 The existing reserve along Amundsen Street is to be retained and enhanced by Council as a lineal park and extended to include passive recreation and neighbourhood parkland. Existing Box Gum woodland along Farrer Road shall be preserved.
C2 Pathways and cycleways shall be located to avoid unnecessary loss of significant contributors to the Box Gum woodland.
C3 A vegetation reserve five (5) metres in width, parallel to Farrer Road shall be included as part of the subdivision plan.

14.7. Stormwater and Drainage

The development of Boorooma East requires an appropriate stormwater management system aimed at removing contaminants on-site before stormwater reaches the highly permeable alluvial system associated with the Murrumbidgee River floodplain. This will ensure that the receiving surface and groundwater systems, which are currently used to supply the city’s town water requirements, will not be detrimentally affected by contamination.

Consideration is to be given to existing downstream drainage systems and their capacity to receive the changed runoff volumes and patterns from the site, while maintaining existing flows to support habitats.

The study area consists of three catchments. Catchment 1 falls to a culvert under the Olympic Highway near Amundsen Street and has a naturally occurring wetland located at its lowest point. Catchment 2 comprises of the steepest area of the site and falling south-west to another culvert under the Olympic Highway. Catchment 3 flows north-east to the Highway. Runoff from development of the site will flow south-west, parallel to the Highway to the culvert that drains Catchment 2.

An overall stormwater management system should be implemented to ensure existing flows are maintained, while minimising the effects of excessive runoff rates and volumes. Such a system should adhere to the following principles:

- Provide an overall stormwater management plan with the initial development application for subdivision. A stage-based stormwater impact assessment should be provided at development application phase for each residential stage.
- Provide community based quantity and quality management systems to control runoff from roadways and other communal lands.
- Rainwater re-use to provide an alternative water source is encouraged. The provision of rainwater re-use systems can have significant positive impacts on the quality of stormwater runoff.
• Reduction of impervious areas to reduce the volume and rate of stormwater runoff. Optimisation of pervious/impervious ratios may include the limiting of paved surfaces.

• Water Sensitive Urban Design (WSUD) principles that control the quality of stormwater discharge should be incorporated (as outlined in Northrop report in Appendix B of WWLES 2007).

• Provide drainage corridors to manage concentrated surface trunk drainage flow within catchments. The drainage corridors would be utilised in a similar manner to the “Blue Line” water courses/ riparian corridors.

• Analyse existing culverts/ existing stormwater drainage systems to confirm capacity and determine the impact of backwater effects, if any.

• Manage runoff to maintain existing environmental flows to support habitats.

• Incorporate overland drainage systems into riparian corridors and open space where practicable to promote environmental and recreational outcomes.

• Provide stormwater detention facilities at a local catchment level, best located toward the downstream end of the catchment, outside areas susceptible to flooding.

• Reduce impervious areas to limit the volume and rate of stormwater runoff.

• Observe specific measures including wetlands bio-retention swales and maintenance of environmental flows.

Objectives

O1 To discharge water in a manner that will not impinge on adjoining catchments and that ensures public safety.

O2 Provide well designed drainage corridors to allow ease of maintenance and to ensure stormwater system will not impinge on other functions of the open space network.

O3 To maintain the quality of stormwater leaving the site and the quality of all downstream water.

O4 Integrated water cycle management and water sensitive urban design principles should be adopted for development of Boorooma East. Options such as grassed vegetation swales, natural drainage corridors, sand filters, permeable pavements and constructed wetlands should be considered as part of the stormwater management plan.

O5 Implementing rainwater harvesting and re-use systems, to reduce demand for potable water and decrease the volume of stormwater generated is encouraged.
Controls

C1 Provide stormwater retention facilities to ensure post development flows do not exceed pre-development flows, for both quantity and quality, for storm events up to and including the 1 in 100 year storm event. The requirement for retention will remain until such time as the linear park is dedicated to council and associated drainage is constructed to council's requirements.

C2 All new and existing roads will be required to have collector pits and an underground pipe system to carry water to the discharge point for each lot. Inter-allotment drainage will also be required to collect drainage from higher lots and avoid uncontrolled discharge onto lower lying properties.

C3 Stormwater drainage shall be provided throughout the development in accordance with Council’s Engineering Guidelines for Subdivisions and Developments. Indicative stormwater drainage plans, to Council satisfaction, shall be submitted with the development application for that stage of subdivision. Detailed drainage design plans for each stage of subdivision must be submitted with the subdivision certificate application for that stage of subdivision. Detailed calculations on stormwater management will be required at the subdivision application stage.

C4 Drainage lines and stormwater event areas will be managed through piped drainage and drainage easements.

C5 The provisions of a Development Servicing Plan prepared by Council, apply to this urban release area.

14.7.1. Salinity

Information on groundwater heights, quality and movement is required to determine if there is a risk of rising water tables and salinity at this location.

Objectives

O1 To provide information on groundwater levels within the site to ensure new development does not adversely impact upon the existing water table.

O2 To ensure that mitigation of any groundwater management issues is the responsibility of the developer.

O3 To improve Council’s knowledge of groundwater and salinity information for this area.

Controls

C1 Council will require a preliminary investigation of the area, by way of installing monitoring bores, to identify if there is a reasonable buffer between the shallow aquifer and the height at which development will occur, or the potential for a perched aquifer to establish beneath the site.
C2 If a shallow aquifer is identified, appropriate mitigation measures shall be identified, and monitoring of the aquifer shall commence on commencement of the use, to ensure any impacts from development are identified as early as practical and controlled.

C3 Any monitoring bore installed on the site be incorporated into Council’s urban salinity monitoring network.

14.8. Heritage Conservation

14.8.1. Aboriginal Heritage

The investigation by Kelleher Nightingale (refer to the Boorooma Archaeological Study (The Study) at Appendix D of the Wagga Wagga Local Environmental Study 2008 identified “the general archaeological sensitivity of the study area is moderate to high due to the combination of its elevated position above the Murrumbidgee River floodplain and the large amount of outcropping granite.

The Study makes the following recommendations for the Boorooma study area:-

- Management of the identified areas of potential Aboriginal archaeological sensitivity should be considered during the strategic planning process of Boorooma East;
- Conservation should be the prime consideration when establishing Aboriginal heritage management strategies during the planning process;
- The assessment has identified there is some potential for this study area to contain Aboriginal objects that were not visible at the time of current site visit due to extensive ground cover and preliminary nature of the investigation. As a result, this area warrants further survey and assessment for proposed future development, as part of the development assessment process. The Aboriginal Heritage Plan is included as Figure 10 in this DCP.

Objective

O1 To protect Aboriginal cultural heritage values by responding to the archaeological sensitivity of the site.

O2 To respond to the archaeological sensitivity of any site, which is identified as having low to high sensitivity.

Controls

C1 Proponents are to comply with the provisions of the NPW Act 1974 with respect to Aboriginal cultural heritage.

C2 Prior to the commencement of development within the Boorooma Urban Release Area further investigations of PADS and areas of high or moderate sensitivity as shown on the Heritage Plan, are required at the development assessment stage, to identify whether or not Aboriginal objects are present. Such investigations must comply with the provisions of the National Parks and Wildlife Act 1974.
C3 Proposals must be designed to avoid harm to Aboriginal objects and or Aboriginal places by designating the areas where they are located, incorporating appropriate buffers as open space and documenting proposed management practices to ensure the conservation of those objects and/or places.

C4 Satisfactory consultation is to be carried out with Council and Aboriginal stakeholders to confirm the proposed method of management for areas containing Aboriginal objects and/or Aboriginal Places.

C5 Council must be provided with documented justification where proposals cannot avoid harm to Aboriginal objects and/or Aboriginal Places.

C6 Where harm to Aboriginal objects and/or Aboriginal Places is proposed, the development will be ‘Integrated Development’ under Section 91 of the Environmental Planning and Assessment Act 1979 and necessary approvals must be obtained from DECCW in accordance with the NPW Act prior to Council determining the development application.

C7 A member of the Wagga Wagga Local Aboriginal Land Council or other Aboriginal stakeholder group must be invited to supervise works carried out in proximity to an Aboriginal object, Aboriginal place, or other site with Aboriginal cultural heritage values.

14.9. Subdivision

Section 7 contains the controls for subdivision of land.

The LEP sets minimum lot sizes for rural, rural small holdings and large lot residential land, and specifies the residual development potential of certain sites. Where no minimum lot size applies proposals for subdivision will be assessed on their merits against the Guiding Principles of the DCP, the subdivision design principles set out below, and the objectives and controls of this Section.

The core concepts for the merit assessment of subdivision proposals are reflected in the basic design principles which follow:

- Achieving site and environmentally responsive subdivision
- Ensuring that the size, shape and environmental characteristics of future lots will support appropriate development and maximise the potential for design for energy and water efficiency.
- Achieving good public domain outcomes.

14.9.1. Subdivision design principles

P1 Subdivision design should provide a foundation for good urban form in terms of environmental responsiveness, legibility, accessibility and the ability to support quality development.

P2 Subdivision design should be responsive to orientation, topography, natural features, catchments, and the established subdivision pattern.

P3 The size and shape of lots must be able to support sustainable development. Lot sizes may need to be increased where there are physical, visual or environmental constraints. For example lots on steeper sites may need to be larger to provide flexibility for siting future buildings.
P4 Subdivision for residential development should be able to comply with the land area per dwelling requirements contained in Section 8.

P5 Asset protection zones where necessary and controls on building envelopes, should be provided to protect mature trees.

**14.9.2. Residential and large lot residential subdivision**

This Section contains the controls for residential subdivision, including rural residential/ large lot residential developments. The subsection applies to all land in the RU4, R1, R3 and R5 Zones.

Any building that is proposed for strata subdivision is required to comply with relevant fire safety provisions. Council may require associated fire upgrading works as part of an application for strata subdivision.

Depending on the environmental conditions, specialist studies may be required to address Salinity Sensitive Urban Design (SSUD), tree cover and native vegetation and other similar issues.

**14.9.3. Topography, views and setting**

The natural landform and setting contribute to a sense of place. Subdivisions should be responsive to the setting and natural site features and established subdivision patterns. Pre-determined subdivision is generally not supported as they may fail to consider the particular characteristics of the location.

**Objectives**

O1 Encourage site specific solutions and site responsive development.

O2 Discourage predetermined layouts that may not suit local topography, subdivision pattern and the like.

O3 Design to maximise the natural features of the land.

O4 Protect the visual amenity of the natural ridgelines and historical landscapes.

O5 Avoid street layouts that result in lots being considerably higher or lower than the street level.

**Controls**

C1 Any future development visible from the Olympic Highway must maintain a rural representation to the highway and preserve natural areas.

C2 Lot orientation, size and frontages should be suitable to accommodate energy efficient development, required setbacks, landscaping, vehicle movement and parking.
C3 Subdivisions are to be designed such that lots intended for residential development shall have a “street address” to an existing or proposed public road. That is, subdivision is to avoid the creation of allotments, the rear of which “front” or “address” a public road resulting in the erection of rear fences along public road boundaries.

C4 New roads are to respond to topographical features. Where land slopes at a grade of 6 percent or more the predominant street alignment should be perpendicular to contours. In other cases streets should be parallel to the contours.

C5 Ridgelines of all dwellings should be set below the ridgelines of all hills on which they are set.

C6 All trees with a diameter greater than or equal to 60cm (measured at 140cm from ground level) must be retained.

C7 Subdivision design shall include a building envelope and corresponding 20 metre wide asset protection zone in areas where there are mature trees with a diameter greater than or equal to 60cm (measured at 140cm from ground level).

### 14.9.4. Design for use and accessibility

Good subdivision design offers connectivity and a legible hierarchy of streets and through routes. Roads should offer a choice of routes for pedestrian and vehicles, and integrate adjoining streets, neighbourhoods and local facilities or shops, with minimal use of dead-end and cul-de-sac roads. The Road Network Map sets out the location of collector and local roads within the Boorooma Urban Release Area. The Road Network Map includes roads suitable for bus access.

#### Objectives

O1 To provide a logical and accessible road hierarchy connecting to and within the Boorooma Urban Release Area.

O2 To optimise the use of existing and proposed road corridors/reserves for the possible location of services and utilities.

O3 Design streets to respond to their role and function and to ensure good connections to adjoining neighbourhoods.

O4 Provide public transport access to and within Boorooma.

O5 Provide for pedestrians and cyclists, with easy and safe links to local facilities, services and open space areas.

#### Controls

C1 Neighbourhood road networks are to maximise connectivity within the development, and to the existing street network and adjoining neighbourhoods. Avoid long roads with few connecting side streets that reduce the potential to readily access the area.

C2 Carriageway and intersection widths shall reflect road status and purpose.

C3 Roads are to be provided generally in accordance with Figure 3 Road Layout Plan. Figure 7 provides indicative detail of the embellishment of Farrer Road, Entry Road and Minor Entry Treatment.

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Explanatory Note(s):

Footpaths are generally required on both sides of the street in the case of collector roads.

Refer to Council’s Engineering Guidelines for Subdivision and Development for detailed design requirements.
C4 Details of proposed bus routes to service the estate are to be provided by the developer and agreed by Council prior to development approval.

C5 Footpaths, constructed by the developer (except in land zoned RE1) in accordance with Council’s standards, are to be provided generally in accordance with Figure 4 Cycleways/Pathways. The footpaths must be provided within 12 months of the construction of 80% of the dwellings within the stage of subdivision that includes the footpath.

Minimum dimensions for footpaths: Generally - at least 1.5m in width. Shared paths - at least 2.5m in width.

C6 Avoid cul-de-sac roads in locations where the dead end would limit links through the neighbourhood, and where more than 10 houses are likely to have access from the cul-de-sac.

C7 Cycleways, constructed by the developer (except in land zoned RE1) in accordance with Council’s standards, are to be provided generally in accordance with Figure 4 Cycleways/Pathways. The cycleways must be provided within 12 months of the construction of 80% of the dwellings within the stage of subdivision that includes the cycleway.

C8 Roads shall be located predominantly along the contours of the land to assist with drainage functions.

14.9.5. Solar access, energy efficiency, size and shape of lots

Subdivision design can influence the ability of future development to achieve good solar access. The controls of this Section aim to link the orientation of lots to the preferred location of future buildings in order to maximise solar access and liveability of dwellings constructed on the lots.

The orientation of roads is also an important contributor to achieving energy efficient subdivisions. Roads having an alignment east-west facilitate good orientation for solar access to dwellings and private open space, especially where the lots have a narrow lot frontage and longer length. Lots on roads running north-south typically need to be wider and shorter.

Objectives

O1 Encourage development that delivers good outcomes for orientation and solar efficiency.

O2 Ensure that lots are of appropriate sizes for the proposed development considering the scale, character and form of existing housing in the locality and environmental conditions and constraints including topography.

O3 Ensure residential subdivisions allow sufficient area for private open space, landscaping and amenity for future residents.

Controls

C1 At least 70% of the total number of lots should have their long axis oriented within 45 degrees of north so that the long axis of each dwelling is generally oriented east-west.

Explanatory Note(s):
Figure 1. Solar Orientation

C2 Lots on roads running east-west should have wider frontages than lots on roads running north-south where the lots should be deeper.

C3 Rectangular shaped lots are preferred. Hatchet shaped lots will be considered only where it can be demonstrated that site conditions and context limit the ability to achieve a regular shaped lot.

C4 All proposed lots must be capable of meeting the development standards set out in Section 8 of the DCP including minimum development area, site cover, landscaped area and private open space.

C5 Potential outdoor living areas and areas of potential building footprint are to be shown for lots that are intended for dwellings, dual occupancy or multi-unit housing developments. The future outdoor living area should be north facing and to the rear of the site where a courtyard or private open space area would ideally be located for the future dwelling.

Figure 2. Private Open Space Location

Explanatory Note(s):

Refer to controls on site layout, solar access and private open space for residential development.

To achieve optimum solar access potential lot dimensions will vary with orientation.

The building location and building exclusion areas may be required to be included on the Section 88B instrument.
C6 Increase lot sizes where site conditions could constrain future development, such as on sloping sites.

14.9.6. Open Space, parks and the public domain

Parks and open space areas should be integral to neighbourhood design, providing a range of recreational and environmental settings, corridors and focal points. They should a response to the opportunities and constraints of the physical characteristics of the land, proposed uses and facilities.

Objectives

O1 To develop an open space network that facilitates the protection of key environmental and cultural qualities contained within the site and to ensure connectivity by way of linkage of the open space network that provides useable and aesthetically pleasing areas for the community’s needs.

O2 To provide open space areas with natural surveillance from surrounding dwellings.

O3 To provide planting throughout the neighbourhood, especially in the public places and streets, to create a pleasant microclimate and mitigate the effects of extreme temperatures.

O4 To provide a lineal park that benefits the existing and future residents of Boorooma.

Controls

C1 Open space provided is to be located in accordance with Figure 2 Open Space Network. Footpaths and cycleways included within the open space will be constructed by Council, as shown in Figure 2.

C2 Dwellings adjoining open space must front that open space.

C3 Landscaping shall occur with locally native vegetation. The park shall be landscaped with plantings, seating of low visual impact, paths and irrigation. Figure 5 provides a Landscaping Plan (subject to final Council approval), to be implemented by Council.

C4 Locate open space and recreation areas to maximise connections to adjoining land uses and local roads.

C5 Open space areas and parks are generally not to be located under major power lines or in detention basins.

C6 Drainage areas are not to be included in the calculation of area required for local open space.

C7 To lessen their visual impact electrical boxes and other infrastructure are to be strategically incorporated into areas of open space.

Explanatory Note(s):

Refer to the Guide (including Appendices 2, 3 & 5) and Checklist for subdivision for further details in relation to required information for the landscaping of communal (public) open space areas.

Figure 6 provides indicative detail of the embellishment of the Lineal Park.

Figure 7 provides indicative detail of the embellishment of the Hilltop Park.

An open space master plan including detailed information about the treatment and/or embellishment of open space is to be submitted with a development application for a subdivision to create 10 additional allotments.

Documentation that should accompany a construction certificate for a subdivision to create 10 additional allotments should include plans, materials and finishes etc for public open space.
14.9.7. Water Sensitive Urban Design

The impervious surface of roads significantly increases the stormwater flows of urban areas. Road surfaces are also a source of water borne pollutants such as sediments, metals and hydrocarbons.

Water Sensitive Urban Design (WSUD) strategies use vegetation and bio-retention swales, and other stormwater treatments to reduce stormwater flows, and to collect and treat runoff prior to discharge.

Objectives

O1 Encourage development based on water sensitive urban design strategies which reduce stormwater flows and improve the quality of runoff from urban areas.

O2 Encourage stormwater treatments that maximise the visual and recreational amenity of developments.

O3 Encourage designs which will minimise future operation and management requirements at the design stage.

O4 Incorporate water saving and water wise facilities as an integral part of the design and construction of all development.

Controls

C1 A water sensitive design strategy is required for subdivisions that result in more than 10 residential lots, or where the land to be subdivided is greater than 5ha in area.

C2 Water quality control devices may be required where there is potential for drainage to impact on the Murrumbidgee River.

Explanatory Note(s):

For larger neighbourhoods the WSUD strategy should cover the whole area (including future subdivision stages).

For all 'greenfield' sites including urban release areas, shared services trenching (of compatible services or utilities such as power and telecommunications) is preferred where such services are to be provided.
14.10. Residential Development

This subsection contains the controls for residential development. The controls apply to all residential development applications unless specified in the heading.

The land use directions provide a guide to the intended type, form and density of future development in these areas.

The controls relate to site context and layout including site planning/layout and streetscape, and controls specifically for corner lots and sloping sites.

The subsection contains controls relating to site area, building form and envelope, including controls on site cover, landscaped area, setbacks and solar access, in addition to controls relating to design details that encourage good building form, quality private open space and good amenity outcomes.

14.10.1. Design Principles

Sustainability and efficient use of resources

P1 Use passive solar design principles to maximise thermal performance for good internal amenity.

P2 Select materials to support good thermal performance and maximise the sustainability of the design.

P3 Achieve a density and scale that reflects the zone and proximity of the site to transport, shops, schools or community uses.

P4 Implement resource reuse.

Design quality

P5 Building siting, footprint, scale and bulk should be compatible with adjoining development and the established or intended built form.

P6 Integrate building design and landscaping with north facing internal living areas that link to quality private open space.

Site responsive development

P7 Development design shall respond to the issues highlighted in the site analysis, taking advantage of natural features, minimising potential impacts to neighbours and achieving compatibility with neighbourhood character. Respond to constraints including road noise from the Olympic Highway.

P8 Minimise changes to the natural landform, especially in environmentally sensitive or visually prominent areas.

P9 Visual and acoustic privacy are important for good residential amenity. When designing new developments care should be exercised to ensure that impacts on the privacy of adjoining developments is minimised when designing new development and to ensure the privacy of occupants of the new development.

Quality public domain

P10 Provide an attractive street address that integrates the public and private domain through landscaping and attractive fencing.

Explanatory Note(s):

Complying with this Section

The controls in this Section support the Guiding Principles and Section Objectives. A Development Application must satisfy the Guiding Principles, and the Objectives of the relevant Sections. Equal emphasis must be given to both "numeric" and non-numeric controls relevant to a particular development. Compliance with controls will not necessarily guarantee approval of an application.

Where a variation is sought, the application must document the reasons and extent of the variation, and how the variation meets the Guiding Principles and Section Objectives for the consideration of the Council.

Greywater Reuse Systems

Greywater is the waste water which originates from domestic plumbing fixtures such as showers, baths, spas, hand basins, laundry, and washing machines. It does not include waste water from toilets, urinals or kitchens.

The practice of grey water reuse should not impact adversely impacts upon the environment or human health.

The Installation and operation of Greywater Treatment Systems must comply with Council’s Greywater Reuse Management Plan. A person must not carry out works related to the installation and operation of Domestic Greywater Treatment System (DGTS) or the operation of a Greywater Diversion Device (GDD) for residences if alteration to existing plumbing works occurs without the approval of Council.

Council shall not approve the installation of a Greywater Treatment System, unless the requirements of the Greywater Reuse Management Plan can be achieved and the system has been accredited by NSW Health.

Also refer to provisions elsewhere in this Section.
14.10.2. Land Use Directions

Existing built form
Currently there are few dwellings in the area and they are ancillary to small scale agricultural land use.

Future directions
The aim is a high quality neighbourhood providing a mix of low and medium density residential development, supported by infrastructure and services, landscaping of recreation and natural areas, connectivity for pedestrians, cyclists and vehicles, and achieving a sense of community.

14.10.3. Site context and layout

The controls of this Section encourage site responsive developments that are compatible with neighbourhood character. Site responsive developments respond to their site context take advantage of site features and minimise impacts to neighbours.

Development should be individually designed for the site, taking advantage of orientation, locating buildings to minimise cut and fill on sloping sites, and integrating landscaping and built form.

The principles of passive solar design are fundamental, and are best achieved by orienting living areas to the north, and designing for natural cross ventilation.

Orient dwellings to maximise passive solar design opportunities with their long axis generally east-west.

Living rooms should face north where possible.

Objectives
O1 Encourage site responsive development that is compatible with existing or desired built form.
O2 Facilitate sustainable development through passive solar design.
O3 Integrate landscaping and built form.
O4 Discourage use of predetermined design concepts.
O5 Protect the visual amenity of the natural ridgelines and historical landscapes.

Controls
C1 Incorporate site characteristics such as trees, changes in level or rock outcrops as features within the site layout.
C2 Integrate access, landscaping and services in the site layout, avoiding “left over” or wasted spaces.
C3 Orient dwellings so that living areas face north with direct connection to private open space.
C4 Facilitate natural cross ventilation within dwellings through the considered location of windows and doors.
C5 Maximise natural surveillance of common areas by orienting living areas with views over common spaces.
Any future development visible from the Olympic Highway must maintain a rural presentation to the highway and preserve natural areas.

14.10.4. Streetscape

Good streetscape character is important for achieving a quality residential environment. The streetscape character is created by the relationship between buildings and landscape character. Contributing elements include well defined front gardens, fences that look part of the street rather than an extension of the house, and by street trees.

Objectives

O1 Encourage compatibility with existing built form.
O2 Encourage attractive streetscapes.
O3 Ensure a strong street edge with good definition between the public and private domain.
O4 Encourage fences that complement dwelling design.
    Encourage the use of front fences to define the lot boundary and street edge.

Controls
Refer to WWDCP 2010 Sections 9.2.2 and 9.2.3.

14.10.5. Corner lots and secondary facades

Sites with dual frontages need to ensure that the side (or secondary) facade is attractive as it contributes to neighbourhood character

Objectives

O1 Encourage development on corner sites to respond to all street frontages.

Note: this objective relates to both building lines and fences.

Controls
Refer to WWDCP 2010 Section 9.2.3.

14.10.6. Sloping sites

Development on Wagga Wagga’s hills requires careful attention to protect the town’s visual setting. Building designs should accommodate sloping sites, rather than the other way around – using cut and fill to create a level site. Appropriate building designs for sloping sites use split level, pier foundation or suspended floor designs.
Objectives
O1 Encourage site responsive development.
O2 Encourage building design that is appropriate to the site conditions.

Controls
C1 Use pier, split level or suspended floor designs on sloping sites.

Explanatory Note(s):
Use split level construction on sloping sites.
Also refer to Section 2.7 for controls on excavation, cut and fill.

14.10.7. Site area, building form and envelope
The site area, building form, scale and bulk should be appropriate to the established or intended built form of the locality. Site cover, landscaped area, setbacks and solar access are the main controls to ensure appropriate bulk and mass.

14.10.8. Land area per dwelling
Residential developments need sufficient space for setbacks to ensure adequate space between buildings, and for private open space and landscaping. The land area per dwelling requirement is important to ensure that developments do not rely on adjoining land to effectively “provide the green space” to make the houses liveable while ensuring appropriate densities are achieved in the R3 Zone.

Objectives
O1 Ensure adequate area to provide separation between buildings, landscaping and private open space.
O2 Maintain development patterns that are compatible with the established character of established residential areas.
O3 Encourage maximum utilisation of land in the R3 Zone.

Controls
C1 The minimum development area is to be in accordance with Table 9.3.2a in the WWDCP 2010.
C2 On larger sites the land area per dwelling may be distributed to provide a range of lot sizes, and to respond to site conditions and context.
14.10.9. Site cover

Site cover is the proportion of a site that is occupied by buildings, garages and other structures. Site cover does not include basements, area under eaves, unenclosed decks, balconies, swimming pools, tennis courts or the like (refer to definition in the LEP).

Site cover controls significantly impact on built form and the pattern of open areas in relation to buildings. In many areas of Wagga Wagga there is pressure to increase the size of buildings and eat into the “green spaces” that separate houses. These green spaces are also often the areas where mature trees are able to grow.

Managing site cover is important to ensure that houses have adequate space for usable private recreation and garden areas, to avoid occupants feeling “overcrowded” and to maintain areas for natural runoff.

Landscaped area is unbuilt green space. Landscaped area does not include paved areas – it is the area used for growing plants, grasses and trees. The landscaped area controls apply in all areas to which this Part applies.

Objectives

O1 Ensure that development sites are of sufficient size for any proposed dual occupancy, multi dwelling housing and residential flat developments.

O2 Ensure adequate areas for access, parking, landscaping, useable garden and outdoor areas and natural runoff.

O3 Retain compatibility with site context and avoid over development resulting from excessive site cover.

Controls

Refer to Section 9.3.2 of the WWDCP 2010.

Explanatory Note(s):

The requirements for single dwellings are in accordance with SEPP Exempt and Complying 2008.
14.10.10. Solar access

A well planned home based on passive solar design principles will have north facing living areas that open directly to the main private open space. It will take advantage of natural breezes to circulate through the internal areas and will locate non-habitable rooms to shield habitable rooms from summer heat.

Objectives

O1 Ensure that the amenity of the occupants is achieved by designing so that they receive adequate daylight and natural ventilation to habitable rooms and sunlight to private open space areas.

O2 Maintain reasonable sunlight access to adjoining properties.

Controls
Refer to Section 9.3.4 of the WWDCP 2010.

Solar access within the development

C1 For single dwellings, dual occupancies, secondary dwellings & shop top housing the windows to the main internal living area and at least half the private open space are to receive a minimum 3 hours direct sunlight between 9am and 3pm in mid-winter (June 22).

C2 At least 70% of dwellings within multi-dwelling housing and residential flat developments are to satisfy C3.

Protecting solar access to adjoining properties
Refer to Section 9.3.4 of the WWDCP 2010

14.10.11. Private open space

Private open space is an “outdoor living area” that is normally part of the rear garden. It can be a deck, patio or paved area at existing ground level, and should be directly accessible from the main living area of the dwelling with a north facing aspect.

Objectives

O1 Provide quality, useable private open space.

O2 Ensure adequate areas for recreation and outdoor living.

O3 Encourage good connection between dwellings and private open space.

Controls
Refer to Section 9.3.5 of the WWDCP 2010.
14.10.12. Front setbacks

The front setback creates the building line to the street and a transitional space between the public domain and private property. Front setbacks are important contributors to the visual setting of buildings and help to create attractive streets.

Objectives

O1 Encourage uniform building lines that correspond to the built setbacks and patterns of neighbouring buildings.

O2 Encourage attractive residential streets and quality public domain.

O3 Ensure that new developments complement the established built patterns.

O4 Maintain lines of sight for vehicle safety.

Controls

Refer to Section 9.3.6 of the WWDCP 2010.

14.10.13. Side and rear setbacks

Side and rear setbacks are important to maintain amenity between neighbouring sites, and to provide space for landscaping. Side setbacks need to be increased for additional building height.


Objectives

O1 Ensure adequate separation between buildings for landscaping, privacy, natural light and ventilation.

O2 Ensure new development continues the rhythm or pattern of development in the locality.

O3 Provide access for maintenance.

Controls

Refer to Section 9.3.7 of the WWDCP 2010.

14.11. Design details

A number of detailed design elements contribute to good quality developments. They combine to support the sustainability qualities, environmental “friendliness” and liveability of housing.
14.11.1. Building elements

Quality built form is supported by clever use of building elements such as balconies, eaves, sun shading devices and appropriate use of materials.

Objectives

O1 Encourage passive solar design principles.
O2 Encourage quality and visually interesting buildings through the use of climate-responsive building elements.
O3 Limit incidence of summer sun on dwelling windows to control demand for air conditioning.

Controls
Refer to Section 9.4.1 of the WWDCP 2010.

14.11.2. Materials and finishes

Cladding materials should be environmentally responsive and should contribute to a quality streetscape.

Objectives

O1 Encourage the use of external materials and finishes that are suited to their location and contribute to consistent quality streetscapes.
O2 Encourage use of materials that have good thermal performance.
O3 Promote the use of materials that are climate responsive and contribute to innovative building design.
O4 Discourage corporate colours in building facades.

Controls
Refer to Section 9.4.2 of the WWDCP 2010.

14.11.3. Privacy

Visual and acoustic privacy are important for good residential amenity. The site analysis should identify potential threats to privacy and areas where special attention is required to minimise potential impacts to adjoining and nearby properties.

Objectives

O1 Ensure privacy within new developments, and avoid potential impacts to existing properties.
O2 Ensure adequate acoustic privacy within dwellings.

Controls
Refer to Section 9.4.3 of the WWDCP 2010.

Explanatory Note(s):

Achieving acoustic privacy

Dwellings on main roads or near the railway line may be exposed to high noise levels. Attenuation can be achieved by using:

✓ Brick, brick veneer or block work construction with fibre insulation in wall and roof cavities
✓ Solid core external doors with seals
✓ 6mm glass with acoustic seals.

Council may impose conditions on the location and detail of any mechanical ventilation or air conditioning equipment to minimise noise intrusion within the development and to adjoining dwellings.
14.11.4. Garages and driveways

Garages and driveways should not dominate the street elevation of residential developments.

Objectives
O1 Minimise the visual dominance of garages and driveways in the streetscape.

Controls
Refer to Section 9.4.4 of the WWDCP 2010.

Explanatory Note(s):

The primary street frontage is the same as that defined in the "Codes SEPP" ie 'the road to which the front of a dwelling house, or a main building, on a lot faces or is proposed to face'. The remaining street frontage becomes the secondary frontage. The rear boundary will become the opposite of the primary road boundary and the side boundary will be the remaining boundary. Refer also to the Codes SEPP and WWLEP 2010 for the definition of building line.

14.11.5. Site facilities

These controls apply to all residential developments other than single dwellings.

Site facilities include garbage and servicing areas, mail boxes, drying areas, external storage areas and utility services (gas, waster, telephone, and electricity). Integrating these facilities into the overall design of a development improves site function and appearance.

Objectives
O1 Ensure site facilities are integrated into site design, and are convenient, visually discreet and easy to maintain.
O2 Encourage an attractive residential setting and quality public domain.
O3 Minimise duplication of trenches for services and the like.

Controls
Refer to Section 9.4.5 of the WWDCP 2010.

14.11.6. Landscaping

Landscaping contributes to achieving an attractive site by softening the appearance of built form. Landscaping adds visual interest and through appropriate species selection, can provide sun shading for vehicles and buildings.

Refer to Section 2.4 and Section 5.2 of WWDCP 2010 for objectives and controls relating to landscaping and preservation of trees and all other controls.

Objectives
O1 Preserve and enhance the landscape appearance of the site adjacent to major arterial roads.
O2 Preserve and enhance the landscape appearance of development adjacent to rural land uses on the eastern edge of the site.
O3 Preserve and enhance existing creek lines.
O4  Provide landscaping as part of the front setback.

O5  Provide landscaping which contributes to passive solar design of the development.

Controls
Refer to Sections 2.4 and 5.2 of the WWDCP 2010.

Explanatory Note(s):
Suitable landscape planting is low maintenance species suited to a dry climate. Reticulation of rainwater will be suitable for irrigation.

Variation to planting timing can be considered for seasonal factors.

14.11.7.  Fencing
The design and construction materials for boundary fences for residential allotments that adjoin land zoned RE1 Public Recreation Zone must provide a positive visual relationship between the allotment and the open space.

Objectives
O1  Protect the visual amenity and aesthetics of the locality by encouraging fencing that is in context with the location.
O2  Provide fencing which achieves appropriate visual and physical separation between private and public land.

Controls
Refer to Section 9.2.2 of the WWDCP 2010 adding the controls indicted below:

C1  Dwellings adjoining open space must front the open space, and fencing must include only 600mm solid or transparent material.

C2  Rural style fencing post and wire shall be used for any dwelling adjoining land zoned E4 Environmental Living.

C3  Lots that have secondary frontage to Farrer Road require screen landscaping of their side boundary to ensure suitable visual presentation to and privacy from Farrer Road.
Figure 2
Figure 4
Figure 5
Figure 7
Figure 8
Figure 10