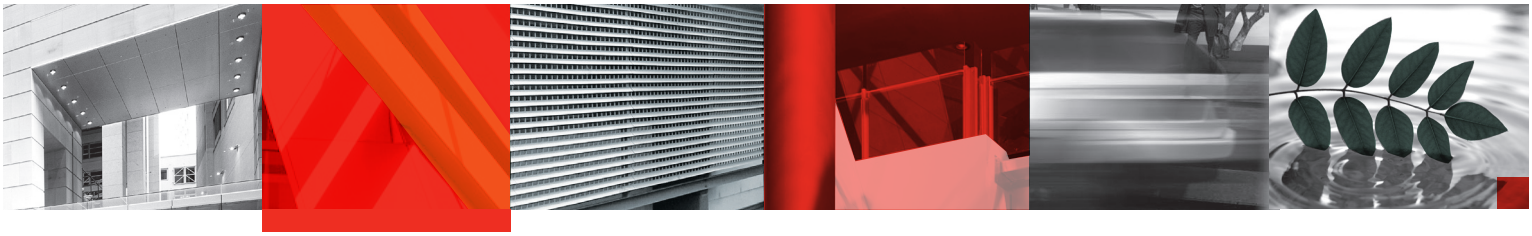
Consolidated Development Control Strategy



Calderwood Urban Development Project

March 2011 ▪ 09077

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1.0 Introduction

This Consolidated Development Control Strategy contains specific development control standards for urban design, built form and environmental management. These standards are designed to ensure that the development principles and key elements of the approved Calderwood Concept Plan (MP09_0082) are implemented.

This Consolidated Development Control Strategy incorporates the:

- Development Control Strategy that was included at Appendix BB of the SSS Study and Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated March 2010;
- Requirements at Statements of Commitment 20 to 22 of the approved Concept Plan; and
- Matters specified at Modification B6(7) to (11) of the approved Concept Plan Notice of Determination.

The detailed design of relevant future development, including the design of streets, subdivision and built form is to be generally in accordance with this Consolidated Development Control Strategy.

The detailed design of subdivision, including proposed residential lot sizes, is to be generally in accordance with the development controls relating to the future Character Areas included at Section 13.

1A Urban Structure & Subdivision

1.1 Street Types

The Calderwood street network is to be developed in accordance with the principles of the Calderwood Transport Management and Accessibility Plan (TMAP), namely establishment of a permeable grid and legible street hierarchy that reinforces the neighbourhood structure. The design principles for the road hierarchy ensure they meet performance criteria of the *Planning for Bushfire Guidelines 2006* and promote sustainability principles which are fundamentally embedded in the subdivision design. These principles are identified in the TMAP.

The future street hierarchy in Calderwood reflects the street typologies developed in consultation with SCC. The location of external road connection points and internal roads, as shown in the approved Concept Plan refer to Figure 3 and Appendix C of the Consolidated Concept Plan dated March 2011)serve as an indication of the urban structure of the site. Detailed design and placement of these roads will need to take into consideration the drainage regime of the site and the configuration and layout of lots to promote flexibility at DA/PA stage.

Table 1 outlines the street types to be provided in Calderwood. This table also refers to relevant street sections included in **Appendix B** which illustrate how these controls are to be implemented.

Table 1 – Street Types to be provided in Calderwood

	Street Type	Carriageway					Verge		
	Sub Arterial Road	Travel Lanes	Median	On-street Cycle Lane No.	Parking	Carriageway Width	Verge Width	Total Reserve	Footpath
A1	**Sub Arterial** with parking on both sides and bus service	7.8m	0	2	5.6m (2.8 + 2.8m)	***13.4m***	***10.6m*** (5.3m each side)	**24m**	3m (1.5 + 1.5m)
A2	**Sub Arterial with WSUD Median** and one way traffic lanes with parking	9.4m (4.7 + 4.7m)	Varies	2	5.6m (2.8 + 2.8m)	***15m***	***10m*** (5m each side)	**Varies 25m min**	3m (1.5 + 1.5m) on sides 1.5 - 2.5 in median
A3	**Sub Arterial with Centre Drainage** (one lane in each direction with parking bays)	7.8m	0	2	5.6 (2.8 + 2.8m)	***13.4m***	***10.6m*** (5.3m each side)	**24m**	3m (1.5 + 1.5m)

	Street Type	Carriageway					Verge		
	Major Collector Road	Travel Lanes	Median	On-street Cycle Lane No.	Parking	Carriageway Width	Verge Width	Total Reserve	Footpath
B1	**Major Collector** with parking on both sides and bus service	6.4m	0	0	5.6m (2.8 + 2.8m)	***12m***	***10m*** (5m each side)	**22m**	3m (1.5 + 1.5m)
B2	**Major Collector with Median** and parking on both sides and bus route	6.4m (3.2 +3.2m)	4m	0	5.6m (2.8 + 2.8m)	***16m***	***10m*** (5m each side)	**26m**	3m (1.5 + 1.5m)

	Street Type	Carriageway					Verge		
	Minor Collector Road	Travel Lanes	Median	On-street Cycle Lane No.	Parking	Carriageway Width	Verge Width	Total Reserve	Footpath
C1	**Minor Collector** with parking on both sides	5.4m	0	2	5.6m (2.8 + 2.8m)	***11m***	***9m*** (4.5 m each side)	**20m**	3m (1.5 + 1.5m)
C2	**Minor Collector - Pedestrian Priority Street** with parking on both sides	5.4m	0	0	5.6m (2.8 + 2.8m)	***11m***	***12m*** (8.7 m on one side and 3.3 m on other side)	**23m**	2.7 - 3.7m (1.5 2.5 + 1.2m)

	Street Type	Carriageway					Verge		
	Town and Village Centre	Travel Lanes	Median	On-street Cycle Lane No.	Parking	Carriageway Width	Verge Width	Total Reserve	Footpath
D1	**Town and Village Centre - Collector Road** with parking both sides, fully paved verge and bus route	6.4m	0	0	5.6m (2.8 + 2.8m)	***12m***	***10m*** (5m each side)	**22m**	10m (5 + 5m)
D2	**Town and Village Centre - Access Street** with parking both sides and fully paved verge	5.4m	0	0	5.6m (2.8 + 2.8m)	***11m***	***8m*** (4m each side)	**19m**	8m (4 + 4m)

	Street Type	Carriageway					Verge		
	Access Streets	Travel Lanes	Median	On-street Cycle Lane No.	Parking	Carriageway Width	Verge Width	Total Reserve	Footpath
E1	**Access Street** with on street parking and footpath on both sides	7.2	0	0	On street	***7.2m***	***8.8m*** (4.4m each side)	**16m**	2.4m (1.2m each side)
E2	**Access Street** with on street parking and footpath on one side	7.2m	0	0	On street	***7.2m***	***8.8m*** (4.4m each side)	**16m**	1.2 - 1.5m (on one side)
E3	**Access Street** with on street parking and footpath on both sides	7.2m	0	0	On street	***7.2m***	***7m*** (3.5m each side)	**14.2m**	2.4m (1.2m each side)
E4	**Access Street - Urban** with on street parking and footpath on one side	7.2m	0	0	On street	***7.2m***	***7m*** (3.5m each side)	**14.2m**	1.2 - 1.5m (on one side)
E5	**Access Street - APZ Edge** with optional Hike/Bike and Footpath on each side	6m	0	0	On street	***8m***	***6m*** (on one side)	**Varies 12.4m min**	1.2 - 1.5m (on one side)
E6	**Access Street - Country** with on street parking and footpath on one side	7.2m	0	0	On street	***7.2m***	***12.8m*** (6.4m each side)	**20m**	1.2 - 1.5m (on one side)
E7	**Access Street - with WSUD Median** parking bays on both sides plus variable width WSUM Median	6m (3 + 3m)	Varies	0	2.5m	***6m***	***8.8m*** (4.4m each side)	**Varies 19.8m min**	2.4 - 3m (1.2-1.5m each side)
E8	**Access Street - Hill Side** with variable carriageway width responding to terrain plus passing and parking bays in select locations	7m (3.5 + 3.5m)	Varies	0	2.5m	***7m***	**6m** (3m each side)	**Varies 13m min**	0

	Street Type	Carriageway					Verge		
	Miscellaneous	Travel Lanes	Median	On-street Cycle Lane No.	Parking	Carriageway Width	Verge Width	Total Reserve	Footpath
F1	**Lane**	5m	0	N/A	0	***5m***	***3m*** (1 + 2m)	**8 m**	0
F2	**Open Space Edge Mews** (Shared Pedestrian Woonerf adjacent to open space)	5.6m	0	N/A	2.5m	***8.1m***	***4.3 - 4.7m*** (2.3 - 2.7 + 2m)	**varies 12.4m min**	Shared Way
F3	**Accessway** rear loaded no parking	3m	0	N/A	2.5m	***5.5m***	**4.5m** (2.5 + 2m)	**8m**	Shared Way
F4	**Accessway** parking one side	3.5m	0	N/A	2.5m	***6m***	**4.5m** (2.5 + 2m)	**10m**	Shared Way

General Notes

1) Tree pits may be incorporated into the carriageway width to help delineate parking and define pedestrian priority zones, crossing points and other nodes along main streets. When this occurs, the kerb will be brought out and around the the tree tointegrate the planting with the verge
2) Cyclepaths are to be provided as per the Pedestrian and Cycle Network Plan and may be on street or off road. On street cycle lane 1m wide each direction. Off road share hike and bike 2.5m wide path within total road reserve.
3) Medians over 4m width allow for central tree planting
4) Angle parking can be used for high intensity activity areas such as the Town and Village Centres and streets adjoining major parklands with high visitor numbers.
5) Upright kerb to be used. Flush and/or permeable kerb to be used on Sub Arterial with WSUD Median at interface with median

1.2 Public Domain

This section details the proposed landscape characters, landscape presentations, and public domain materials and treatments.

1.2.1 Landscape Character Areas

The landscape character of the open space areas within Calderwood are identified on the Landscape Character Areas map at **Figure 1**. As shown at **Figure 1**, the landscape character of open space areas is to reflect one of the following landscape characters:

- Bushland;
- Riparian / Woodland;
- Parkland;
- Rural Landscape / Lifestye;
- Open Space Water; and
- Urban Plazas / Squares.

Bushland Character

The Bushland character is a key landscape theme for open spaces within Calderwood due to its context dominated by Johnstons Spur. This will provide a direct visual and ecological link to the plant communities of Spur, and its deployment through the development of open space will provide green corridor linkages of flora and fauna habitat, and fauna movement. This will be the dominant landscape character within the elevated areas of public realm at Calderwood.

The Bushland character will generally be associated with targeted recreational use, pedestrian cycle access paths being the key use and interpretive / educational access. The bushland environments will generally be self sustaining in terms of maintenance (other than weed monitoring and bushfire management).

Built form may be incorporated in these areas and may include pathways, tracks, street furniture, lighting, and interpretive signage.

Riparian / Woodland Character

The Riparian / Woodland character provides a transition from Bushland areas to Parkland character. The Riparian / Woodland areas generally retain a strong visual and thematic context to the native bushland of Johnstons Spur through retention of creek lines and native tree canopy. The Riparian / Woodland areas will focus on understorey regimes incorporating trees in native grass and groundcover understorey in the Corridors and Environmental Reserves. This is aimed at balancing pedestrian safety and security with managed understorey level fuels for bushfire risk and levels of roughness appropriate for hydrological balance. The Riparian / Woodland Character Area will comprise areas that are “pastoral” and/or “natural” in appearance and landscape treatment.

Built form may be incorporated through the use of structures and awnings to provide shade and shelter, along with pathways, street furniture, lighting, interpretive signage, public art and water elements.

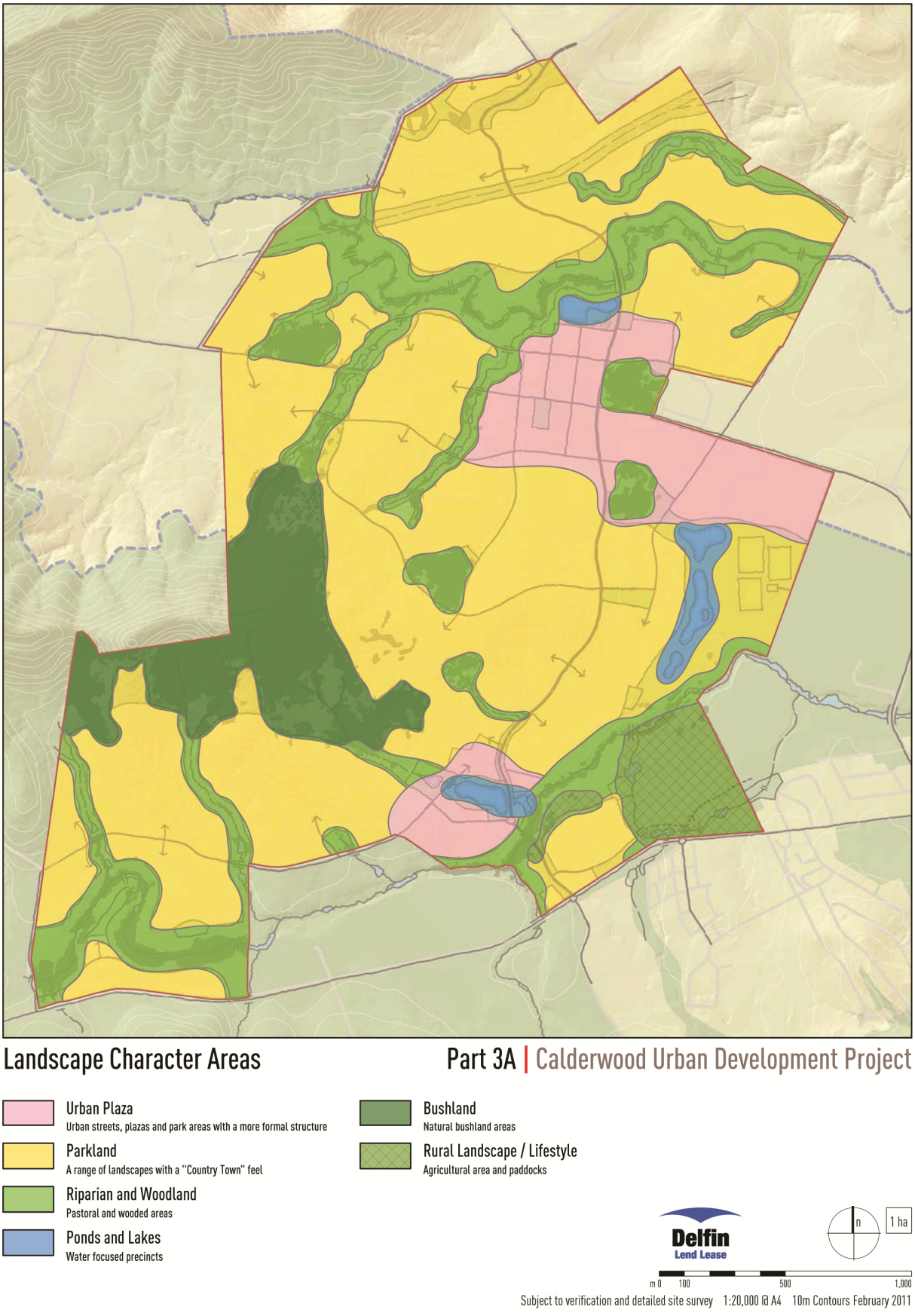


Figure 1 – Landscape Character Areas Map

Parkland Character

The Parkland character will vary between open spaces based on existing features, their context within the urban development, and usage. The essential elements of the Parkland character will be trees in maintained grass, predominantly native canopy to further reflect the bushland context of Johnstons Spur. Non native trees may be used in select locations such as parks within denser urban areas to provide winter solar access. Parkland character will involve recurrent maintenance of recreational grassed areas (eg ovals).

Built form may be incorporated in these areas and may include change rooms, public amenities, structures and awnings to provide shade and shelter, along with pathways, street furniture, lighting, signage and public art.

Rural Landscape / Lifestyle Character

The Rural Landscape / Lifestyle character provides for a rural transition zone between areas identified for urban development and more "natural" areas with riparian / woodland character.

The Rural Landscape area reflects the objectives of the underlying RU2 zoning. The essential elements of this space will comprise a variety of sustainable primary industry activities that are commensurate with the zoning. This may range from a continuation of low level grazing to more extensive agriculture (such as market gardens, tree nursery or equivalent). The "Lifestyle" area comprises predominantly open land where rural uses and activities, such as horse paddocks, may be located. The Rural Landscape / Lifestyle character area will involve recurrent management of, and activity on, the land.

Native and non-native species may be used in select locations such as boundaries to help define these areas on the ground. Built form may be incorporated in these areas, including fencing, structures and awnings to provide shade and shelter, along with pathways, lighting, signage and roadside stalls.

Open Space Water

A variety of water bodies and elements are proposed as part of the open space network as part of Water Sensitive Urban Design, landscape and stormwater management measures. The Open Space Water character will be located adjacent to other landscape character abutting open space water bodies. The designs of Open Space Water will vary to include both soft and hard edge designs. The selection of options will be based on proximity to habitat corridors, riparian corridors, maintenance requirements and any relevant geomorphological constraints.

Urban Plazas / Squares

The Urban Plazas / Squares character aims to complement the Town and Village Centres by providing urban spaces for the relevant density of built form and range of uses and will seek to provide a focus for community gatherings and events and may be developed as an integrated public access with retail and commercial sites.

The maintenance of these structured landscapes is likely to be higher commensurate with their higher intensity of usage. Deciduous trees may be used in select locations (such as civic spaces) to provide winter solar access.

1.2.2 Landscape Presentation

The landscape presentation reflects the level of landscape detail that is proposed to embellish open space areas. The presentation is typically linked to landscape character. There are three landscape presentations proposed, Urban Presentation, Suburban Presentation, and Natural Presentation. The presentation and maintenance standards for these are detailed in the Landscape and Open Space Masterplan prepared by Environmental Partnership.

Urban Presentation

The Urban landscape presentation is the highest level of presentation that will apply to those open spaces which lie within the denser development zones of the site, and which serve a higher intensity and recurrence of community use. Levels of presentation and related maintenance are higher than other spaces to meet these usage demands and to compliment the urban character of their locations.

Urban Presentation is proposed in the Parkland, Plazas/Squares, and Open Space Water Landscape Characters, or a combination of these.

Suburban Presentation

The Suburban landscape presentation and maintenance will apply to active and passive recreational use spaces catering for general levels of usage including family use, social gatherings, fitness and exercise activities, and playgrounds.

This presentation type may typically encompass a combination of landscape character types. Suburban presentation will generally be located in a landscape setting that is of Riparian / Woodland, Parkland, or Open Space Water character or a combination of each.

Suburban Presentation is proposed in parts of the Riparian / Woodland, Parkland, Open Space Water Landscape Characters and Landscape Characters, or a combination of these.

Natural Presentation

The Natural landscape presentation and maintenance will apply to low level and intensity of use spaces areas that incorporate and adjoin natural systems. Typically green corridors and the interface areas of adjoining parks will fall into this category. Retention of existing vegetation and revegetation (where applicable) with indigenous species (eg Native Grasses) will provide a generally self sustaining landscape with low recurrent maintenance demands.

The Natural Presentation is proposed in the Bushland, Riparian / Woodland and Open Space Water Landscape Characters, or a combination of these.

1.2.3 Public Domain Materials and Treatments

Objectives

- Implement the landscape character area as identified in Section 1.2.1.
- Enhance the visual and functional elements of public domain areas through the appropriate provision of street furniture.
- Enhancing the character, identity and appearance of the public domain, whilst minimising on-going maintenance requirements for public domain materials and treatments.
- Enhance the identity and character of the public domain and landscape through the integration of public art.

Controls

- A Public Domain Plan is to be prepared addressing landscape treatment of streets to distinguish between public and private spaces, street hierarchy and integration of public art into the public domain. The Public Domain Plan is to be submitted to the Department of Planning prior to the submission of any detailed application proposing subdivision or built form works beyond the Stage 1 Project Application.
- A detailed Public Domain Plan demonstrating how proposed public domain works fit within the overall Public Domain Plan is to be submitted with any relevant detailed application.
- Provide street furniture items, including seats, bins, and picnic tables at locations where users are most likely to require them, including open space areas identified in the Calderwood Open Space Masterplan.
- Signage, street furniture and lighting is to be:
  - designed to reinforce the identity of the development;
  - coordinated in design and style; and
  - located so as to minimise visual clutter and obstruction of the public domain.
- Footpath and cycle path paving should provide a hard wearing, cost effective and maintainable surface. The range of materials should be limited to make maintenance, renewal and extension works cost effective. Potential paving materials include quality stone, asphalt, concrete and exposed aggregate.
- Opportunities for integration of public art into the public domain should be identified through on-going design at the relevant DA stage.

1.2.4 Street Tree Planting

Objectives

- To reinforce the street hierarchy with appropriate native and cultural street tree planting considering scale, form, arrangement and amenity.
- To ensure landscape treatments reflect the civic and visual importance of collector streets and their role in the street hierarchy.

Controls

- Landscape treatment of streets is to:
  - be consistently used to distinguish between public and private spaces and between different street types within the road hierarchy.
  - minimise risk to utilities and services.
  - be durable and suited to the road environment and, wherever practicable, include native species.
  - maintain adequate lines of sight for vehicles and pedestrians, especially around driveways and street corners.
- Sub Arterial and Collector streets should incorporate a strong/formal avenue planting of a larger, evergreen tree species that reinforce the higher order of these streets in the hierarchy and that provide visual continuity and legibility of the route throughout the development.
- Local streets should incorporate native tree species that are of a height and form that reinforce the lower order of these streets in the hierarchy.
- The landscape treatment should provide a continuous street tree canopy located within the road reserve between the footpath and the kerb.
- Ground surfaces to verges and medians are to vary from maintained native grasses to maintained garden bed, pavement or turf. Soft landscape treatments, where provided, should be kept simple to reduce recurrent maintenance needs.
- Design features such as blisters and neckdowns can be used to provide additional space for landscaping and tree planting, where appropriate.

1.2.5 Lighting

Objectives

- Provide adequate lighting to streets to ensure pedestrian and traffic safety.
- To ensure a high quality, functional, safe and attractive public domain reinforced with appropriate lighting.

Controls

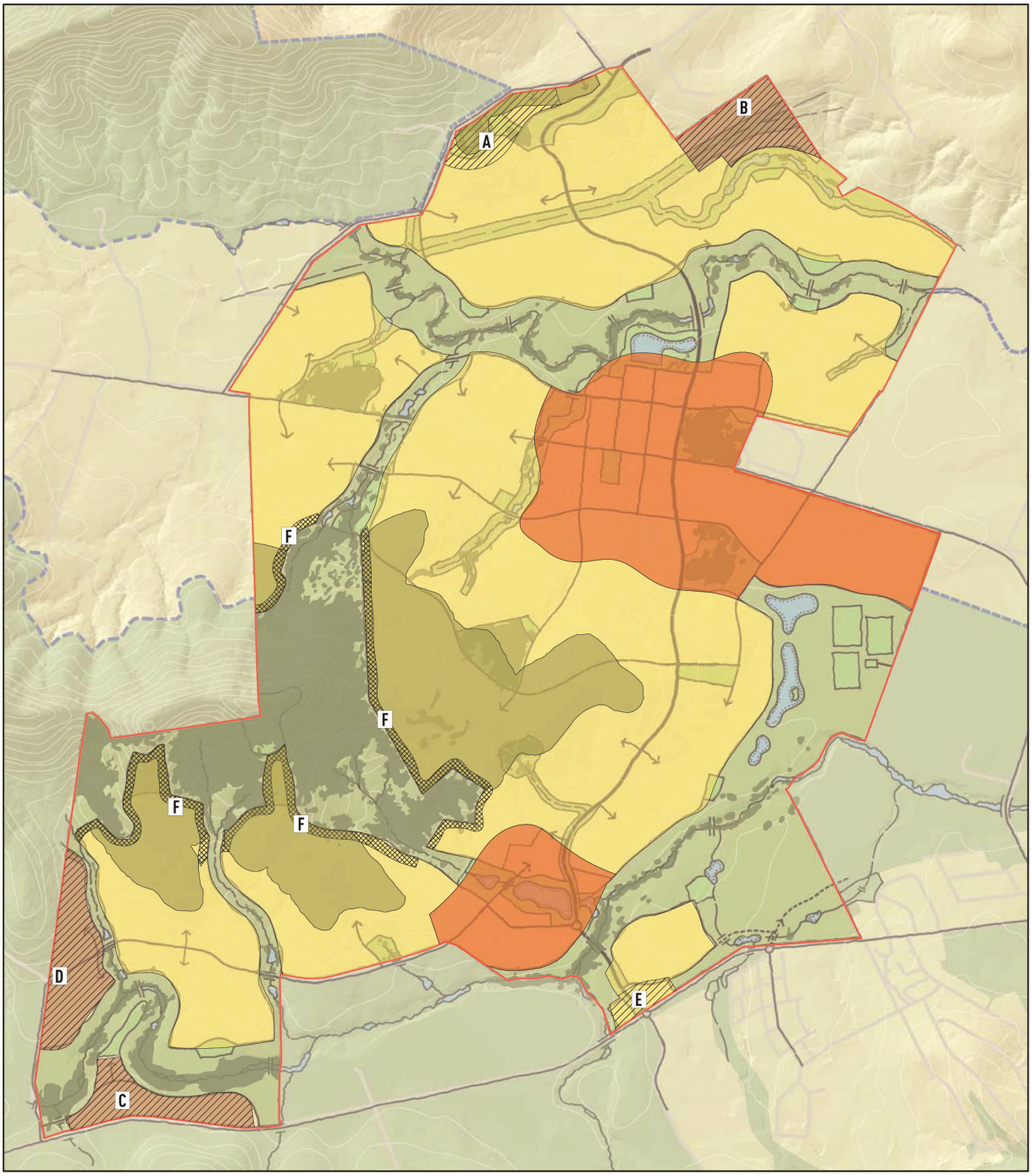
- Vehicular street lighting is to meet relevant RTA and Austroads standards.
- Pedestrian lighting should be provided close to footpath lighting, typically 3.5 to 4.5 metres at 20 metre intervals, to provide optimum illumination.
- Pedestrian lighting is to be pole mounted to meet relevant Australian Standards.
- Major cycle routes and pedestrian access paths are to be lit for night time usage.

1.3 Character Areas

Future Character Areas are shown at **Figure 2**.

Within the Character Areas, there are a number of Special Character Overlays.

Tables 2 outlines the Planning and Design Principles for each Character Area and **Table 3** outlines the additional Planning and Design Principles for each Special Character Overlay.



Residential Character Areas

Part 3A | Calderwood Urban Development Project

- Town and Village Centres — Urban scale, higher density and diverse mixed use built form
- General Residential — Residential scale and character
- Country Residential — Residential character with decreased density
- Bushland Edge / 50m AHD — Responding to bushland interface and elevation

- A Special Character Overlay — Marshall Mount House
- B Special Character Overlay — Northern fringe
- C Special Character Overlay — Southern Gateway
- D Special Character Overlay — Western fringe

- E Special Character Overlay — B4 Illawarra Highway
- F Bush Edge Buffer Overlay

Delfin Lend Lease

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Subject to verification and detailed site survey 1:20,000 @ A4 10m Contours February 2011

Figure 2 – Residential Character Areas Map

Table 2 – Planning and Design Principles - Character Area

	General Residential Neighbourhood	Town and Village Centres	Country Residential	Bushland Edge
Land Use Zone	R1	B4	R5	R1 & E3
Urban Design Principles	Modified grid subdivision designed to be sensitive to the natural topography, views to parks and other open spaces. Walkabilty integrated into the design to link homes with amenities and public transport. [Under Condition B6, lots less than 300sqm are permitted where they directly adjoin or are directly opposite public parks at least 0.3ha in size, or Town or Village Centre. The focus is to have more people living closer public transport and open spaces and to enhance the walkability and passive surveillance of these areas].	Country town grid pattern with key vistas addressed. Active frontage to open spaces and walkability built into the design.	An area of lower density housing linked with both landscape and built form controls to provide a connection with the adjacent rural areas whist still providing a level of amenity and passive surveillance to promote a healthy, safe and walkable neighbourhood.	A pattern of subdivision sensitive to the topography and bush setting and managing the visual impact. Where possible working with existing trees and integrating the bush landscape into the streets, open spaces and to the extent possible on private allotments.
Character	Residential scale and character. [Lots less than 300sqm are permitted adjoining public parks, or Town or Village Centre (refer above)].	Urban scale, higher density and diverse built form resulting from pattern of use.	Residential character with decreased density.	Residential character with layout and setting that responds to bushland interface.
Predominant Land Uses	Residential.	Mixed use with residential, retail, commercial, community and education uses.	Residential.	Residential.
Typical Built Form Typology and Design	Range of attached and detached dwellings. Dwellings to be designed to address the street and enhance passive surveillance. [Greater density is permitted adjoining a public park, or Town and Village Centre (refer above)].	Range of attached and detached residential dwellings, shop-top, Axis and urban sleeve dwellings, apartments, multi unit dwellings, retail and commercial premises, education and community buildings. Building frontages to address public space / public domain and promote passive surveillance and active streets.	Larger detached residential dwellings. Dwellings to be designed to address the street and enhance passive surveillance.	Detached residential dwellings. Dwellings to be designed to address the street, activate bushland edges and enhance passive surveillance with views over the bush. House design will be required to accommodate site specific APZ requirements. Colour palettes for dwellings above RL 50 AHD to be sympathetic to natural vegetation tones to reduce the visual impact of development. Benching is to be minimised with homes built with consideration of the terrain.
Typical Building Heights	1 - 2 storeys. [1 - 3 storeys adjoining a public park, or Town or Village Centre (refer above), subject to the Maximum Building Heights identified in the SEPP].	2 - 4+ storeys.	1 - 2 storeys.	1 - 2 storeys.
Open Space	Local/Neighbourhood parks generally within 5min walk.	District/Citywide park part of and adjacent to the centre. Direct frontage to open water/lakes and access to adjoining main creek corridors.	Local/Neighbourhood parks generally within 5-10min walk.	Bushland setting within 5min walk. Local/Neighbourhood park generally within 5-10min walk
Minumum Lot Size	300sqm [Lots less than 300sqm are permitted adjoining or directly opposite a public park at least 0.3ha in size, or Town or Village Centre (refer above), where subdivision occurs after the construction of dwellings (a)]	N/A	2,000sqm	300sqm in R1 zone; 100,000sqm in E3 zone
Public Transport	Generally within 5-10min walking distance of a bus stop.	Generally within 5min walking distance of a bus stop.	Generally within 5-10min walking distance of a bus stop.	Generally within 5-10min walking distance of a bus stop.

a) In accordance with the provisions of Condition B6, the minimum lot size in the General Residential Area (R1 zone) is 300sqm. The minimum allotment size can be varied for the subdivision of 'Integrated Housing' under the *Exceptions to Development Standards – Other Development* clause in the Major Development SEPP.

Table 3 – Planning and Design Principles - Special Character Areas

	A - Marshall Mount House	B - Northern Fringe	C - Southern Gateway	D - Western Fringe	E - B4 Illawarra Highway	F - Bush Edge Buffer
Land Use Zone	R1	R5	R5	R5	B4	R1 and E3
Urban Design Principles	Street pattern to facilitate long views to Marshall Mount House. An active frontage is required for allotments facing Marshall Mount House.	Street pattern to be sensitive to the topography. Active frontages required to open space corridors.	Streets designed to be sensitive with the topography and to where possible encourage active frontages and access to public open space areas.	This area is to be designed as sensitive buffer between the project and the adjacent rural lands to the west. Street pattern designed to provide an active edge for the project.	A series of Iconic gateway sites for both the Claderwood project and the Illawarra. A key requirement for these sites is to integrate and connect the project with Albion Park.	This area is to be designed as sensitive buffer between the project and the adjacent bush ecology of Johnston's Spur. Street and access trails to be designed with the topography to minimise cut and fill and site benching.
Character	Residential scale at a lower density sympathetic with the scale of Marshall Mount House.	Residential scale at a lower density sympathetic to the topography and the visual presence of this area from within the Calderwood Valley.	Low density residential with a high quality built-form and landscape character commensurate with its role as a gateway.	Low density residential with a rural feel.	Mid density mixed use area of key iconic importance signifying the gateway to both the project and the Illawarra (from the Southern Highlands).	Lower density residential with a bush feel.
Predominant Land Uses	Residential	Residential	Residential	Residential	Residential	Residential
Typical Built Form Typology and Design	Detached dwellings on generally larger allotments. Specific neighbourhood controls to be established in the Building and Siting Requirements document demonstrating specific fencing and built-form controls. Dwellings to be designed to address the streets and public open spaces to enhance passive surveillance.	Detached dwellings on generally larger allotments. Specific neighbourhood controls to be established in the Building and Siting Requirements document demonstrating specific fencing and built-form controls. Dwellings to be designed to address the streets and public open spaces to enhance passive surveillance.	Detached dwellings on larger allotments. Specific neighbourhood controls to be established in the Building and Siting Requirements document demonstrating specific fencing and built-form controls. Dwellings to be designed to address the streets and public open spaces to enhance passive surveillance.	Detached dwellings on larger allotments. Specific controls to be established in the Building and Requirements document demonstrating specific fencing and built-form controls. Dwellings to be designed to address the edge street and to enhance passive surveillance for adjacent rural landscape.	Generally attached residential and/or iconic built form. An iconic building element on the corner of the Illawarra Highway and the project entry road. Road frontages are to be active with entries, windows etc as well providing for passive surveillance of the adjacent open space corridors. A two storey built form is encouraged.	Detached dwellings on larger allotments. Specific controls to be established in the Building and Siting Requirements document demonstrating specific fencing and built-form controls. Benching is to be minimised with homes built with consideration of the terrain. Dwellings to be designed to address the edge streets and APZ trails and to enhance passive surveillance of the adjacent bush landscape. Specific APZ built form requirements to be met.
Typical Building Heights	1-2 Stories	1-2 Stories	1-2 Stories	1-2 Stories	1-2 Stories	1-2 Stories
Landscape	Landscaping of allotments to be sensitive to the character of the grounds of Marshall Mount House. Streetscape landscaping to build upon and integrate with general landscape character of Marshall Mount House.	Allotments at the edge of the project in this area to provide a 10m landscape buffer. Fencing on this boundary is to be screened with landscaping, hedges etc or rural in character.	Allotments are to generally provide a 10m landscape buffer to the Illawarra Highway. All fencing to be rural in character and privacy fencing within allotments is to be screened by landscaping.	The edge street is to have a widened verge with additional landscaping. Landscaping to be sensitive to the adjacent rural character. All fencing to be rural in character and privacy fencing within allotments is to be screened by landscaping.	Extensive high quality landscaping integrated with the project entry landscaping. A 6m min. average landscape buffer/setback to the Illawarra Highway with car parking generally screened from the Illawarra Highway and the project entry road. A 4m landscape buffer to the existing adjacent Albion Park allotments.	Extensive use of local bush plant species in both streetscapes and in private allotments. APZ requirements incorporated in the landscape design.
Open Space	Citywide Open Space and Corridor Open Spaces associated with Marshall Mount House.	Local/Neighbourhood park within 5min walk as well as corridor open spaces.	District Park generally located within a 5min walk. Corridor open spaces associated with Macquarie Rivulet.	Local/Neighbourhood park within 5min walk as well as corridor open spaces.	Local/Neighbourhood park within 5min walk as well as corridor open spaces.	Citwide bushland adjacent. Local/Neighbourhood park within 5min walk as well as corridor open spaces.
Minimum Lot Size	300sqm in the R1 zone (a) (b)	2,000sqm	2,000sqm	2,000sqm	N/A	300sqm in R1 zone (a) (b); 100,000sqm in E3 zone
Public Transport	Generally within 5-10min walking distance of a bus stop.	Generally within 10min walking distance of a bus stop.	Generally within 10min walking distance of a bus stop.	Generally within 10min walking distance of a bus stop.	Generally within 5min walking distance of a bus stop.	Generally within 10min walking distance of a bus stop.

a) In accordance with the provisions of Condition B6, the minimum lot size in the General Residential Area (R1 zone) is 300sqm. The minimum allotment size can be varied for the subdivision of 'Integrated Housing' under the *Exceptions to Development Standards – Other Development* clause in the Major Development SEPP.
b) In accordance with the provisions of Condition B6, residential lots less than 300sqm are permitted within the R1 zone but only where subdivision of these lots occurs after the construction of dwellings and are located where the dwellings directly adjoin or are located directly opposite the following: (i) public parks at least 0.3ha in size; or (ii) the Town and Village Centres.

1B Built Form Housing

Housing diversity is a key element of a vibrant and sustainable urban neighbourhood. A broad mix of housing types can be developed through the provision of a range of lot sizes and flexible development standards and by providing, where appropriate, the opportunity for some higher density housing types.

Flexible development standards enable responsiveness to evolving market demands, thereby facilitating housing supply and choice. Housing choice builds into the community the opportunity for various levels of affordability, house size and family structure to be accommodated. Allowing for a range of housing and building types also facilitates the creation of a well-integrated and cohesive community.

To achieve these outcomes Calderwood will provide a mixture of the following dwelling types:

- Detached dwellings (front and rear access);
- Semi-detached dwellings (front and rear access);
- Attached dwellings (front and rear access);
- Axis dwellings;
- Urban sleeve dwellings;
- Live/Work dwellings;
- Shop-top dwellings;
- Apartments; and
- Secondary dwellings

The applicable controls for these dwelling types are outlined in **Table 4** and **Table 5**, which detail the requirements for a range of lot sizes, frontages and dimensions, private open space requirements, setbacks, height and car parking. Each dwelling typology is further generally described at Section 1.4 below.

These tables should be read in conjunction with the information provided below regarding each typology. The figures appended in **Appendix C** illustrate how these controls may be applied relevant to each dwelling type.

Further design guidelines for all home typologies are provided in Section 1.6, covering such issues as materials, landscaping, privacy, fences and walls, garages, safety, solar access, energy efficiency, servicing and adaptability.

Table 4 – Residential Development Controls

				Standard Residential Allotments					Integrated Housing (e+f)			Integrated Housing (TC/VC only) (g)				
Allotment Type				**Villa** (n)	**Courtyard**	**Traditional**	**Parkland**	**Parkland+**	**Attached**	**Semi-detached**	**Detached**	**Axis**	**Urban-Sleeve**	**Live Work**	**Shop-Top**	**Apartments**
Size	Area		(sqm)	250-350	351-450	451-899	900-1,499	1,500+	125-300	125-350 ea lot	150-300	150-300	80+	180+	80+	N/A
	Typical Frontage		(metres)	7.5-20	9-20	15-25	20m+	40m+	5-20	5-20	7-15	7.5-20m	8-20m	5-15m	6m min.	1 bed - 55sqm 2 bed - 80sqm 3 bed - 100sqm
	Typical Depth		(metres)	18-30	25-30	25-40	30m+	40m+	18-30	15-30	12-25	12-30m	8-30m	12-30m	8m+	
Setbacks	Primary	Building Frontage	metres)	4.5	4.5	4.5	6	9	3	3	3	0	0	0	0	2
		Garage Frontage	metres)	5.5	5.5	5.5	7	10	5.5	5.5	5.5	0.5	0.5	0.5	0.5	2.5
		Articulation Zone	metres)	1.5	1.5	1.5	2	2	1.5	1.5	1.5	N/A	N/A	N/A	-2.5	1
	Secondary	Building Frontage	metres)	2	2	2	3	5	1.5	1.5	1.5	0	0	0	0	2
		Garage Frontage	metres)	2	5.5(k)	5.5	5.5	5.5	1.5	1.5	1.5	0.5	0.5	0.5	0.5	2.5
		Articulation Zone	metres)	1.5	1.5	1.5	2	2	1.5	1.5	1.5	N/A	N/A	N/A	0	1
	Side	Ground	metres)	0/0.9	0/0.9	0.9/1.5	1.5/1.5	4m min (total combined 10m min both sides)	0/0	0/0.9	0/0.9	0	0	0	0	0.9
	Rear	Building Ground	metres)	3	3	3	6	6	3	3	3	0	0	0	N/A	0.9
		Garage (Rear Loaded)	metres)	0.5	0.5	0.5	N/A	N/A	0.5	0.5	0.5	0	0	0	0.5	0.5
	Zero Lot Line	Max. Total Combined	metres)	13	13	0	0	0	N/A	N/A	13m	N/A	N/A	N/A	N/A	N/A
Open Space	Landscaping (m)		(% of Area)	10%	15%	20%(l)	35%	45%	10%	12%	12%	10%	NA	NA	NA	NA
	Private Open Space (h)		(% of Area or sqm)	16sqm	24sqm	24sqm	24sqm	24sqm	16sqm	16sqm	16sqm	16sqm	10sqm	16sqm	10sqm	10sqm
	Minimum Dimension		(metres)	3	4	4	4	6	3	3	3	3	3	2.5	2.5	2.5m
Height	Typical Height		Storeys	2	2	2	2	2	2-3	2	2	2-3	3-4	2-3	2-4	3-6
Studio Units	Secondary Dwelling (j) (o)		Appicable Locations	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Parking	Min. Spaces Per Dwelling		(#)	1	1	2	2	2	1	1	1	1	1	1	1	1 bed - 1 space 2 bed - 1.5 spaces 3 bed - 2 spaces
		Visitor (i)	(#)	On Street	On Street	On Street	On Street	On Street	On Street	On Street	On Street	On Street	On Street	On Street	On Street	1 / 5 dwellings
Indicative Plan		(Appendix C)		C1	C2-4	C5	C6	C7	C8-9	C10-11	C12-15	C16	C17	C18	C19	C20

General Notes

a) All building heights shown are typical. Height limit set by SEPP control.

b) All dwellings including those dwellings in a mixed-use building and serviced apartments intended or are capable of being strata titled, are to demonstrate compliance with the State Environmental Planning Policy – Building Sustainability Index (BASIX).

c) Table to be read in conjunction with building envelope plans and built form typology plans - Refer relevant Appendix.

d) An irregular shaped allotment may be considered in either a larger or smaller category if the area is within 10%. This is to be indicated on the Building Envelope Plan.

Notes:

e) Integrated Housing means dwellings and lots subject to a separate application.

f) Integrated Housing may be considered in other character areas (excluding Johnstons Spur) subject to set of objectives

g) No building setback required for retail/commercial buildings in the Town Centre or Village Centre

h) Private Open Space (POS) % can be made up of several individual open spaces so long as the min. dimension is achieved. This may include open space in the front setback where appropriate privacy screening and a connection to internal living spaces can be achieved. For Integrated Housing, the POS can be achieved with a combination of balcony and rooftop space

i) Visitor parking will generally be provided on-street.

j) Secondary Dwellings ("Studio Units" / "Granny Flats") that are not complying development are to have the following controls: minimum size of 45sqm; maximum size of 75sqm; landscaping requirements to accord with table above; height limit set by SEPP; no on site parking or POS required; setbacks to accord with building envelope controls in Appendix C

k) This may be 2.0m in nominated locations

l) For allotments greater than 600sqm, the Landscaping requirement is 25%.

m) Landscaping is defined in the NSW Housing Code. Minimum 50% of the Landscaping is to be behind the front building line for Standard and Integrated Housing

n) In accordance with the provisions of Condition B6, within the R1 zone, the minimum lot size for a Villa is to be 300sqm. The minimum allotment size can be varied for the subdivision of 'Integrated Housing' under the *Exceptions to Development Standards – Other Development* clause in the Major Development SEPP.

o) In Town Centre and Village Centre locations, secondary dwellings ("dual key apartments" / "Studio Units") that are not complying development are to have the following controls: minimum size of 24sqm (or 20sqm if shared facilities). All other controls are as set out in (j) above.

Table 5 – Residential Mix Table

		Standard Residential Allotments					Integrated Housing (f+g)			Integrated Housing (TC/VC only)				
Allotment Type		**Villa**	**Courtyard**	**Traditional**	**Parkland**	**Parkland+**	**Attached**	**Semi-detached**	**Detached**	**Axis**	**Urban-Sleeve**	**Live Work**	**Shop-Top**	**Apartments**
Size	(sqm)	250-350	351-450	451-899	900-1,499	1,500+	125-300	125-350 ea lot	150-300	150-300	80+	180+	80+	N/A
Residential Character Areas	General Residential Neighbourhood	(e) (f)												
	Town Centre / Village Centre (d)													
	Parkland Node Areas													
	Country Residential			Max 25%										
	Bushland Edge (c)					(c)			(c)					
Land Use Zone(s)		R1(e) (f); B4	R1; B4	R1; B4	R1; B4	R1; R5(g); E3(c); B4	R1(e) (f); B4	R1(e) (f); B4	R1(e) (f); E3(c); B4	B4	B4	B4	B4	B4
Special Character Areas	A - Marshall Mount House													
	B - Northern Fringe					(g)								
	C - Southern Gateway					(g)								
	D - Western Fringe					(g)								

General Notes

a) Other Allotment Types can be provided to the total maximum of 10%

b) An irregular shaped allotment may be considered in either a larger or smaller category if the area is within 10%. This is to be indicated on the Building Envelope Plan.

Notes:

c) Development restricted to specific build areas within E3 zone. Integrated Housing only permitted as part of a Community Title scheme, or equivalent.

d) No building setback required for retail/commercial buildings in the Town Centre or Village Centre

e) In accordance with the provisions of Condition B6, within the R1 zone, the minimum lot size for a Villa is to be 300sqm. The minimum allotment size can be varied for the subdivision of 'Integrated Housing' under the *Exceptions to Development Standards – Other Development* clause in the Major Development SEPP.

f) In accordance with the provisions of Condition B6, residential lots less than 300sqm are permitted within the R1 zone but only where subdivision of these lots occurs after the construction of dwellings and are located where the dwellings directly adjoin or are located directly opposite the following: (a) public parks at least 0.3ha in size; or (b) the Town and Village Centres.

g) The minimum lot size in Special Character Areas B, C and D is 2,000sqm.

1.4 Dwelling Types

The following sections provide a general description of the dwelling types referred to in **Table 4**.

Within the General Residential Area (R1 zone) housing will include a wide range of dwelling types. Detached dwellings, semi-detached dwellings and attached dwellings on lots less than 300 m^2 in area within the General Residential Area are subject to the provisions at Section 1.4.4 below.

1.4.1 Detached Dwellings

The detached housing typology includes a wide range of residential types and configurations. The lot sizes suitable for this dwelling type range from 150 square metres to greater than 2,000 square metres and may include houses with zero lot line setbacks on single side boundaries to houses with dual frontages with garages as part of the rear entry to the property. The broad range of lot sizes and associated development standards are aimed at providing the flexibility that permits the development of houses with varying degrees of affordability able to suit a range of family types.

Detached dwellings with rear access are to incorporate a primary pedestrian access from the street, where visitor parking may be located, and secondary access from the rear access way or driveway. Zero lot line dwellings may require maintenance easements, to be controlled through s.88B covenants. Detached dwellings are suitable for all Character Areas.

Within the B4 zone, detached dwellings on 150-250sqm lots will be provided in groups of 2 or more and subject to a single DA.

Typical configuration and building footprints for detached dwellings are shown in Figures C12 to C15 in **Appendix C**.

1.4.2 Semi-Detached Dwellings

Semi-Detached dwellings comprise 2 individual dwellings which share a common wall, providing an affordable alternative to traditional detached dwelling options. This form of housing is well suited to all areas of Calderwood, but is particularly well suited to (but not limited to) corner sites within the development pattern and areas of increased density such as the Town and Village Centres and Parkland Node Character Areas. Semi-detached dwellings have distinct entries for each dwelling which may be located on different street frontages.

The garage for each dwelling may also be accessed from different sides of the building, such as a primary and secondary street or can be rear loaded.

Semi-detached dwellings with rear access are to incorporate a primary pedestrian access from the street, where visitor parking may be located, and secondary access from the rear access way, lane or driveway. Semi-detached dwellings are suitable for all Character Areas. Semi-detached dwellings will be integrated and subject to a single DA.

Typical configuration and building footprints for semi-detached dwellings are shown in Figure C10 and C11 in **Appendix C**.

1.4.3 Attached Dwellings

Attached housing includes traditional row houses, dwellings with ground floor home business uses, and shop-house style housing with ground floor retail/commercial uses.

Attached dwellings are characterised by buildings built to a zero lot line on both side boundaries and may provide for parking with a rear loaded garage accessed from a mews, street, parking court or a driveway. Attached dwellings with rear access are to incorporate a primary pedestrian access from the street, where visitor parking may be located, and where possible a secondary access from the rear access way, lane or driveway. Attached dwellings with front access may be provided as an opportunity to increase densities without always requiring a rear access lane, to enable the integration of private open space with living areas, and to provide the opportunity to deliver housing choice and affordability.

Attached housing may be provided in groups of 2 or more dwellings if such groups are the subject of a single DA. Where a zero lot line is created for attached housing adjacent to another lot, a maintenance easement will be required on the affected property to be controlled through s.88B covenants.

Attached housing is suitable for all Character Areas, but is particularly well suited to areas of increased density such as the Town and Village Centres and Parkland Nodes.

Typical configuration and building footprints for attached housing are shown in Figure C8 and C9 in **Appendix C**.

1.4.4 Integrated Housing

Integrated Housing refers to dwelling types that require a single DA for both subdivision to create the allotment and construction of the dwelling. These include attached dwellings on 125-300m^2 lots, semi-detached dwellings on 125-350m^2 lots and detached dwellings on 150-300m^2 lots.

Under the provisions of Condition B6, residential lots less than 300sqm are permitted within the General Residential Area (R1 zone), "*but only where subdivision of these lots occurs after the construction of dwellings and are located where the dwellings directly adjoin or are located directly opposite the following:*

a. public parks at least 0.3ha in size, or

b. the Town and Village Centres" (adjoining or directly opposite public parks at least 0.3ha in size).

The above control does not apply within the B4 zone.

Integrated housing types provide smaller lot products that deliver greater housing choice and contribute to more affordable housing stock.

Given their smaller lots, integrated housing products are intended to be predominantly located in the Town and Village Centres and adjoining or directly opposite public parks at least 0.3ha in size, where higher densities and a more urban scale are envisaged.

However, integrated housing could also be considered in other character areas. Where proposed in other areas, consideration should be given to the following locational and design criteria:

- Integrated housing is most suitable for corner lots in order to create a built form that positively addresses both street frontages;
- Integrated housing is most suitable for lots oriented north-south on an east-west street to maximise solar access to living areas and private open space;
- There should be consistency in architectural language between the dwellings, however, identical repetition of elevations on any 2 adjoining dwellings is to be avoided; and
- All frontages to the street should be articulated with a variety of design elements such as windows, balconies and verandahs, and adequate landscape treatment provided.

1.4.5 Studio Units

Detached, semi detached and attached dwellings with rear access may also incorporate a studio unit above the ground level garage at the rear of the lot in appropriate locations in order to provide additional housing diversity. They also provide the opportunity to increase passive surveillance opportunities of streets. Studio units should:

- Provide a varied elevation where attached;
- Have a minimum size of 45 m^2;
- Provide 1 on street car space;
- Be a maximum of 1 floor above garage; and
- Meet BCA standards.

1.4.6 Axis Dwellings

Axis dwellings will:

- Provide an open plan style of home that provides occupants the opportunity to work and live within the same building.
- Generally address streets including dual frontages in order to contribute to the passive surveillance of these spaces; and
- Be of a contemporary urban character.

Axis dwellings may be provided in groups of 2 or more dwellings if such groups are the subject of a single DA. Axis dwellings are suitable in the Town and Village Centres Character Area. Typical configuration and building footprints for warehouse dwellings are shown in Figure C16 in **Appendix C**.

1.4.7 Apartments

Apartments are appropriate in the Town and Village Centres Character Area on sites where a greater density is appropriate and desirable for the creation of a more balanced and vibrant community. Apartments are suited to nodal areas of higher amenity and locations in proximity to parks, bus stops, amenities and services.

The provision of apartments allows the creation of housing options for people looking for a low maintenance, urban, and potentially more affordable housing alternatives to traditional detached house forms. Apartments can be provided in a range of sizes from one bedroom apartments up to three plus bedroom family apartments.

The scale of apartment buildings is to be compatible with the mass and character of adjacent building types. Articulation of facades is required to mitigate the bulk and mass of apartment buildings.

Apartments are to be designed to accommodate parking on site, including underground where appropriate. Typical configuration and building footprints for apartments are shown in Figure C20 in **Appendix C**.

1.4.8 Urban Sleeve Dwellings

The Urban Sleeve dwellings will generally be located in the Town and Village Centres Character Area adjacent to non-residential built form, shielding inactive frontages from areas of public access including streets, lanes and parking lots with the intention of activating these frontages and creating more diverse centres. These building typologies will also provide opportunities for local business and enterprise.

Urban sleeve dwelling provide additional options for occupants to live and work within the same dwelling with a larger, more formalised work space on the ground level and private uses on upper levels. In some instances urban sleeve dwellings will have dual frontages, and if so, garages will be located on the secondary frontage. Private open space may be located on terraces above street level.

Groups of Urban Sleeve dwellings will be the subject of a single DA. Subdivision of groups of Urban Sleeve Dwellings is to be approved as part of the single DA. Typical configuration and building footprints for urban sleeve dwellings are shown in Figure C17 in **Appendix C**.

1.4.9 Live/Work Dwellings

Live/Work Dwellings will:

- Minimise the need for private vehicle use by integrating living and working uses.
- Be appropriately located, generally within the Town and Village Centres Character Area with the intention of supporting functional, liveable, and safe live/work environment.
- Encourage building design that emphasises the pedestrian realm and interface with the street through reduced front setbacks and well articulated frontages.
- Be urban in character and add to the diversity and mix of allotments, creating variety and interest in the streetscape and increasing housing choice to a broad range of families.
- Encourage flexibility of use which will accommodate either residential or business uses.

Live/work dwellings are proposed to accommodate a wide array of uses. Uses that could affect the amenity of surrounding residential areas with noise, vibration or odour are strongly discouraged. Potential amenity impacts are to be considered during the assessment of any development application for a live/work dwelling.

Typical configuration and building footprints for live/work dwellings are shown in Figure C18 in **Appendix C**.

1.4.10 Shop Top Dwellings

The shop top dwelling typology will:

- Be provided above retail and other commercial uses in the Town and Village Centres Character Area to add to the activity and vitality within this area.
- Have a range of dwelling sizes to cater for a variety of households and provide housing affordability options.
- Have a distinct and clear entry for the dwellings, located on the primary street frontage wherever possible to add to the activity in the locality.

- Locate Private Open Space on terraces and balconies above street level and in locations that can add to the passive surveillance of the locality.

Articulation of building frontages over the public footway may be permitted subject to there being a suitable agreement with Council. Building articulation and street tree placement would be coordinated to remove potential conflict.

1.4.11 Secondary Dwellings

Secondary dwellings are permissible in the R1 General Residential, R5 Large Lot Residential and B4 Mixed Use zones within the Caldwerwood site under the Major Development SEPP.

Secondary dwellings, or "granny flats", are also subject to the provisions of the State Environmental Planning Policy (Affordable Rental Housing) 2009 (or "AHSEPP"). The AHSEPP applies across NSW, including Calderwood.

A secondary dwelling can provide a form of affordable rental housing. It is a self-contained dwelling that has been established in conjunction with another dwelling (the "principle dwelling") and is on the same lot of land as the principle dwelling. The secondary dwelling may be located within, or attached to, or separate from the principle dwelling.

Secondary dwellings may be provided as ***complying development*** or via the ***development application*** (DA) process. For more details, reference should be made to the relevant Information Sheet, produced by the NSW Department of Planning.

Under a DA process, the local council will assess the application against the AHSEPP controls, the controls contained in this Development Control Strategy (DCS), and the general merits of the proposal.

Under the AHSEPP the following general controls apply:

- **Site area:** The consent authority cannot refuse consent on the grounds of site area if the site area is at least 450sqm. However, a consent authority can consent to development of a secondary dwelling on a site of less than 450sqm; and
- **Parking:** the consent authority cannot refuse the application if no additional parking is to be provided on the site.

Under this DCS secondary dwellings may be developed on all allotments over 300sqm in both the R1 or R5 residential zones and on all residential allotments over 125sqm in B4 zoned land, subject to the parameters identified in **Table 4**.

Secondary dwellings can be accommodated within the typical configuration and building footprints as shown the relevant figures in **Appendix C**.

1.5 General Housing Siting and Design Controls

General planning and design controls for residential dwellings are provided in the following sections. These controls are relevant to all residential development in Calderwood. In addition, under the provisions of Condition B6, colour palettes for dwellings in areas above RL 50 AHD are to be "*sympathetic to natural vegetation tones to reduce the visual impact of development*".

1.5.1 External Built Form and Materials – Private Domain

Dwelling facades should display a variety of materials, colours and shading structures, with garages integrated into the overall architectural form and design.

Building and Siting Guidelines to be administered by the developer will address materials and finishes for use for such items as fences, walls, garages, paving, planting, roofs and building colour schemes. These guidelines will be enforced under the developer covenants, and details of external materials and finishes are to be submitted with a DA. Further detail on specific elements is also provided in the following sections.

1.5.2 Landscaping

Objectives

- Landscaping is to contribute to effective management of stormwater, biodiversity, energy efficiency and to improve visual amenity.
- Promote sustainability design principles through the use of native species of flora and low maintenance landscaping.
- Retain, modify and integrate existing landscape elements such as vegetation and topographic features, where appropriate, in the design of new development.

Controls

- Trees planted on the north side of private open space areas and habitable rooms are encouraged to be deciduous.
- A minimum of one tree is to be provided where possible within the front setback area of every standard residential allotment. This may include existing trees that are to be retained within the front setback area.

- Planting of vegetation at the front of higher density development must consider the need for passive surveillance. Excessively dense vegetation that creates a visual barrier should be avoided.
- A Landscape Plan is to be lodged with all DAs for new dwellings, and is to provide the following details:
  - the location of any existing trees on the property, specifying those to be retained and those to be removed; and
  - the position of each shrub and tree species proposed to be planted. Each plant is to be identified by a code referring to a plant schedule on the plan.

1.5.3 Visual and Acoustic Privacy

Objectives

- Ensure buildings are designed to achieve acceptable levels of visual and acoustic privacy.
- Protect visual privacy by minimising direct overlooking of habitable rooms and private open space.
- Contain noise within dwellings and minimise noise from outdoor areas.

Controls

- Direct overlooking of main habitable areas and private open space should be minimised through building layout, window and balcony location and design, and the use of screening devices, including landscaping.
- As far as practicable the windows of habitable rooms shall be screened or adequately separated from walkways, footpaths, communal areas, driveways, windows of other dwellings and balconies above. Courtyard walls, walls of the building, screen walls and the like are an acceptable method of screening of windows.
- Where overlooking of habitable rooms and private open space cannot be avoided, additional visual privacy may be achieved by:
  - offsetting adjacent windows;
  - fixed window screening;
  - providing sill heights of at least 1.5 m above floor level; or
  - providing fixed obscure glazing.
- The design of attached dwellings must minimise the opportunity for sound transmission through the building structure, with particular attention given to protecting bedrooms and living areas.
- Living areas and service equipment must be located away from bedrooms of neighbouring dwellings.
- In attached dwellings, bedrooms of one dwelling are not to share walls with living spaces or garages of adjoining dwellings, unless it is demonstrated that the shared walls and floors meet the noise transmission and insulation requirements of the Building Code of Australia.
- Noise sensitive areas are to be located away from noise emitting sources, or mitigation provided to meet approved standards.

1.5.4 Fences and walls

Objectives

- To ensure fences and walls improve amenity for existing and new residents and contribute positively to streetscape and adjacent buildings.
- To ensure boundary fences and walls between allotments provide visual privacy without affecting the amenity of those allotments in terms of views, sunlight and air movement.
- To ensure materials used in fences and walls are in keeping with the existing streetscape character and character of the dwelling type.
- To ensure fences and walls are sympathetic to the topography.

Controls

- Front fences and walls should not be higher than 1.5 metres. However, front fences and walls can be built up to 1.8 metres in height for noise attenuation if proven necessary.
- The design and materials of front fences and walls is to be compatible with the desired character of the streetscape.
- Side and back fences and walls can be built up to 1.8 metres in height to achieve privacy for the rear yard.

1.5.5 Garages

Objective

- Design of garages must not dominate the frontage of the house.

Controls

- Garages should not take up more than 50 percent of the building frontage for lots 12m wide or less, unless the dwelling is integrated housing.
- Materials and colours should blend the garage doors into the main building.
- For 2 storey dwellings, rooms with windows or balconies should be built above garages where possible.
- Garages are to be limited to a maximum capacity of two cars, with tandem garages permitted.
- Garages are to be set back behind the front most element of the house and fully integrated into the front facade.
- For residential allotments 1,500 square metres, a third garage is permitted if it is screened from the street.

1.5.6 Safety

Objectives

- To ensure that the siting and design of buildings and spaces contributes to the actual and perceived personal and property safety of residents, workers and visitors and decreases the opportunities for committing crime in an area.
- To ensure development encourages people to use and interact in streets, parks and other public places without fear or personal risk.
- To increase the perception of safety in public and semi public space including streets and parks.

- To maximise actual and perceived safety within the community.
- To encourage the incorporation of principles of crime prevention through urban design and landscaping into all developments.

Controls

- Dwellings should be designed to overlook streets and other public or communal areas to provide casual surveillance.
- For residential dwellings, roller shutters are not be used on doors and windows facing the street. Security railings must be designed to complement the architecture of the building.
- Pedestrian and communal areas are to have sufficient lighting to ensure a high level of safety. These areas must be designed to minimise opportunities for concealment.
- All developments are to incorporate the principles of Crime Prevention Through Environmental Design. When assessing applications, the consent authority must give consideration to Planning NSW guidelines for Crime Prevention and the Assessment of Development Applications, or its equivalent.
- Avoid the creation of areas for concealment and blank walls facing the street.

1.5.7 Solar Access

Objective

- Dwellings should be designed to maximise solar access.

Controls

- Areas of private outdoor space should receive at least 3 hours of sunlight between 9am and 3pm at the winter solstice.
- Dwellings should also be designed to avoid overshadowing of adjacent properties and to protect sunlight access to any habitable room or private outdoor living space of adjacent buildings to less than 4 hours between 9am and 3pm at the winter solstice (21 June).

1.5.8 Energy and Water Efficiency

Objectives

- To ensure ecologically sustainable development.
- To incorporate best practice energy management and implement energy efficient principles to fulfil several objectives:
  - to maximise the benefits of passive solar design;
  - to improve the energy efficiency of dwellings;
  - to minimise the need for mechanical heating and cooling appliances;
  - to promote the installation of greenhouse responsive hot water systems and other energy efficient appliances; and
  - to maximise the use of natural light and limit energy use for interior lighting.
- To minimise unnecessary water production during design and construction.
- To minimise adverse impacts on air quality.

Controls

- BASIX Certificate is to accompany DAs for new dwellings.
- The design of dwellings should minimise heat loss and the absorption of heat through measures such the use of insulation in walls and roofs and by limiting the size of windows on the western facades of buildings.
- Dwellings should be designed to allow cross ventilation, where appropriate, by positioning windows and doors opposite each other within rooms and providing fans and alternative forms of mechanical ventilation (other than air conditioners).
- Dwellings should be designed to face living spaces to the north, sleeping areas to the east or south, and utility areas to the west or south.
- Dwellings should be designed with north facing windows.
- Dwelling design should consider shading of north, east and west facing windows through use of elements such as shading devices, including eaves, verandas, pergolas, and awnings.
- Dwellings should utilise energy efficient fixtures such as solar hot water systems or star rated appliances.
- Dwellings should be designed so that:
  - hot water systems are located as close as possible to wet areas;
  - wet areas are clustered to minimise pipe runs;
  - external clothes drying areas are provided, with access to sunlight and breezes; and
  - reflective or light coloured materials are used and/or dwellings are painted in light colours.

1.5.9 Servicing

Objectives

- To ensure that adequate provision is made for site facilities.
- To ensure that site facilities are functional and accessible to all residents and are easy to maintain.
- To ensure that site facilities are thoughtfully integrated into development and are unobtrusive.

Controls

- Development must demonstrate that the design takes into account waste storage and collection without reducing the amenity of the dwelling or neighbouring lots.

1.5.10 Adaptability

Objective

- To provide practical and flexible housing and urban spaces that are designed and constructed to ensure durable and long-term adaptability to maximise access and liveability, consistent with AS 4299.

Controls

- Residential dwellings shall be designed with key design features that may achieve:
  - direct access;
  - spaces for car parking;
  - adequate access and circulation widths; and
  - main facilities at ground floor level.

1.5.11 Waste

Objective

- To support active waste management and waste minimisation, particularly during construction.

Control

- Active waste management and waste minimisation details are to be provided with relevant detailed applications.

1.5.12 Elevation (dwellings above RL 50 AHD)

Objective

- To ensure colour palettes for all dwellings above RL 50 AHD are sympathetic to natural vegetation tones and thus reduce the visual impact of development.

Controls

- Dwellings on land on or above RL 50 AHD should be designed to avoid colour palettes that are unsympathetic with their natural setting.
- Key design features should aim to reduce the visual impact of development.
- Specific Building and Siting Guidelines (BSGs) will be prepared for dwellings above RL 50 AHD to be administered by the developer and will address materials and finishes for items that may be visually prominent such as building colour schemes, walls, garages, planting and roofs. These guidelines will be enforced under the developer covenants.
- Details of external materials and finishes are to be in accordance with the BSGs and submitted with a DA where relevant.

To assist the application of Condition C12, all residential development land above RL 50 AHD has been identified in **Figure 2** (Residential Character Areas Map), where the above controls will apply.

1C Non Residential Built Form

1.6 Non Residential Buildings (Town and Village Centres)

Non residential built form in the Town and Village Centres Character Area will include a variety of uses including retail, commercial, mixed use, community and education buildings. Where such development takes place a number of principles will be observed in order to enhance the urban design outcomes in the centres. These principles are listed below.

Mix of Uses

A range of uses including retail, office, community, educational, residential and recreational uses may be considered within a mixed use building. Mixed uses can be arranged horizontally, vertically or in a combination. Horizontal mixed-use development in the Town and Village Centres will locate retail and commercial uses along street frontages with residential use to the rear or along secondary streets and accessways. Vertical mixed-use development will locate retail and commercial uses at street level, so as to maximise street activation, with commercial and residential uses located on upper levels.

Conflict between uses will be minimised through appropriate siting or via the application of appropriate building materials to eliminate noise transmission and other conflicts. Loading bays, site storage and access points for waste collection will be located away from public spaces, streets and general residential areas to minimise amenity issues associated with cooking exhausts, waste, plant rooms and service vehicles.

Street Frontages/Entrances

Non-residential uses will be located on the street with ground floor uses and upper floor windows facing the street to activate these edges and provide passive surveillance. Primary entrances will generally be provided off the main street. Access points will be compatible with the overall façade of the building but will be clearly defined and identifiable for vehicles and pedestrians.

Retail buildings will be designed to address the street to ensure high quality pedestrian connectivity between all uses in the Town and Village Centres. Larger stores may be sleeved smaller specialty shops and offices with frontages to surrounding streets. Vehicle access will be provided away from the main street frontage. Parking and passenger drop off will be located adjacent to building entrances. Carparking will be shared and collocated where possible to minimise land take and enhance walkability and maximise pedestrian connections.

Building Form

Buildings will be designed to face the street with particular attention paid to the rear of the building and its relationship to accessways and adjacent buildings. Built form should relate to the public domain and its form and scale. Façade treatment should avoid the use of blank walls and should break up excessive bulk and scale. The façade of large buildings will be articulated in terms of volume and surface treatments, to reflect the existing scale of the street and adjacent development.

Building Depth

Building depth should be adequate in order to maximise natural light, ventilation and circulation unless specific building use requires otherwise. This depth will allow optimum circulation and room layout while minimising artificial lighting at the building core.

1.7 Urban Design – Town Centre

Under the provisions of Condition C9, "*prior to first application for development in the Town Centre, a strategy is to be developed and submitted to the Department of Planning for approval, to encourage the following:*

- *Minimisation of land use conflicts through distribution of uses including the consideration of noise, odour, air quality, hours of operation, parking and commercial waste;*
- *Buildings should address and define streets providing a relatively continuous street frontage for safe and attractive circulation;*
- *Maximise active ground floor uses as possible and entrances located directly off the main street;*
- *Provide weather protection for pedestrian in public areas in the form of awnings, sails or other climate appropriate methods;*
- *The creation of high quality public domain, including equity of access; and*
- *Appropriate setbacks to the cemetery".*

The above strategy will be prepared as required. The strategy will combine encouragement of the above, together with the principles listed in section 1.6