Development Control Strategy

Calderwood Urban Development Project

March 2010 ■ 09077

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1.0 Introduction

This document 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 concept plan and environmental strategies identified in the Environmental Assessment Report are implemented.

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 Concept Plan (see **Figure 49**) 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, as identified in the Open Space Masterplan at **Figure 46**, is to reflect one of the following landscape characters:

- Bushland;
- Riparian / Woodland;
- Parkland;
- 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.

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.

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.

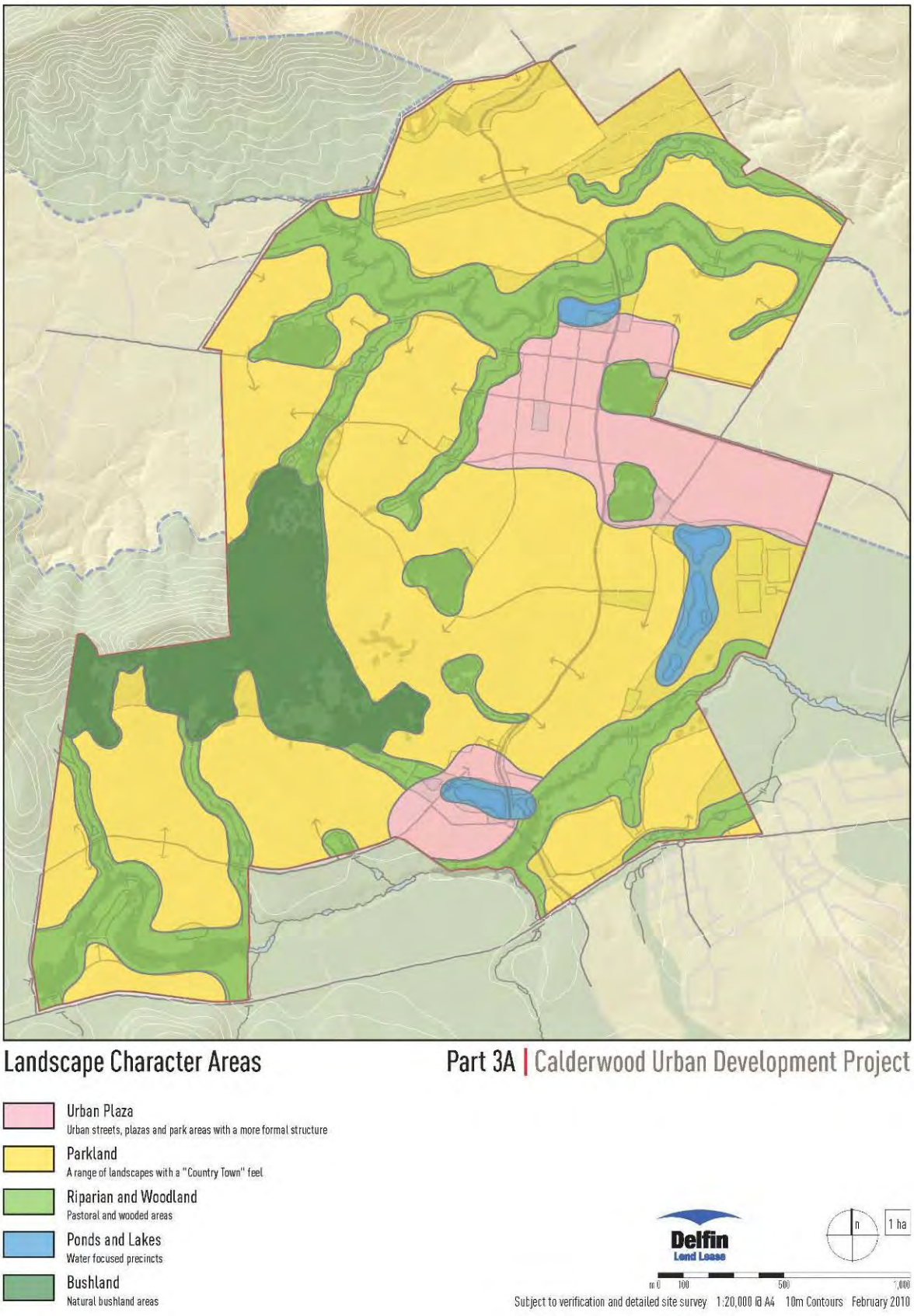


Figure 1 – Landscape Character Areas Map

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

- 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 in **Figure 44** and outlined in **Section 4.5**.

Table 2 outlines the Planning and Design Principles for each Character Area.

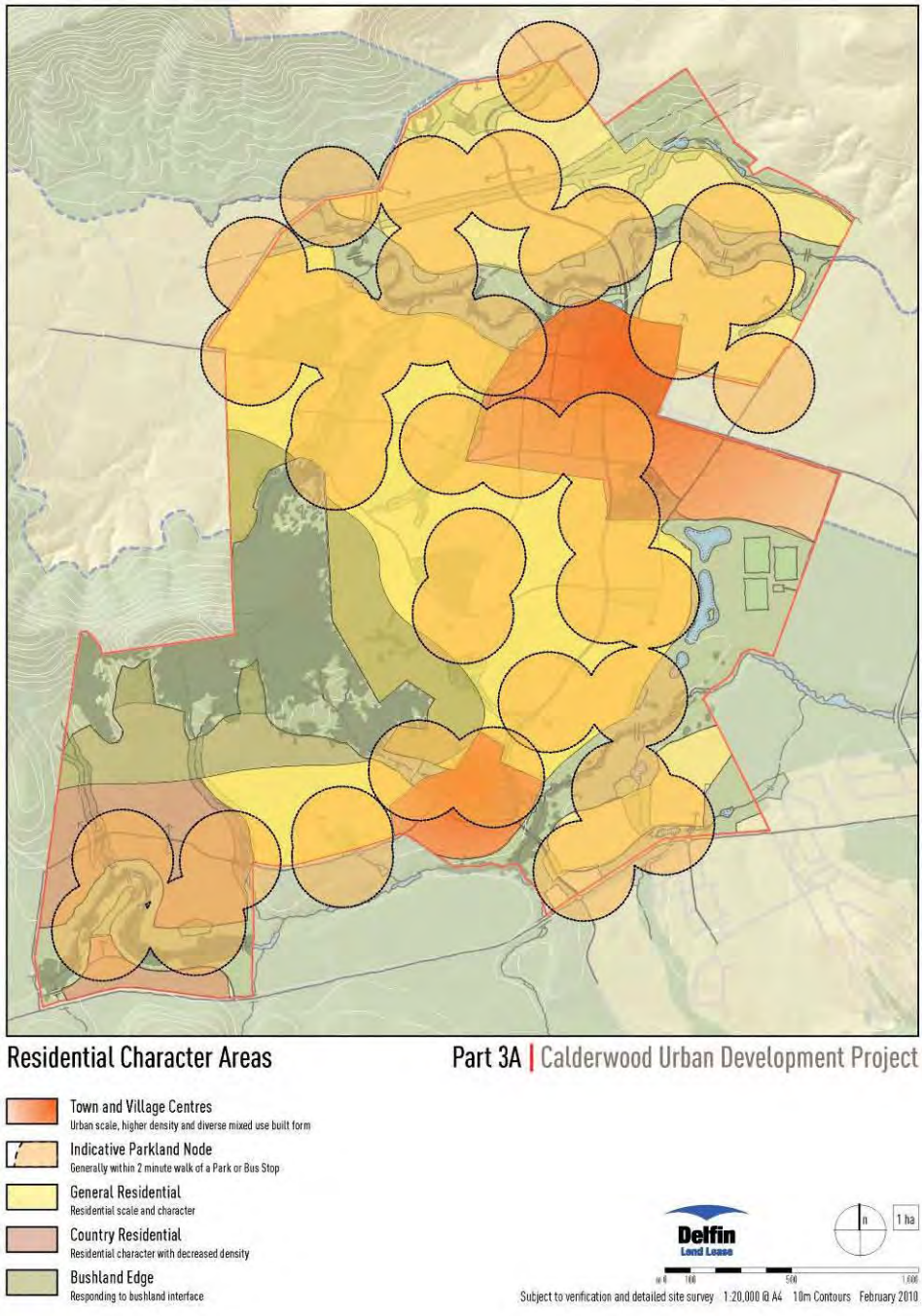


Figure 2 – Residential Character Areas Map

Table 2 – Planning and Design Principles for the Character Areas

	General Residential Neighbourhoods	Town and Village Centres	Parkland Nodes	Country Residential	Bushland Edge
Character	Residential scale and character.	Urban scale, higher density and diverse built form resulting from pattern of use.	Residential character with increased density surrounding the node.	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.	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.	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.	Range of attached and detached residential dwellings but with increased density 200 metres from parks and bus stops. Dwellings to be designed to address the street and enhance passive surveillance and views across parklands.	Generally detached residential dwellings. Dwellings to be designed to address the street and enhance passive surveillance.	Generally 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.
Typical Building Heights Open Space	1 - 2 storeys. Local/Neighbourhood parks generally within 5min walk.	2 - 4+ storeys. District/Citywide park part of and adjacent to the centre. Direct frontage to open water/lakes and access to adjoining main creek corridors.	1 - 3 storeys.	1 - 2 storeys.	1 - 2 storeys. Bushland setting within 5min walk. Local/Neighbourhood park generally within 5-10min walk
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.	Generally within 5-10min walking distance of a bus stop.

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; and
- Apartments;

The applicable controls for these dwelling types are outlined in **Table 3**, which details the requirements for a range of lot sizes, frontages and dimensions, private open space requirements, setbacks, height and car parking. This table 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 3 – Residential Development Controls

Calderwood Urban Development Project
Residential Development Controls 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
Indicative Plan (Appendix C)		C1	C2-4	C5	C6	C7	C8-9	C10-11	C12-15	C16	C17	C18	C19	C20
Allotment Size (sqm)		225-350sqm	351-450sqm	451-899sqm	900-1,499sqm	1,500sqm+	125-300sqm	125-350sqm (each lot)	125-350sqm	150-300sqm	80sqm+	180sqm+	80sqm+	N/A
Typical Frontage (m)		7.5-20m	9-20m	15-25m	20m+	35m+	5-20m	5-20m	7-16m	7.5-20m	8-20m	5-15m	6m min.	
Typical Depth (m)		18-30m	24-32m	24-40m	30m+	40m+	12-30m	15-30m	12-30m	12-30m	8-30m	12-30m	8m+	1 bed 55sqm, 2 bed 80sqm, 3 bed 100sqm
Setbacks														
Primary	Building Frontage	4.5	4.5	4.5	6	9	3	3	3	0	0	0	0	2
	Garage Frontage	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	1.5	1.5	1.5	2	2	1.5	1.5	1.5	N/A	N/A	N/A	-2	1
Secondary	Building Frontage	2	2	2	3	5	1.5	1.5	1.5	0	0	0	0	2
	Garage Frontage	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	1.5	1.5	1.5	2	2	1.5	1.5	1.5	N/A	N/A	N/A	0	1
Side	Ground	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	3	3	3	6	6	3	3	3	0	0	0	N/A	0.9
	Garage (Rear Loaded)	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. m	13m	13m	0	0	0	N/A	N/A	13m	N/A	N/A	N/A	N/A	N/A
Open Space														
	POS (i)	10%	12%	20%	30%	35%	10%	12%	12%	10%	10sqm	10sqm	10sqm	10sqm
	Min. dimension	3m	4m	4m	4m	6m	3m	3m	3m	3m	3m	2.5m	2.5m	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 Dwellings) (l)														
Applicable locations		Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	N	N
Parking (minimum spaces)														
	Overall	1	1	2	2	2	1	1	1	1	1	1	1	
	1 Bed													1 / dwelling
	2 Bed													1.5 / dwelling
	3 Bed													2 / dwelling
	Visitor (j)													1 space / 5 dwellings
Residential Character Areas (e)														
	General Residential Neighbourhood	Y	Y	Y	Y	Y			Y			N	N	N
	Town Centre / Village Centre (h)	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y	Y
	Parkland Node Areas	Y	Y	Y			Y	Y	Y	Y		Y	Y	Y
	Country Residential			Y	Y	Y								
	Bushland Edge (d)	N	N		Y	Y	N	N	Y	N	N	N	N	N

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 indicated on the Building Envelope Plan.

Notes:
d) Development restricted to specific build areas within E3 zone.
e) "Typical Character Areas" refer to character areas in which each dwelling type would generally occur. This provision does not override the permissible development provisions in the R1, B4 and E3 zones.
f) Integrated Housing means dwellings and lots subject to a separate application.
g) Integrated Housing may be considered in other character areas (excluding Johnstons Spur) subject to set of objectives
h) No building setback required for retail/commercial buildings in the Town Centre or Village Centre
i) 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
j) Visitor parking will generally be provided on-street.
k) This may be 2.0m in nominated locations
l) Studio Units (Secondary Dwellings) minimum size of 45sqm. No on site parking or POS required

1.4 Dwelling Types

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. 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 150-269m^2 lots.

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 Parkland Node Character Areas, 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.

1.5 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.

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.

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.

Relationship of Concept Plan Design Controls to Existing Planning Controls

JBA Urban Planning Consultants

Appendix A

RELATIONSHIP OF CONCEPT PLAN DESIGN CONTROLS TO EXISTING PLANNING CONTROLS

	Document	Consistent with Council Development Control/s
	SHELLHARBOUR COUNCIL	
1.	Shellharbour Residential Development Control Plan 2004	This DCS replaces some of the standards contained in this Council document.
2.	Shellharbour Residential Subdivision Development Control Plan 2004	This DCS replaces some of the standards contained in this Council document.
3.	Advertising & Identification Signs DCP	The Calderwood proposal replaces some of the standards contained in this Council document. Advertising is a permitted use in most zones at Calderwood and SEPP64 will apply where relevant.
4.	Car Parking DCP	This DCS replaces some of the standards contained in this Council document.
5.	Child Care Centre Guidelines	This DCS replaces some of the standards contained in this Council document.
6.	Contaminated Land Policy	The Calderwood proposal replaces some of the standards contained in this Council document. SEPP55 will apply, where relevant.
7.	Exempt DCP	No change
8.	Floodplain Risk Management DCP April 2006	The Calderwood proposal replaces some of the standards contained in this Council document.
9.	Landscape Guidelines DCP	The Calderwood proposal replaces some of the standards contained in this Council document.
10.	Notifications DCP	No change
11.	Social Impact Assessment	The Calderwood proposal may replace some of the standards contained in this Council document.
12.	Stormwater Policy	The Calderwood proposal replaces some of the standards contained in this Council document.
13.	Subdivision Design Code	The Calderwood proposal and this DCS replace some of the standards contained in this Council document.
14.	Telecommunications Facilities DCP	The Calderwood proposal may replace some of the standards contained in this Council document.
15.	Waste Minimisation & Management DCP	The Calderwood proposal may replace some of the standards contained in this Council document.
16.	Albion Park Aerodrome Buffer Area DCP	Not Applicable
17.	Albion Park Rural Residential DCP	Not Applicable
18.	Blackbutt Rural Residential DCP	Not Applicable
19.	Design Guidelines for Waste Services and Facilities in Medium Density Residential Development	The Calderwood proposal may replace some of the standards contained in this Council document.
20.	Dunmore Lakes Estate DCP	Not Applicable
21.	Dunmore Wetlands DCP	Not Applicable
22.	Former School Site, Shellharbour Road, Shellharbour (Tawana Site) DCP	Not Applicable

	Document	Consistent with Council Development Control/s
23.	Maquarie Rivulet Delta DCP	Not Applicable
24.	Medium Density DCP	The Calderwood proposal and this DCS replace some of the standards contained in this Council document.
25.	On-Site Waste Water Management for Single Residences DCP	The Calderwood proposal may replace some of the standards contained in this Council document.
26.	Residential DCP Part 1	The Calderwood proposal and this DCS replace some of the standards contained in this Council document.
27.	Residential DCP Part 2	The Calderwood proposal and this DCS replace some of the standards contained in this Council document.
28.	Residential DCP Part3	The Calderwood proposal and this DCS replace some of the standards contained in this Council document.
29.	Residential Infill DCP	Not Applicable
30.	Residential Subdivision DCP	This DCS replaces some of the standards contained in this Council document.
31.	Shell Cove DCP Sept 2007	Not Applicable
32.	Temporary Accommodation for Aged Persons Policy	No change
33.	Woodlands Estate Development Control Plan (Amendment No. 2) August 2008	Not Applicable
34.	Albion Park Commercial DCP	Not Applicable
35.	Commercial DCP	The Calderwood proposal replaces some of the standards contained in this Council document.
36.	Lake Entrance Road, Blackbutt DCP	Not Applicable
37.	Motor Showroom DCP	The Calderwood proposal may replace some of the standards contained in this Council document.
38.	Service Station DCP	The Calderwood proposal may replace some of the standards contained in this Council document.
39.	Alfresco Dining DCP	The Calderwood proposal may replace some of the standards contained in this Council document.
40.	Warilla Professional Suites DCP	Not Applicable
41.	Shellharbour City Centre Master Plan	Not Applicable
42.	Shellharbour City Centre DCP	Not Applicable
43.	Industrial DCP	The Calderwood proposal may replace some of the standards contained in this Council document.

	WOLLONGONG COUNCIL	
1.	Abrasive Blasting Industry – Code of Practice	Not Applicable
2.	Advertising of Significant Engineering Works	Not Applicable
3.	Amusement Devices	Not Applicable
4.	Bed and Breakfast Accommodation Technical Policy 98-3	Not Applicable
6.	City Beach Plan of Management	Not Applicable
7.	City of Wollongong Bicycle Plan 2006-2011	Not Applicable

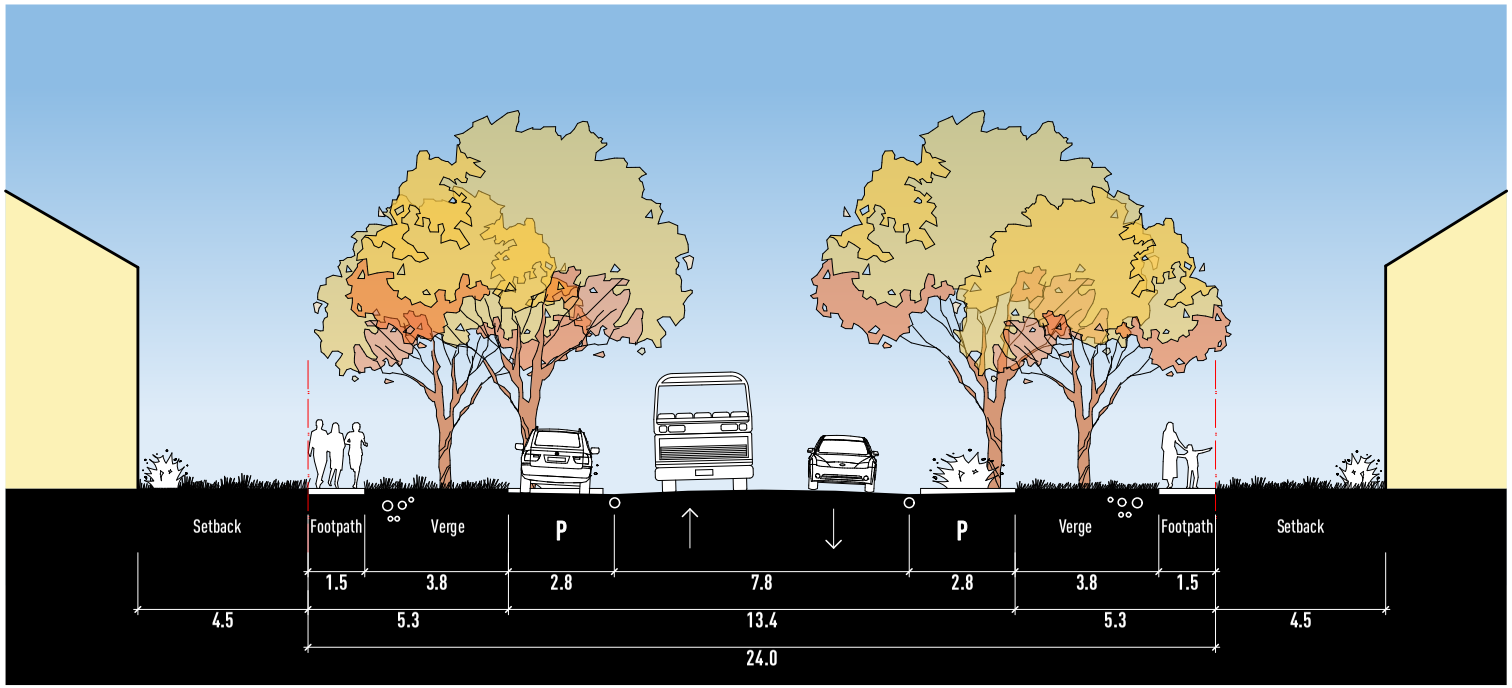
8.	Commercial and Industrial Development – DCP 6	The Calderwood proposal may replace some of the standards contained in this Council document.
9.	Community Consultation	Not Applicable
10.	Control of Specific Activities on Premises	Not Applicable
11.	DCP 49 Residential Development	This DCS replaces some of the standards contained in this Council document.
12.	DCP 53 Brompton Road Redevelopment	Not Applicable
13.	DCP 55 Thirroul Village Centre	Not Applicable
14.	DCP94.24 Brighton Lawn Management Plan	Not Applicable
15.	DCP 94.7 Community Land Management Plan	Not Applicable
16.	DCP 95.4 Management Plan for Helensburgh	Not Applicable
17.	DCP 99.1 Complying Development	No change
18.	Development Administrative Unit	Not Applicable
19.	Development Application Referral Guidelines to WCC Access Reference Group	Not Applicable
20.	Development Assessment and Compliance Notification Policy	Not applicable
21.	Erection of a Fence	No change
22.	Evacuate Premises	No change
23.	Fire Safety	No change
24.	Geotechnical Development Control Plan	The Calderwood proposal replaces some of the standards contained in this Council document.
25.	Helensburgh Commercial Centre - DCP 34	Not Applicable
26.	Identification and Protection of Significant Trees and Vegetation Habitats	The Calderwood proposal replaces some of the standards contained in this Council document.
27.	Independent Hearing and Assessment Panel (HAP)	No change
28.	Industrial Codes of Practice – Smash Repair Industry, Automobile Dismantlers and Service Stations	No change
29.	Industrial Land at Berkeley Road, Berkeley – DCP 00-6	Not Applicable
30.	Informal Planning Conferences	Not Applicable
31.	Installation of Solid Fuel Heaters	No change
32.	Keeping of Animals or Birds	No change
33.	Keeping of Pigeons	No change
34.	Land Between Sandon Point and East Thirroul – DCP 94-17	Not Applicable
35.	Leave Premises or not to Enter Premises	No change
36.	Major Events – Technical Policy 96-6	No change
37.	Management of All Wastes Associated with Building Sites – Technical Policy	The Calderwood proposal may replace some of the standards contained in this Council document.
38.	Mobile Food Vans and Retail Kiosks in Wollongong Mall	Not Applicable
39.	Paynes Road, West Dapto DCP 37	Not Applicable

40.	Princes Highway, Fairy Meadow – Technical Policy 96-1	Not Applicable
41.	Public Domain Technical Manual	The Calderwood proposal will replace some of the standards contained in this Council document.
42.	Public Exhibitions of Development Applications	No change
43.	Railway Street, Corrimal – Technical Policy 94-14	Not Applicable
44.	Rainwater Tanks	The Calderwood proposal will replace some of the standards contained in this Council document.
45.	Remediation of Contaminated Land	The Calderwood proposal replaces some of the standards contained in this Council document. SEPP55 will apply, where relevant.
46.	Retail Markets – Technical Policy 94-1	No change
47.	Road Closure and Purchase applications	No change
48.	Road Naming Policy	No change
49.	Siting of Telecommunications and Radio Communication Facilities	No change
50.	Small Rural Holdings – Reddalls road, West Dapto – DCP 45	Not Applicable
51.	Spring Hill road, Coniston – DCP 41	Not Applicable
52.	Subdivision Code	The Calderwood proposal and this DCS replace some of the standards contained in this Council document.
53.	TP 95.6 Foothills View Estate Tarrawanna	Not Applicable
54.	TP 98.4 Landscape Technical Policy	The Calderwood proposal replaces some of the standards contained in this Council document.
55.	Urban Design Assessment Policy	The Calderwood proposal and this DCS replace some of the standards contained in this Council document.
56.	Use of Capacity in Bulk Mailing of Rate Notices	Not Applicable
57.	Use of Fill Material at Construction Sites – Impact on Water and Air Quality – Technical Policy and DCP 96-7	The Calderwood proposal replaces some of the standards contained in this Council document. The POEO Act will apply, as relevant.
58.	Draft Wollongong DCP 2009	The Calderwood proposal and this DCS replace some of the standards contained in this Council document.

Street Typologies

Delfin Lend Lease

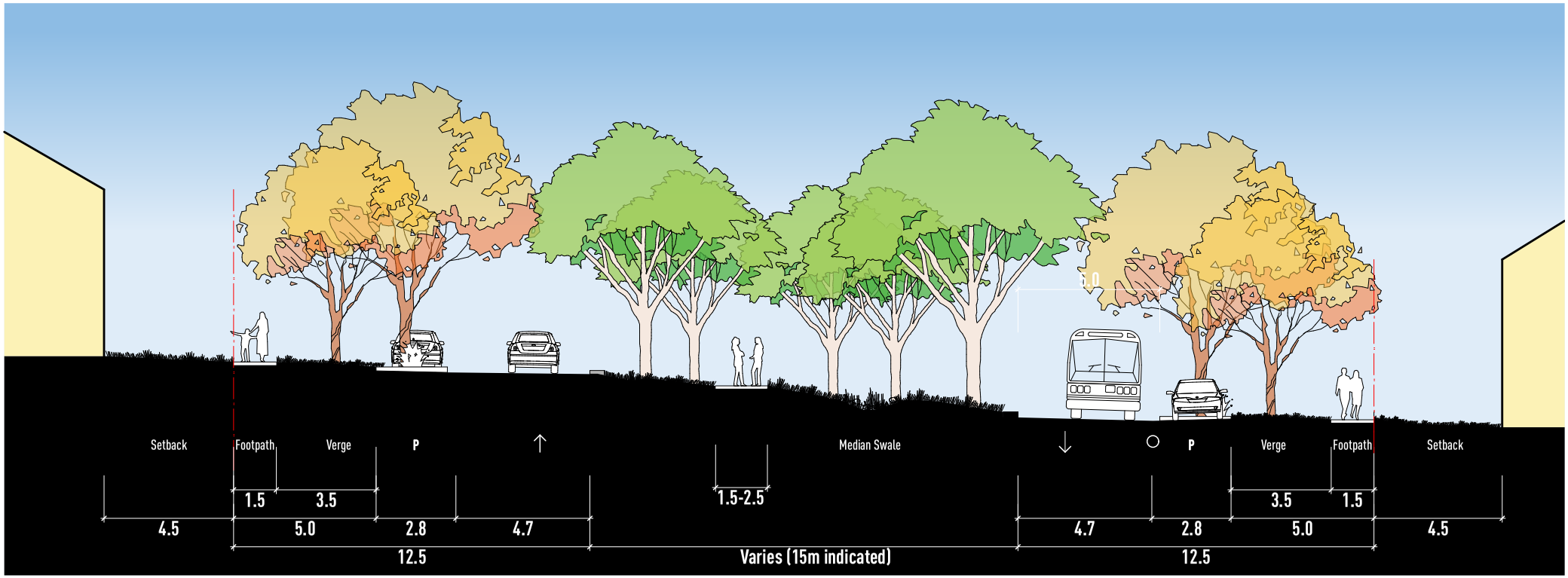
Appendix B



Section A1 - Sub Arterial Road Typical

Sub Arterial Road

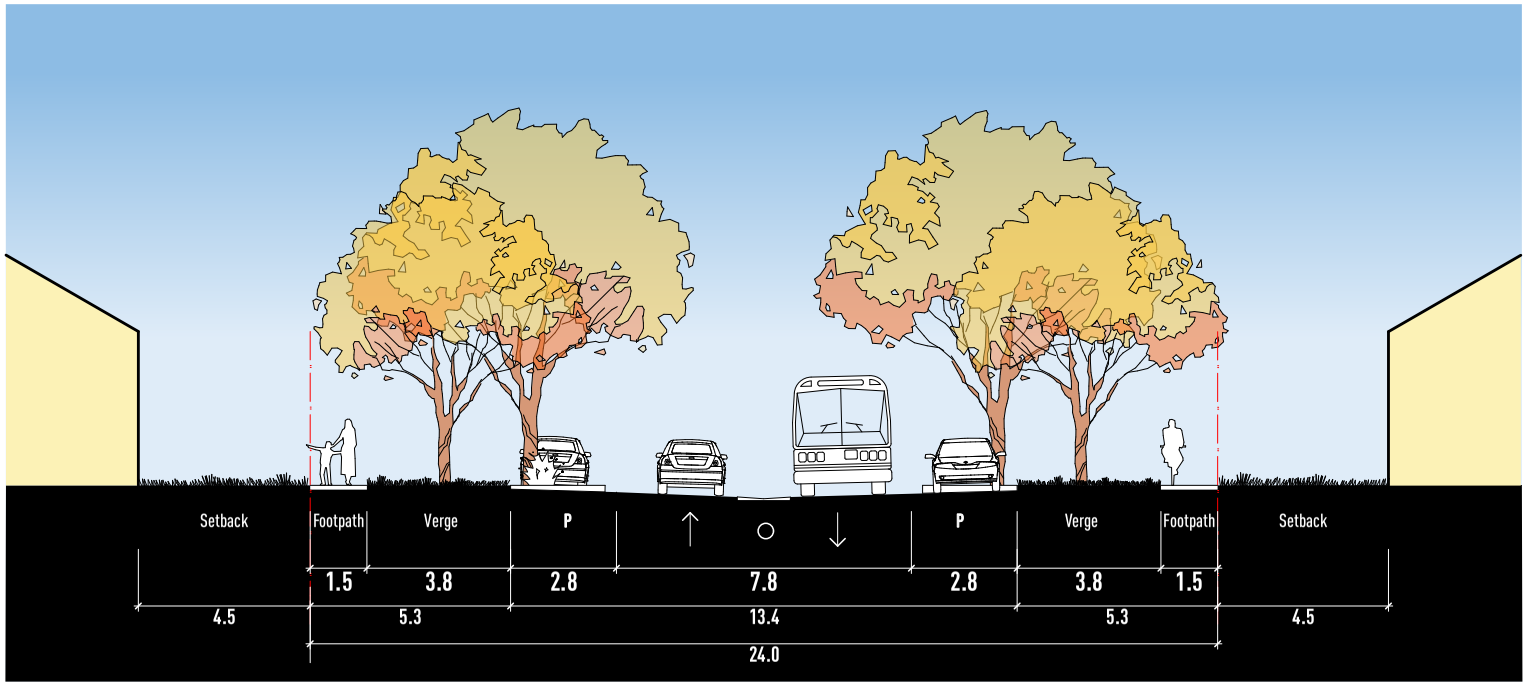
Parking Bays on Both Sides, Bus Service



Section A2

Sub Arterial Road with WSUD Median (10m+)

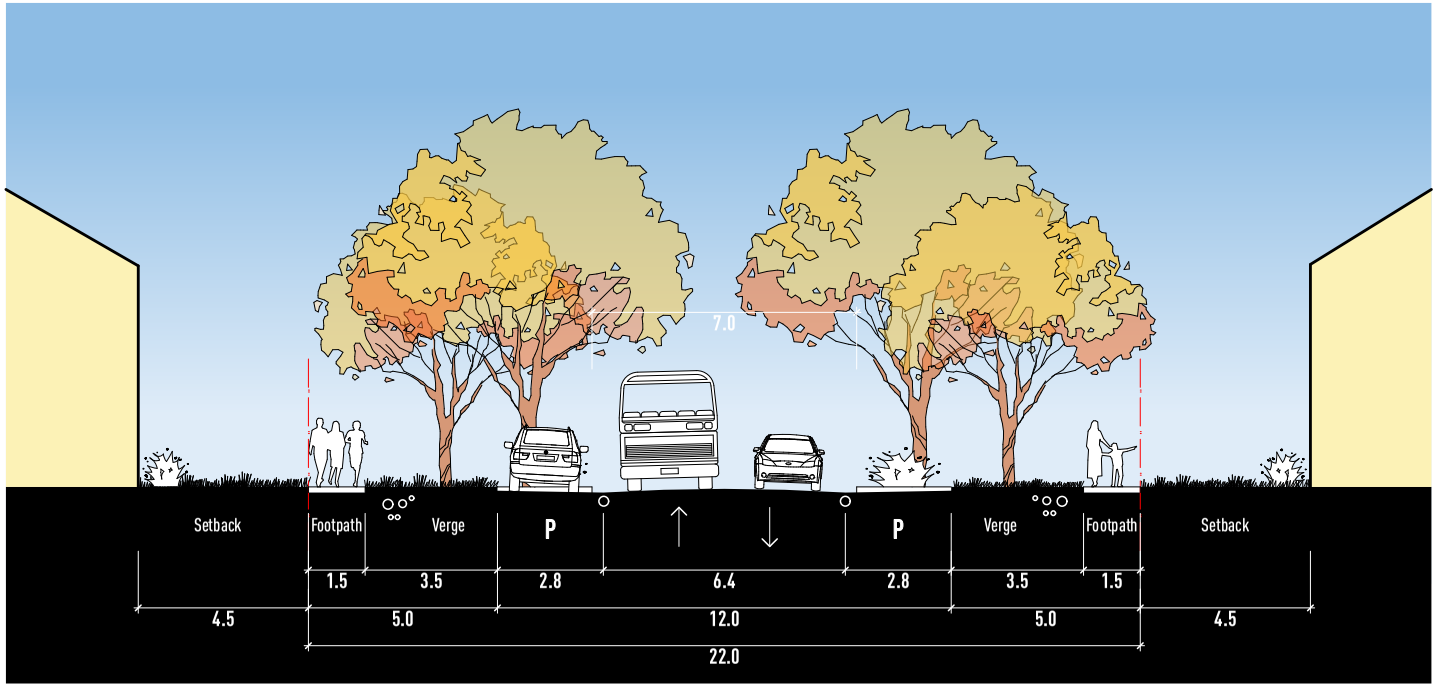
one way traffic lanes with parking / 3m fall across slope indicated



Section A3

Sub Arterial Road with Centre Drainage

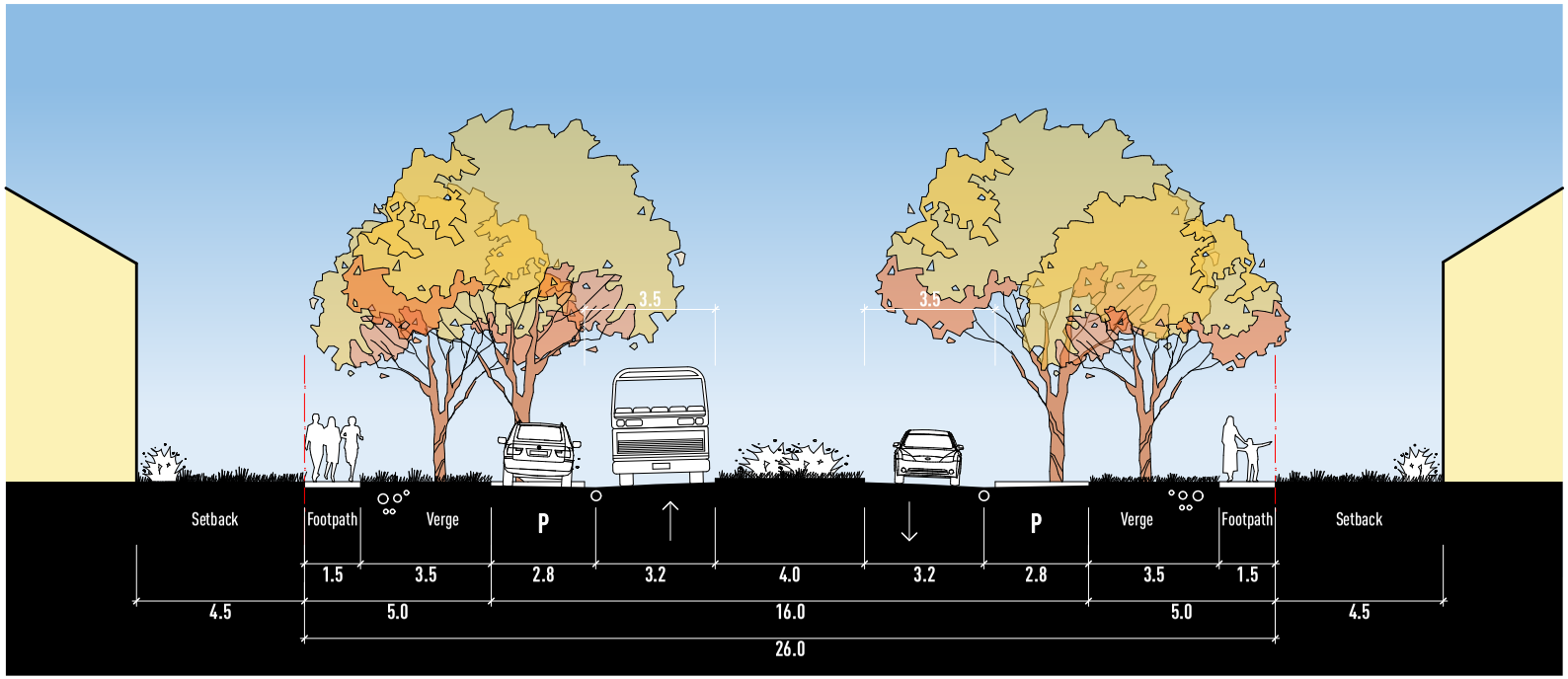
one lane in each direction with parking bays | centre drainage where section A2 meets for short sections



Section B1 - Major Collector Road Typical

Major Collector Road

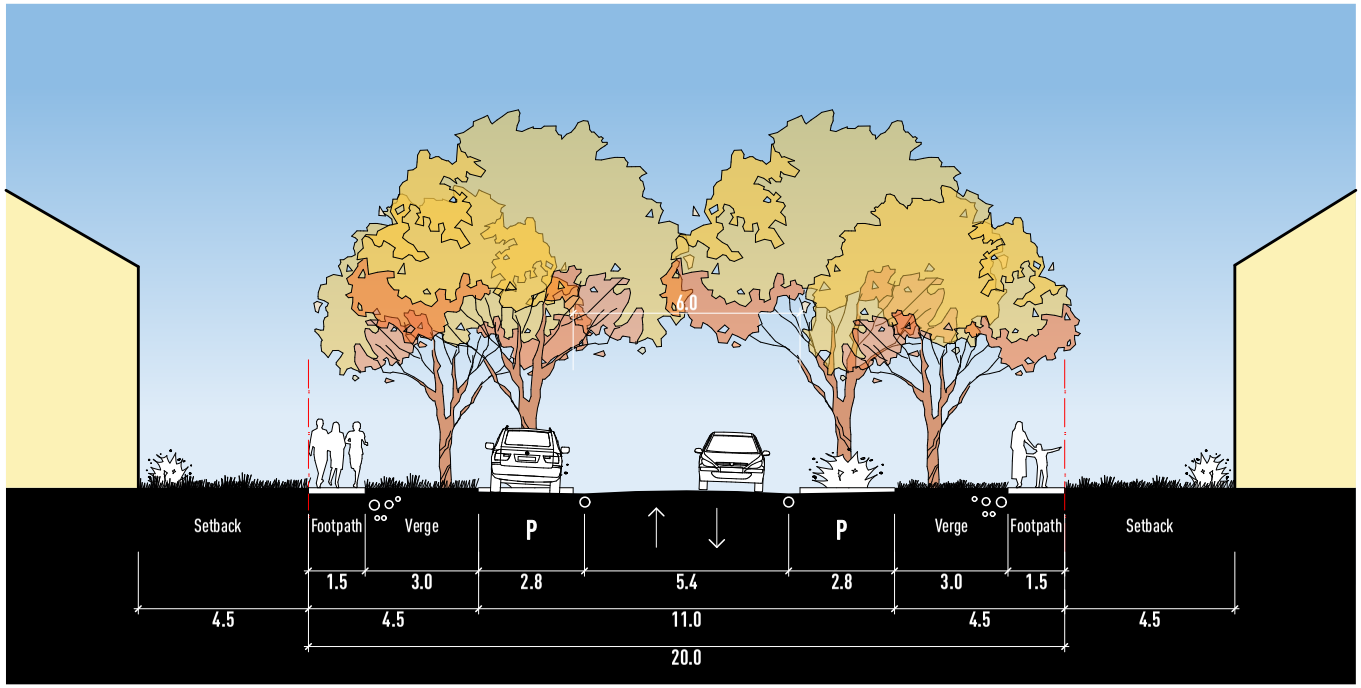
Parking Bays on Both Sides, Bus Service



Section B2 - Major Collector with Median

Major Collector Road

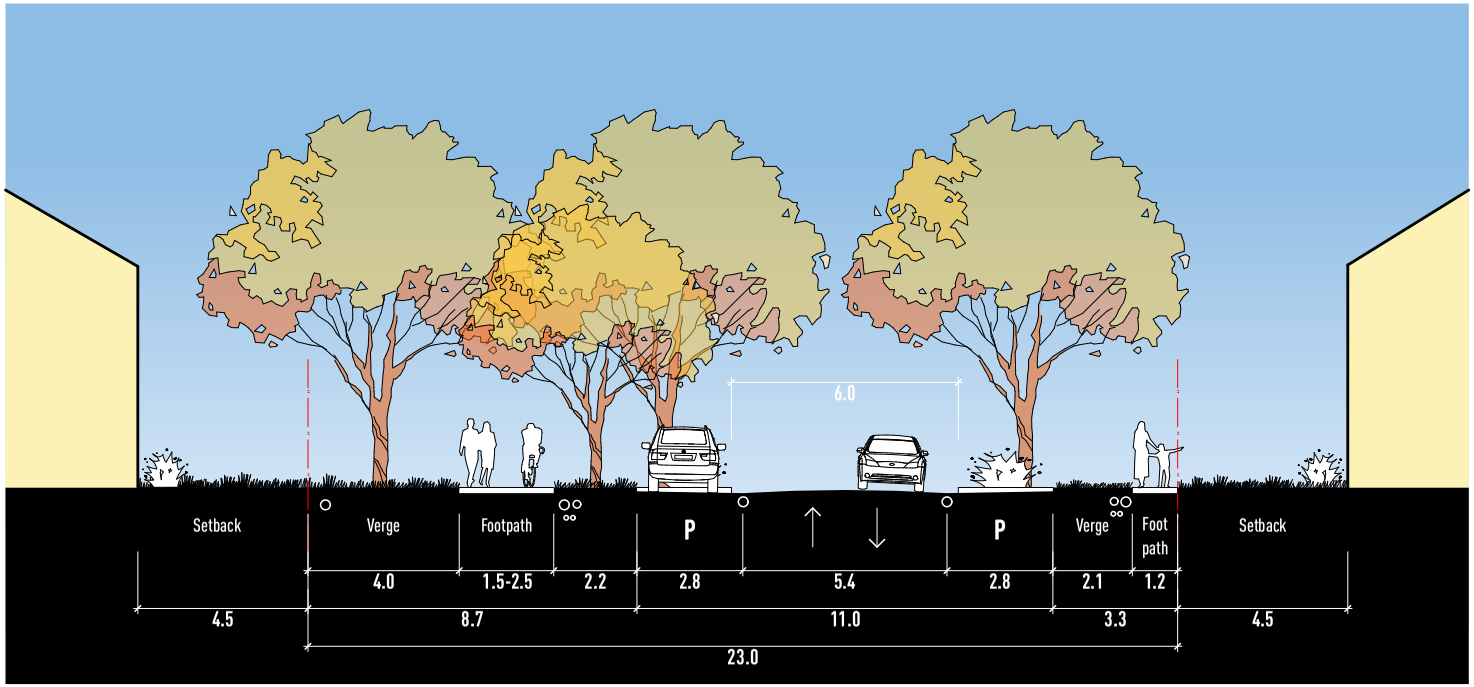
Parking Bays on Both Sides, Bus Service



Section C1 - Minor Collector Road Typical

Minor Collector Road

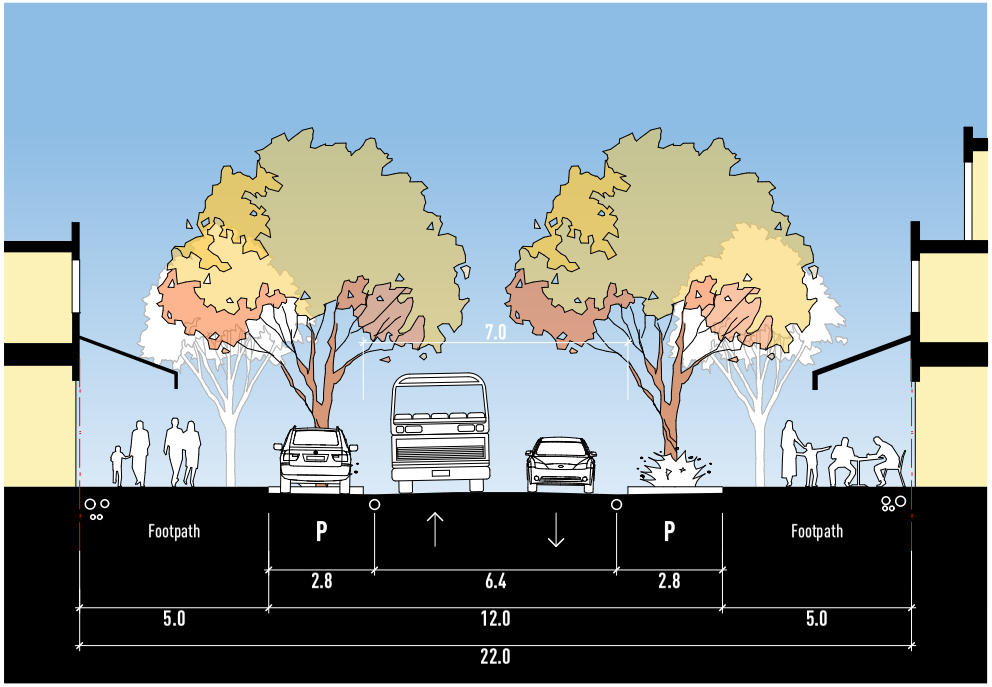
Parking Bays on Both Sides



Section C2 - Open Space Linking Local Street

Pedestrian Priority Street

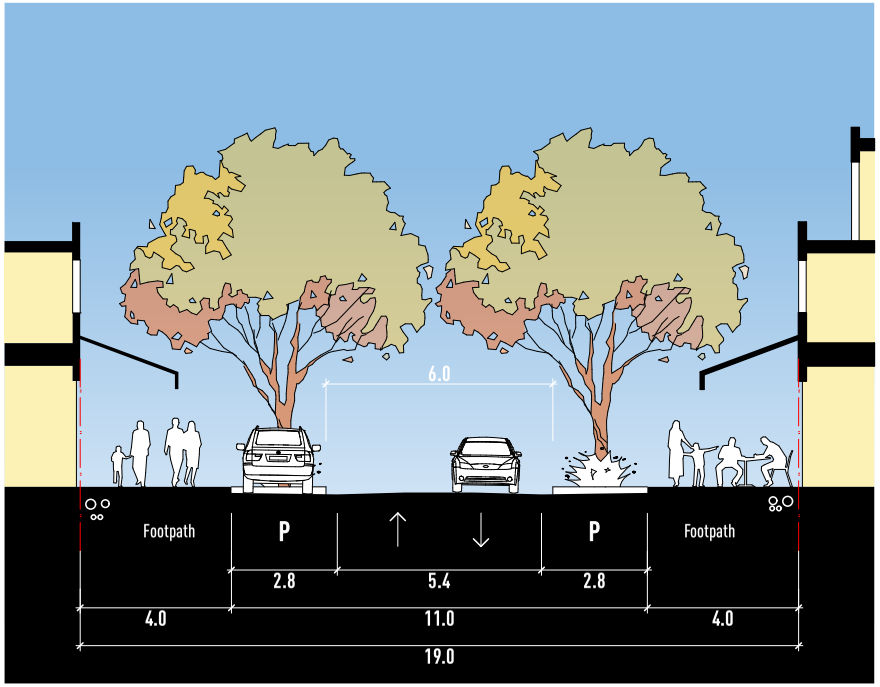
Parking Bays on Both Sides



Section D1 - Village Centre Collector Road

Village Centre Collector Road

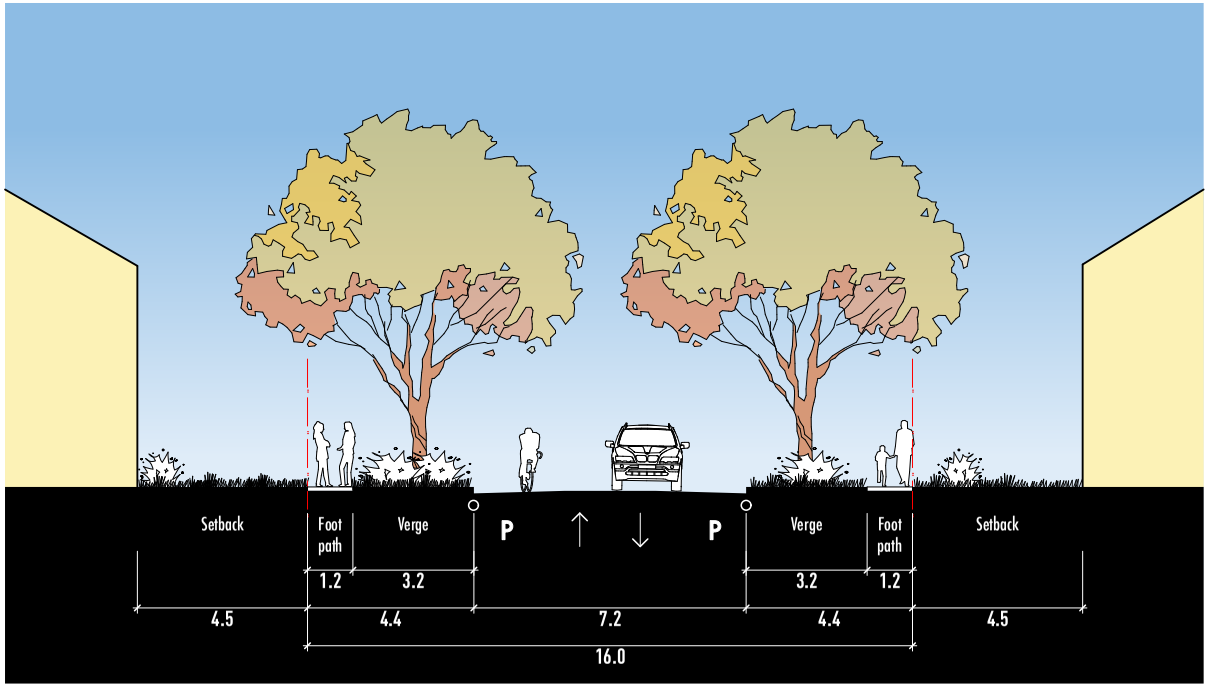
Parking Bays on Both Sides | Fully paved verge with tree pits | Bus Service



Section D2 - Village Centre Access Street

Village Centre Access Street

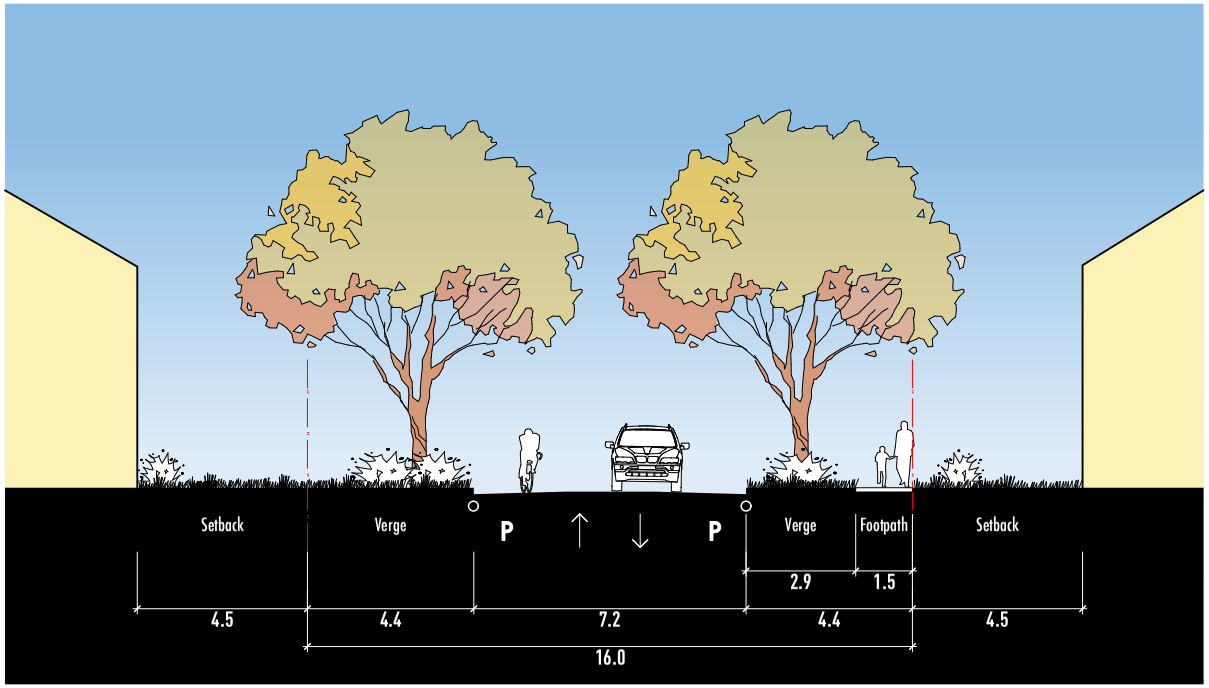
Parking Bays on Both Sides | Fully paved verge with tree pits



Section E1 - Access Street - Town

Access Street

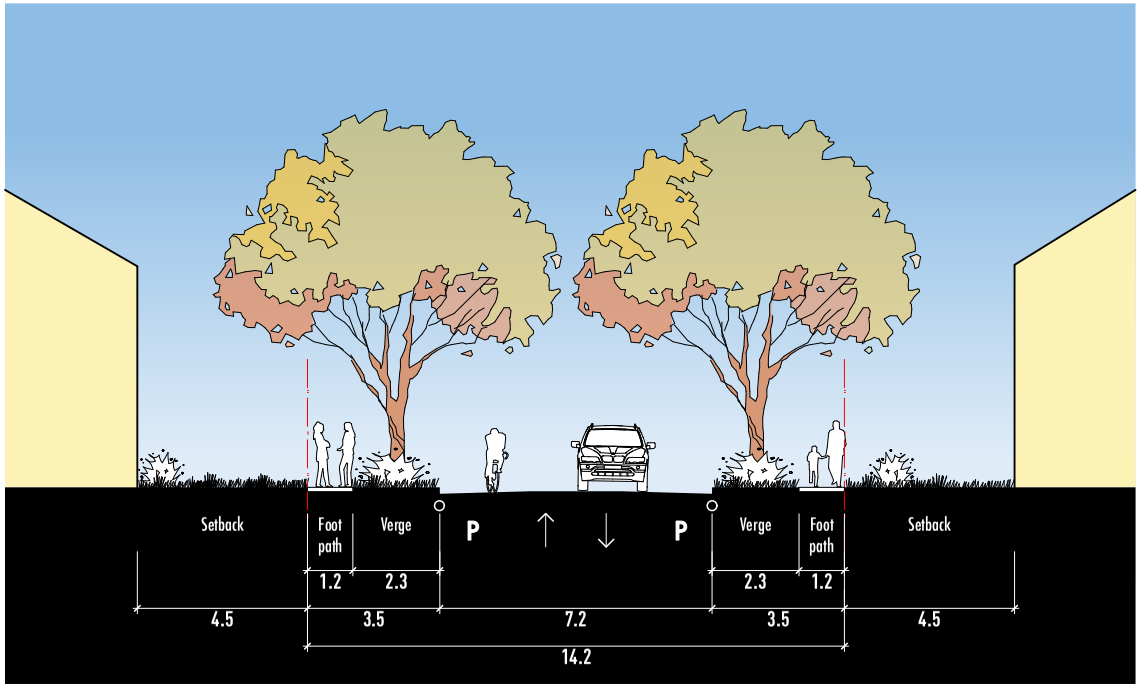
On Street Parking | Footpath on both sides



Section E2 - Access Street

Access Street

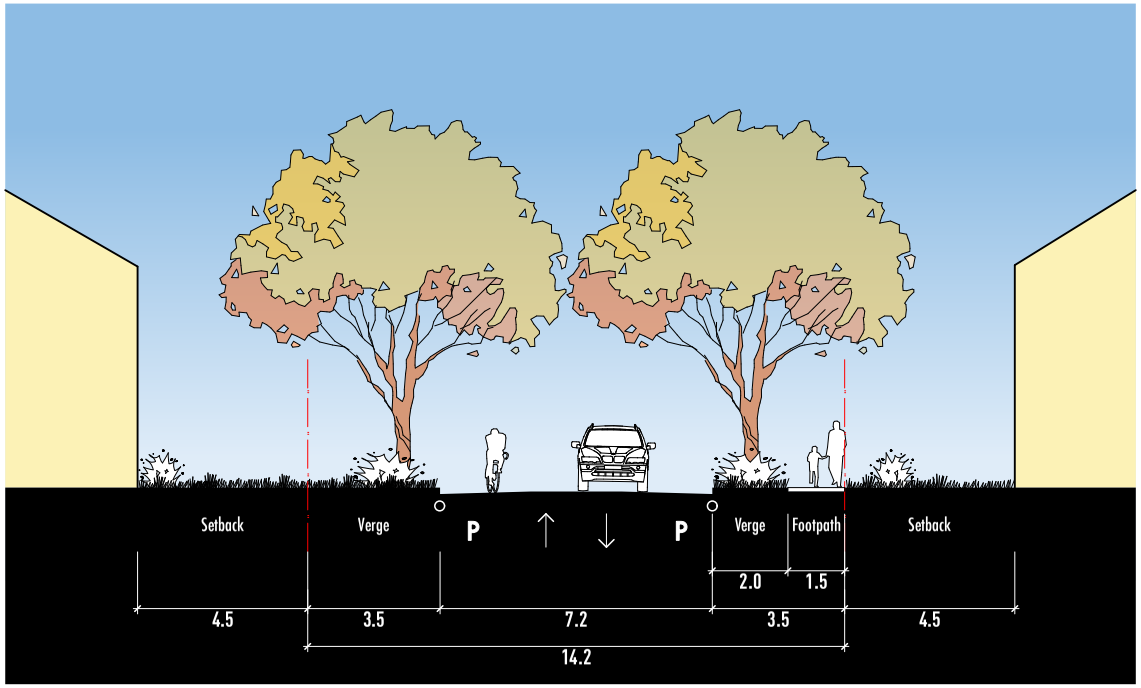
On Street Parking | Footpath on one side



Section E3 - Access Street - Urban

Access Street

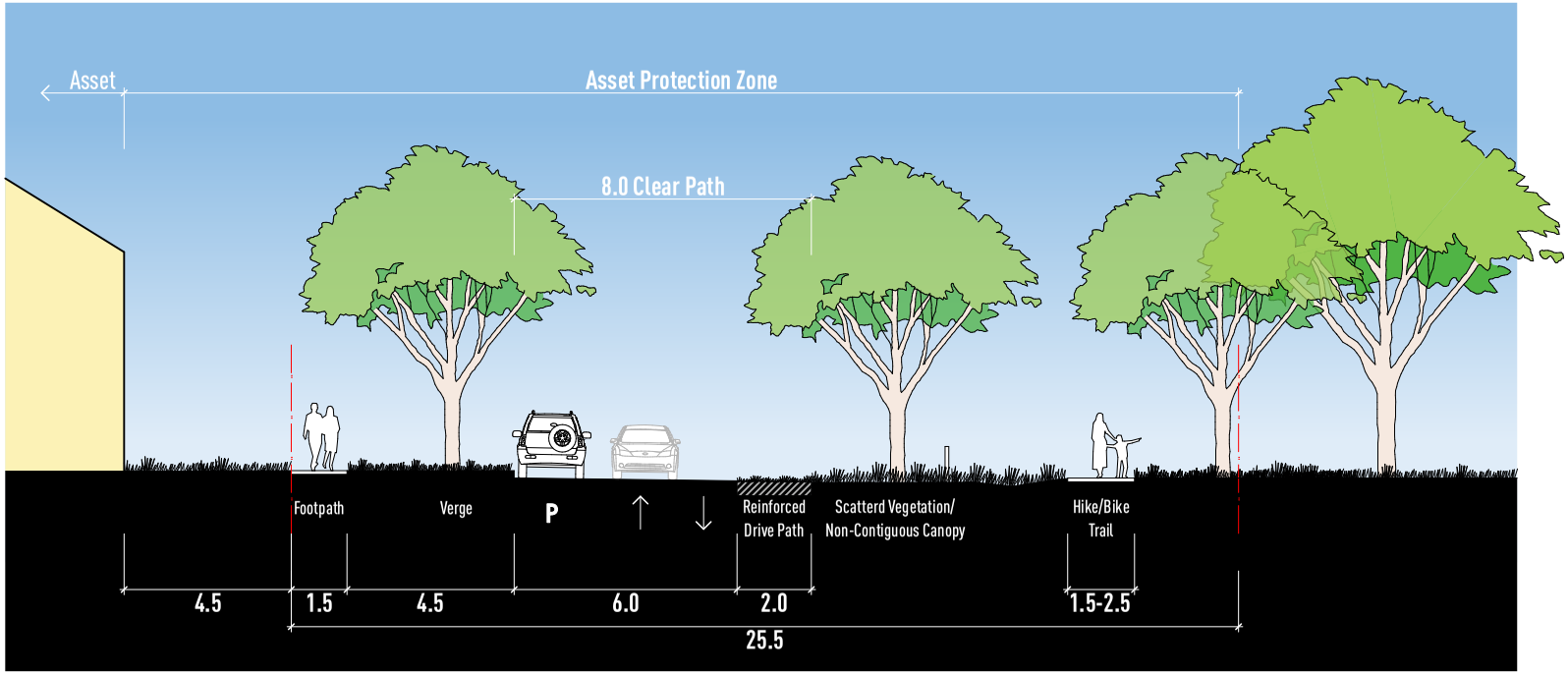
On Street Parking | Footpath on both sides



Section E4 - Access Street - Urban

Access Street

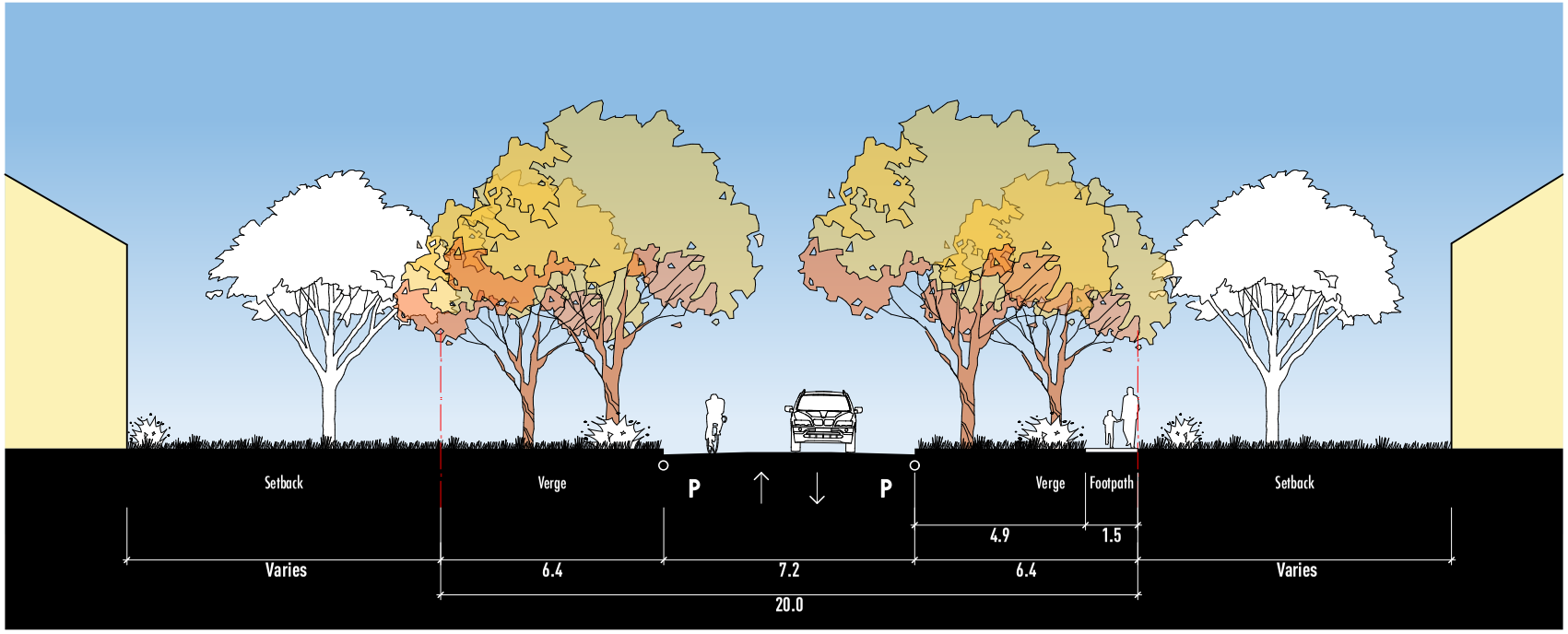
On Street Parking | Footpath on one side



Section E5 - Access APZ Street (30m APZ Shown)

Access APZ Edge Street

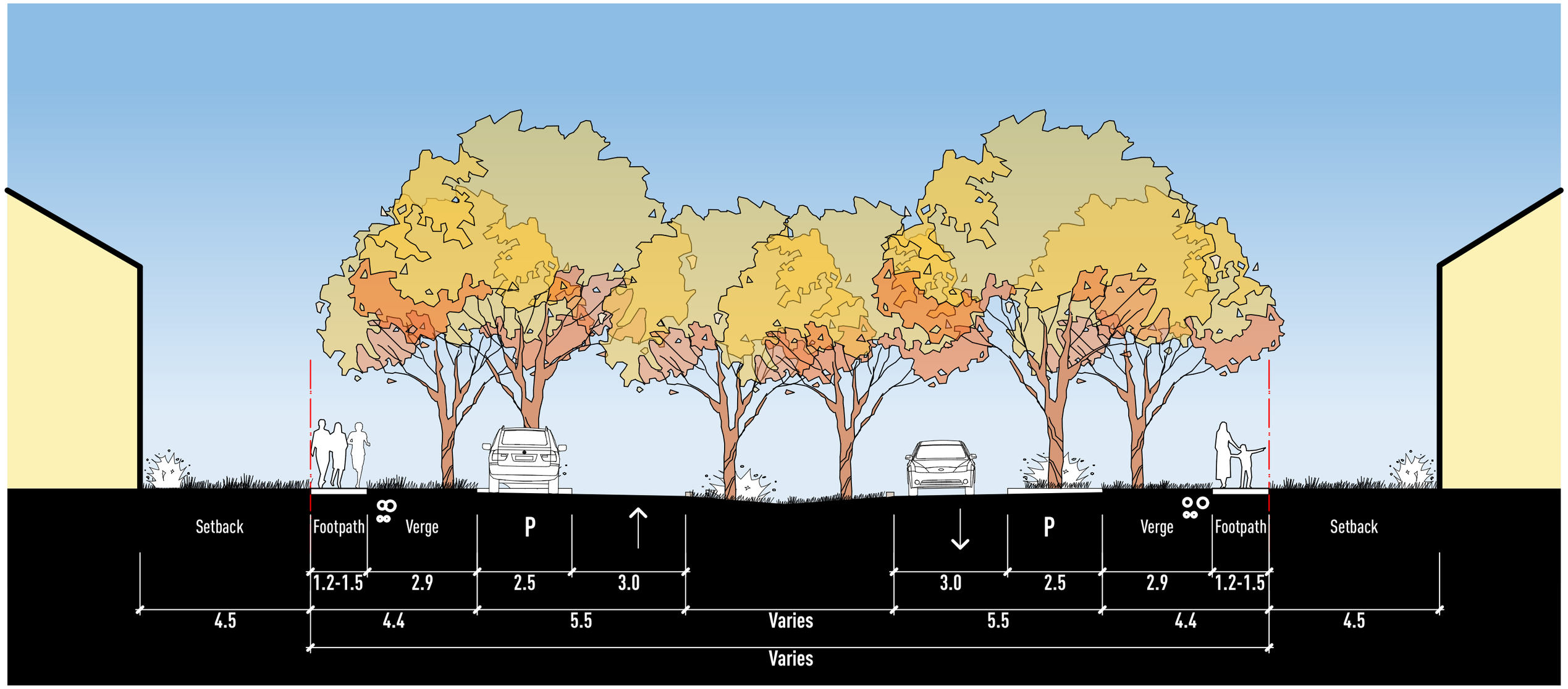
Asset Protection Zone Edges (Hike/Bike Trail and Footpath are Optional)



Section E6 - Access Street - Country

Access Street

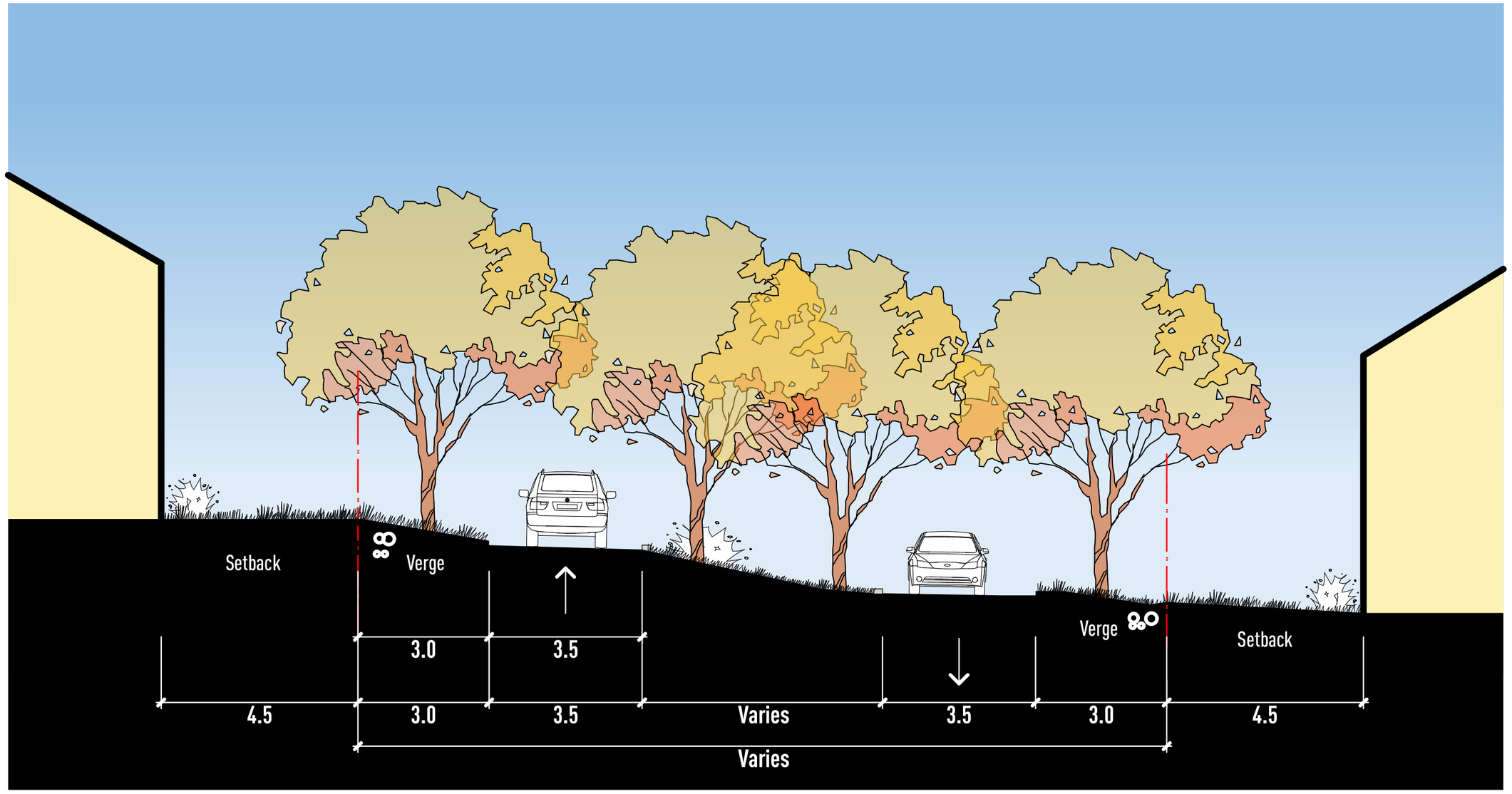
On Street Parking | Footpath on one side



Section E7 - Access Street with WSUD Median

Access Street with WSUD Median

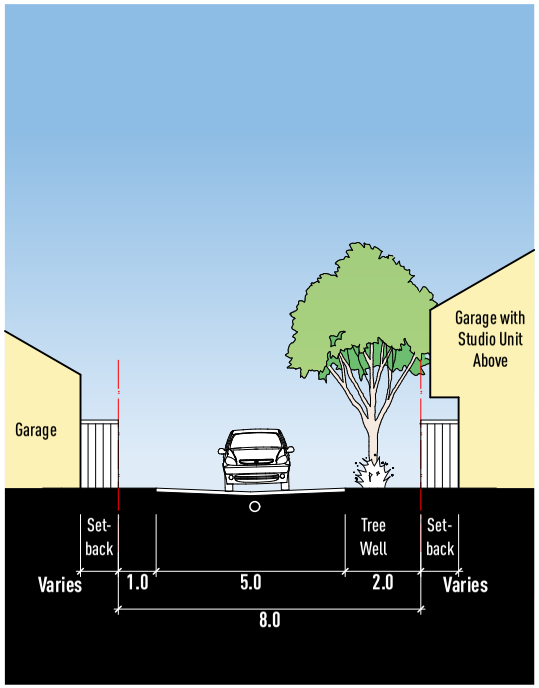
Parking Bays on Both Sides | Variable width WSUD median



Section E8 - Access Street - Hill Side

Access Street - Hill Side

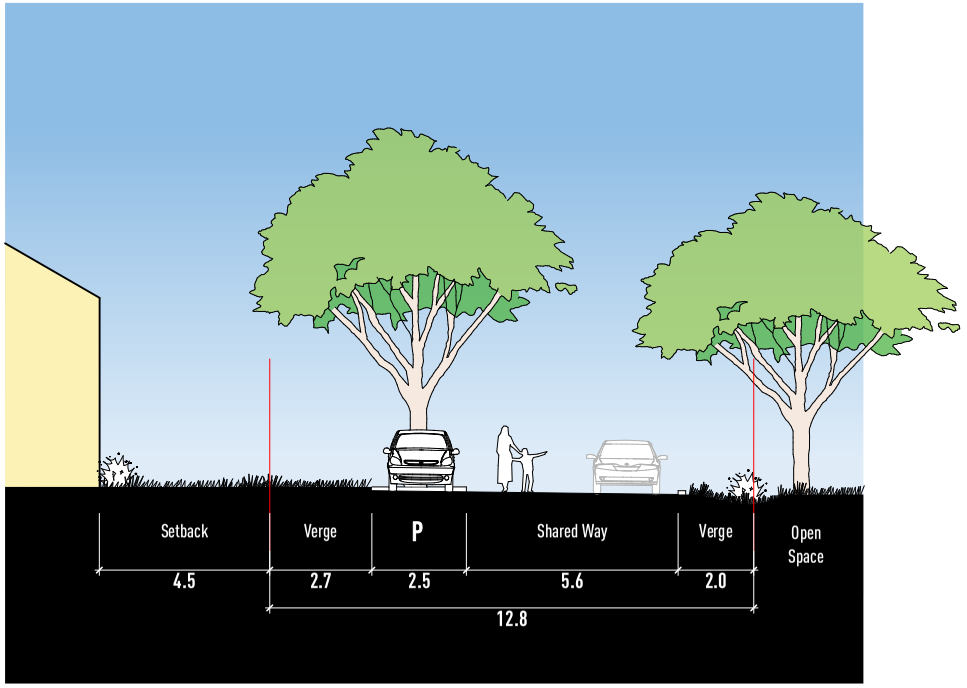
Variable width responding to terrain | Additional passing and parking bays in select locations



Section F1 - Lane

Lane

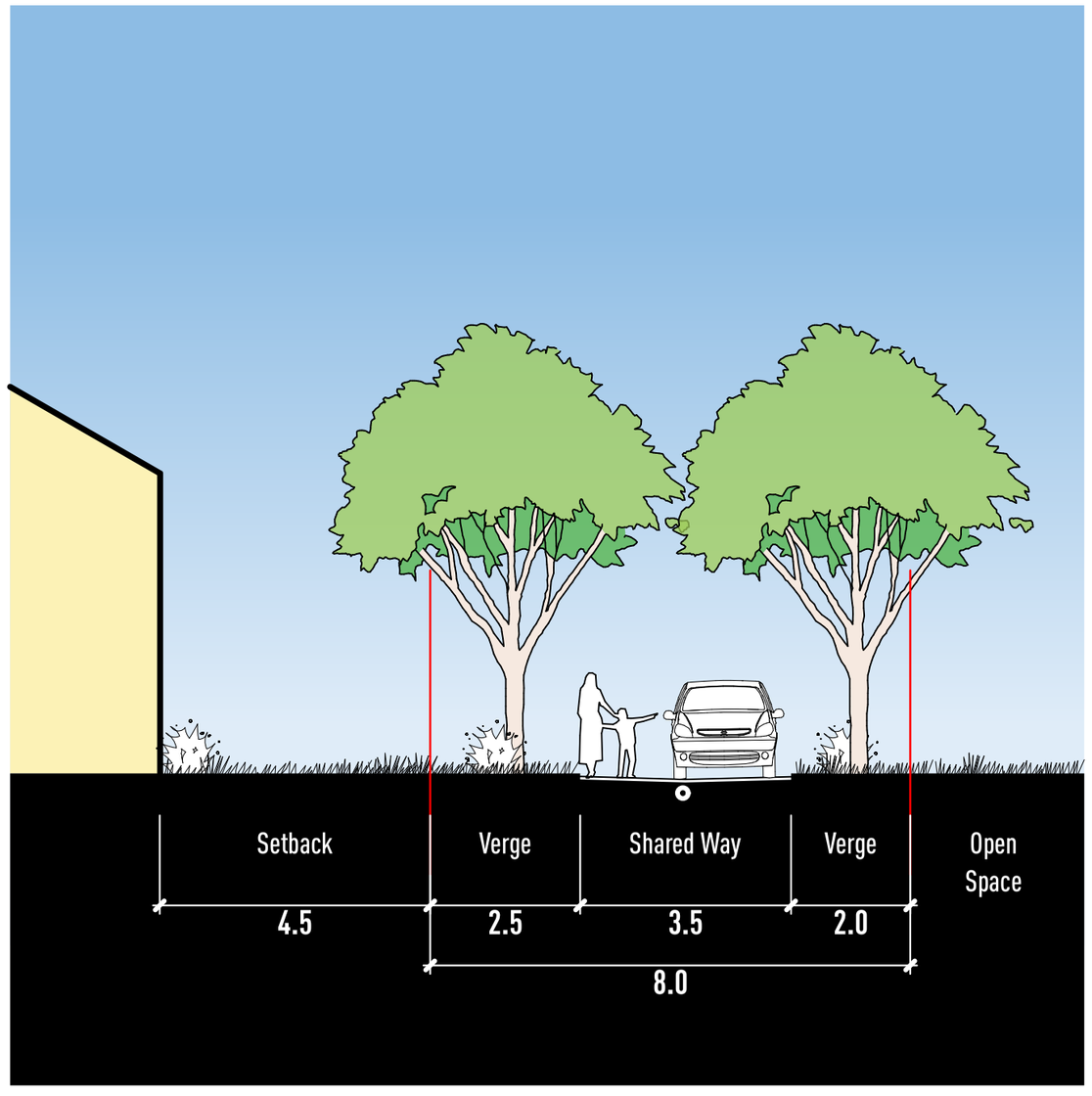
Rear Garage Service, Carriage House Address



Section F2

Open Space Edge Mews

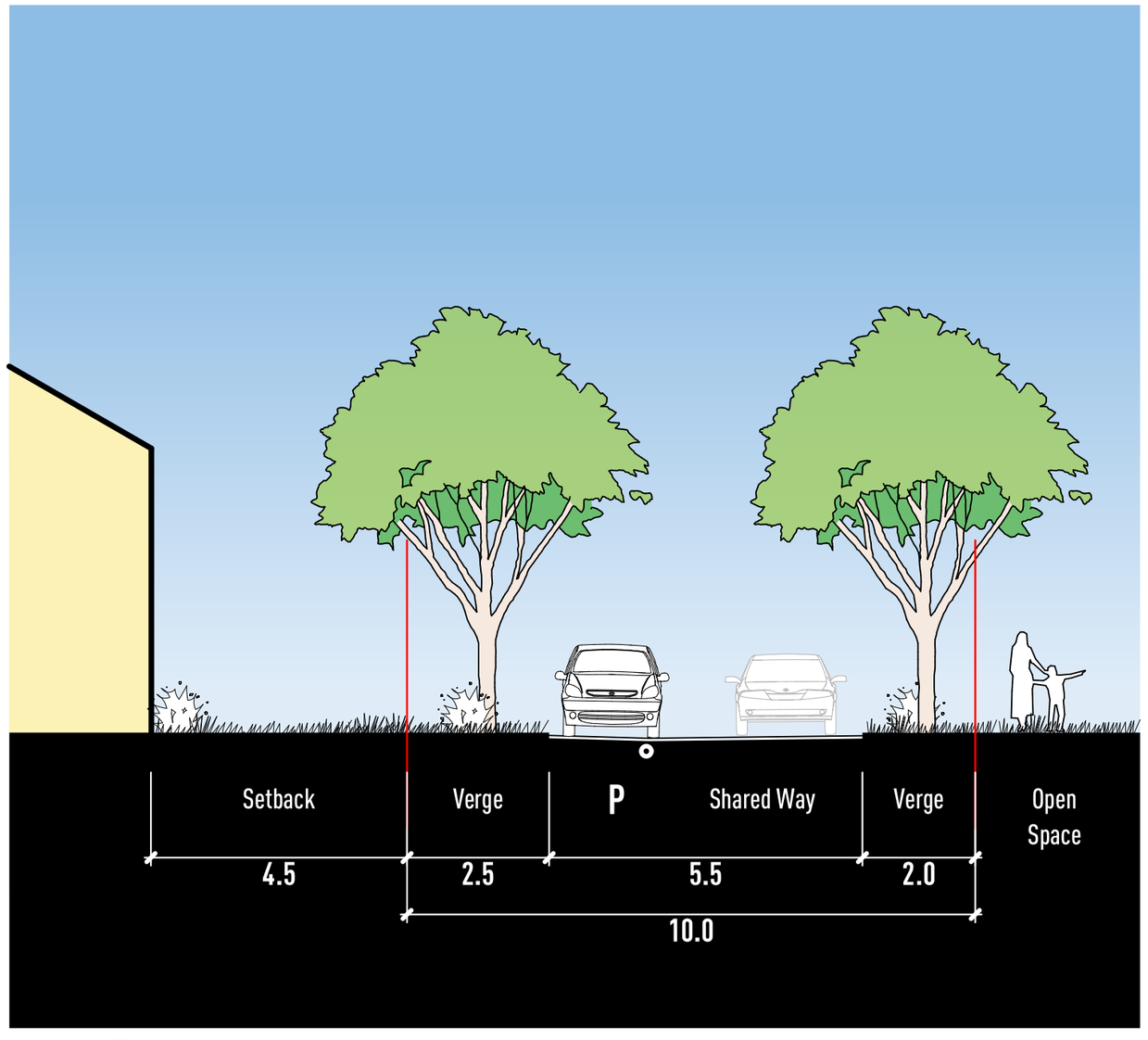
Shared Pedestrian Woonerf adjacent to open space



Section F3

Accessway

Access driveway with no parking



Section F4

Accessway

Dwelling Typologies

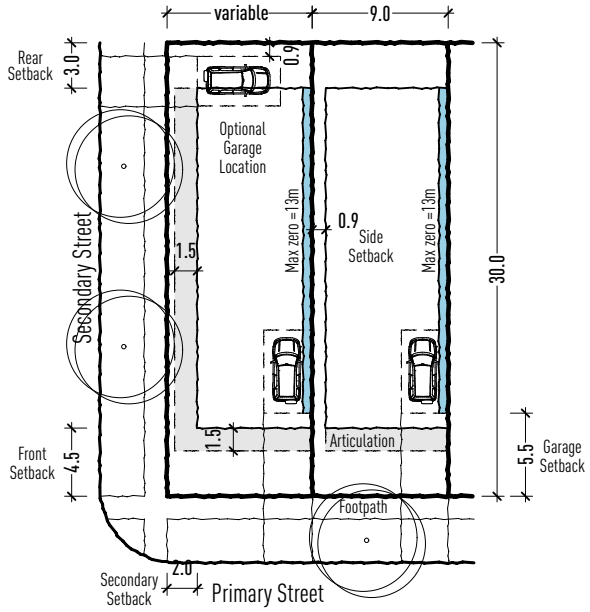
Delfin Lend Lease

Appendix C

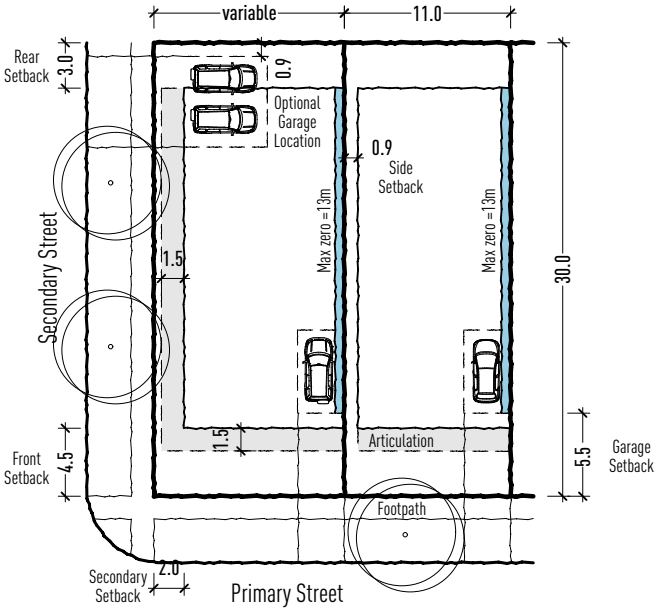
Calderwood

C1 - Standard Residential - Villa

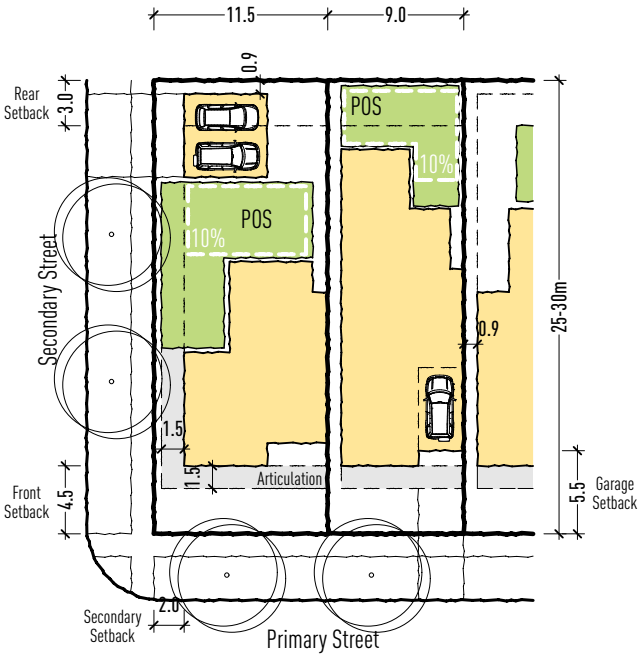
Area: 225-350 sqm
Typical Frontage: 7.5-20 m
Typical Depth: 18-30 m



Typical Building Envelope Plan
Detached 9 x 30m (270msq)



Typical Building Envelope Plan
Detached 11 x 30m (330msq)



Example Built Form Typology
Detached 12.5 x 30 (375sqm)

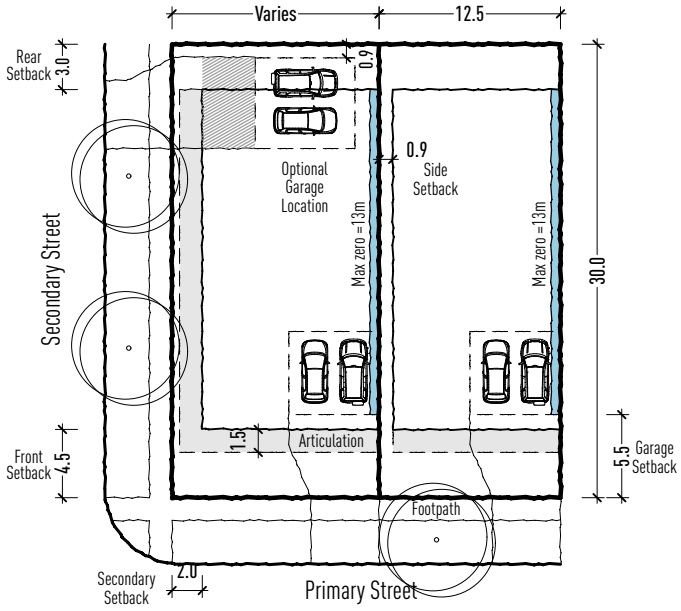
Not to scale.
17-02-2010

Issue:. A

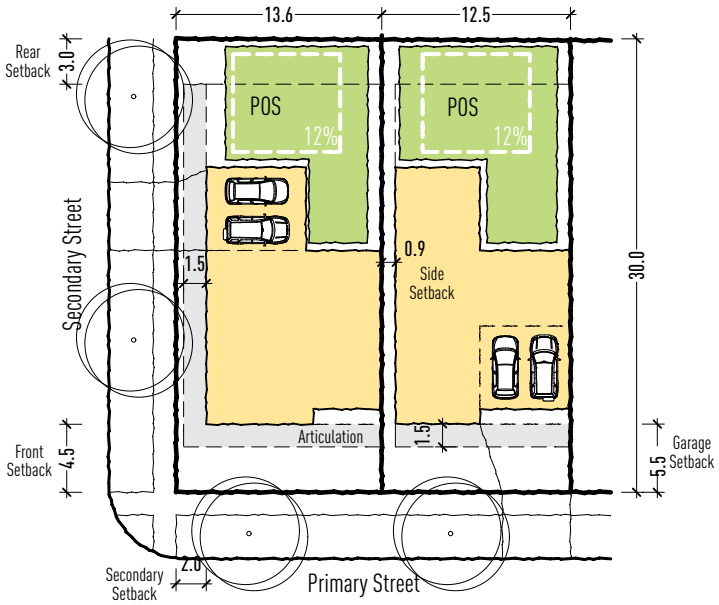
Calderwood

C2 - Standard Residential - Courtyard

Area: 351-450 sqm
Typical Frontage: 9-20 m
Typical Depth: 24-32 m



Typical Building Envelope Plan
Detached 12.5 x 30m (375msq)

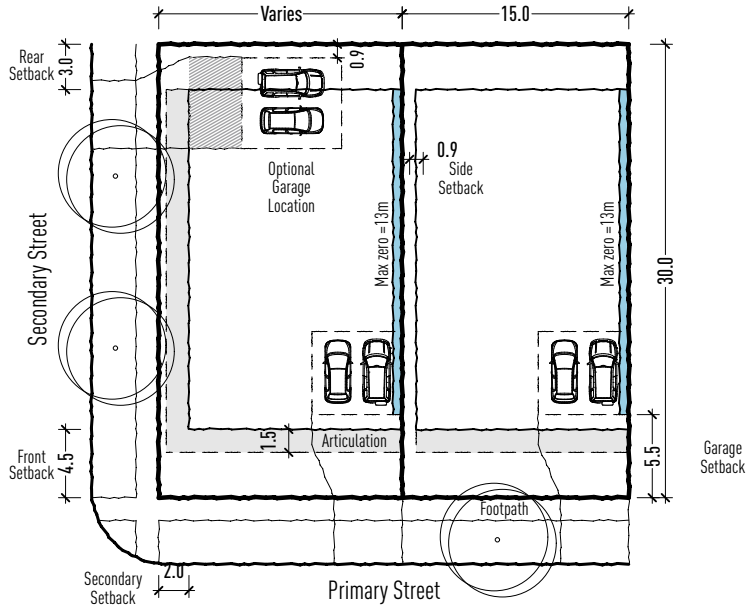


Example Built Form Typology
Detached 12.5 x 30 (375sqm)

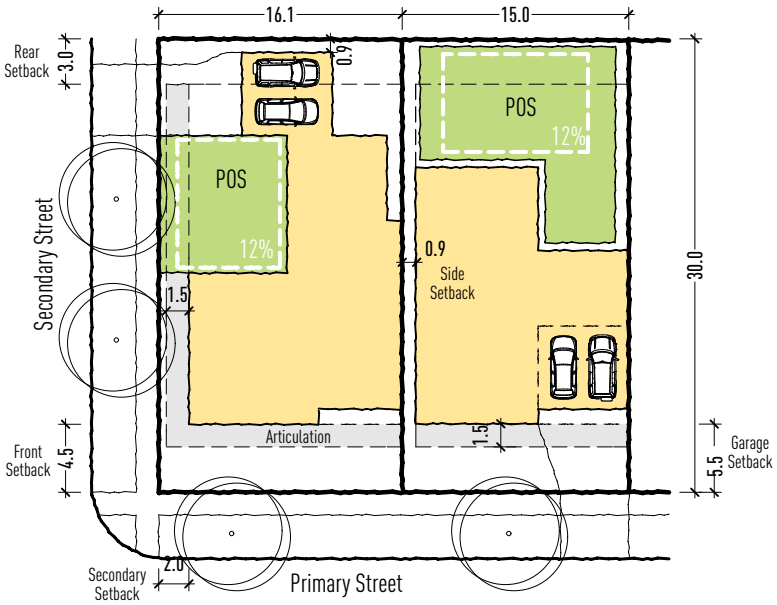
Calderwood

C3 - Standard Residential - Courtyard

Area: 351-450 sqm
Typical Frontage: 9-20 m
Typical Depth: 24-32 m



Typical Building Envelope Plan
Detached 15 x 30 (450sqm)



Example Built Form Typology
Detached 15 x 30 (450sqm)

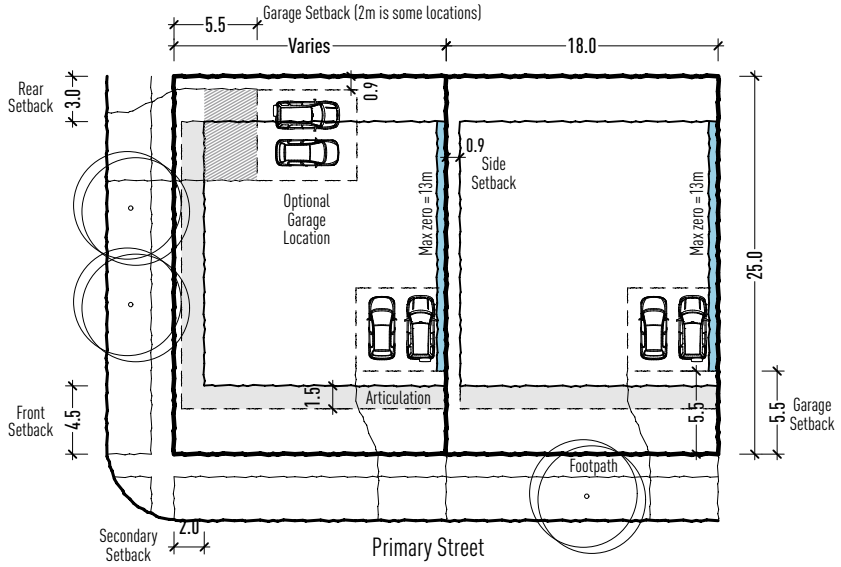
Not to scale.
17-02-2010

Issue:. A

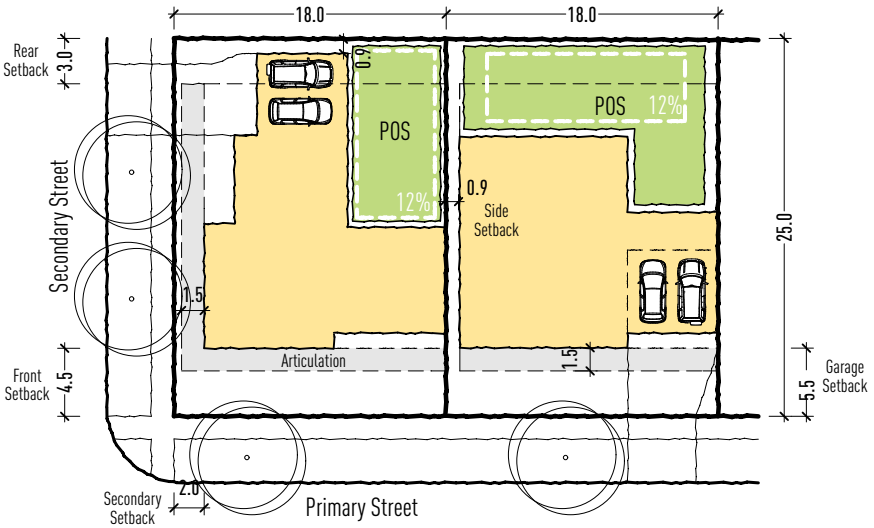
Calderwood

C4 - Standard Residential - Courtyard

Area: 351-450 sqm
Typical Frontage: 9-20m
Typical Depth: 24-32m



Typical Building Envelope Plan
Detached 18 x 25 (450sqm)



Example Built Form Typology
Detached 18 x 25 (450sqm)

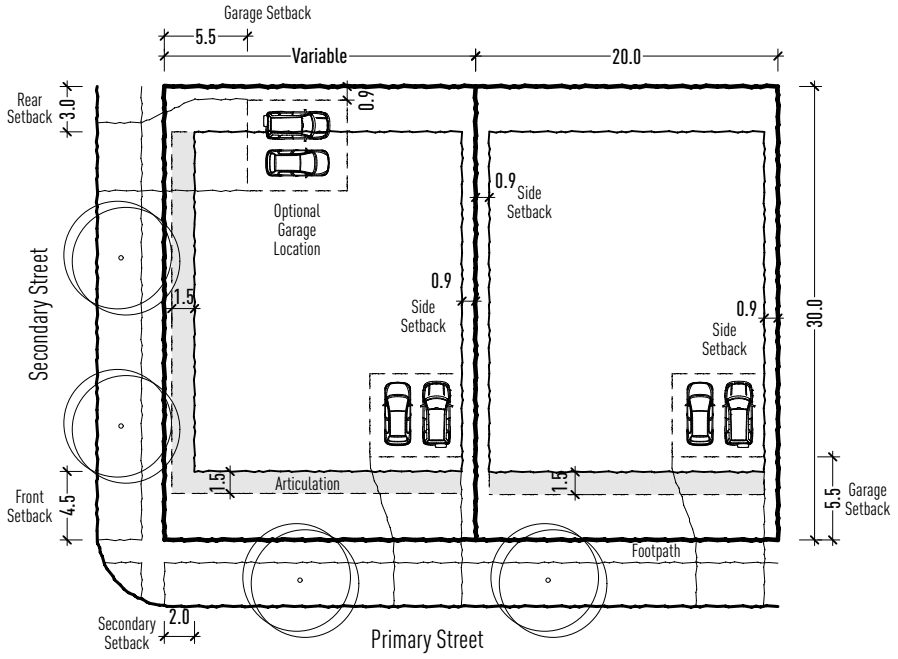
Not to scale.
17-02-2010

Issue:. A

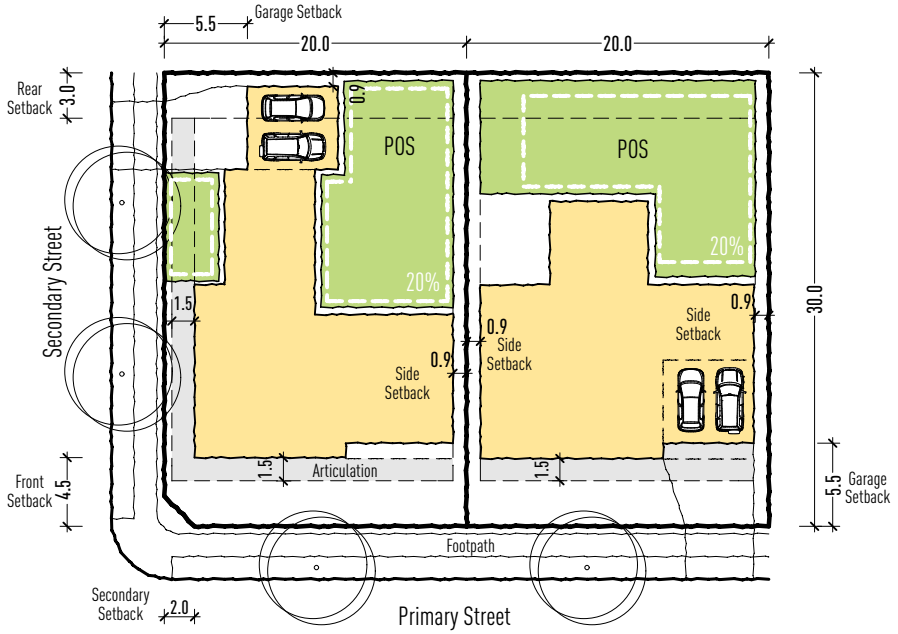
Calderwood

C5 - Standard Residential - Traditional

Area:	**451-899 sqm**
Typical Frontage:	**15-25 m**
Typical Depth:	**24-40 m**



Typical Building Envelope Plan
Detached 20 x 30 (600sqm)



Example Built Form Typology
Detached 20 x 30 (600sqm)

Not to scale.
17-02-2010

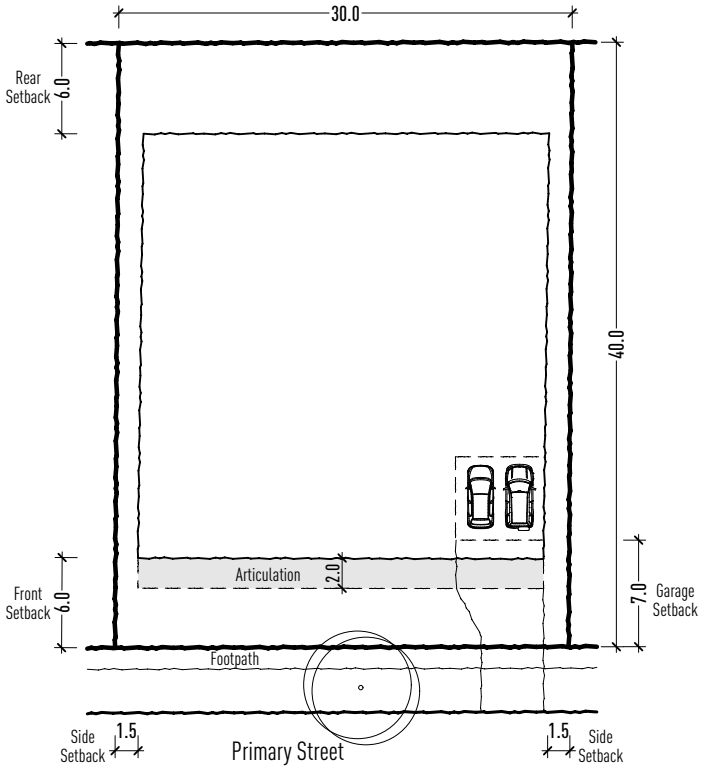
Issue:. A

Calderwood

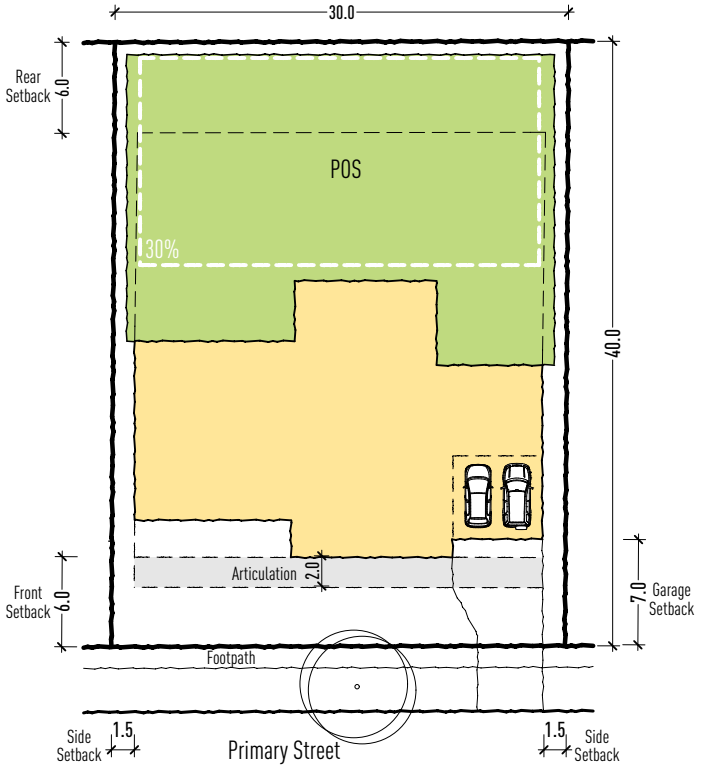
C6 - Standard Residential - Parkland

Area:	**900 - 1,499 sqm**
Typical Frontage:	**20+ m**
Typical Depth:	**30+ m**

Typical Building Envelope Plan
Detached 30 x 40 (1200sqm)



Example Built Form Typology
Detached 30 x 40 (1200sqm)



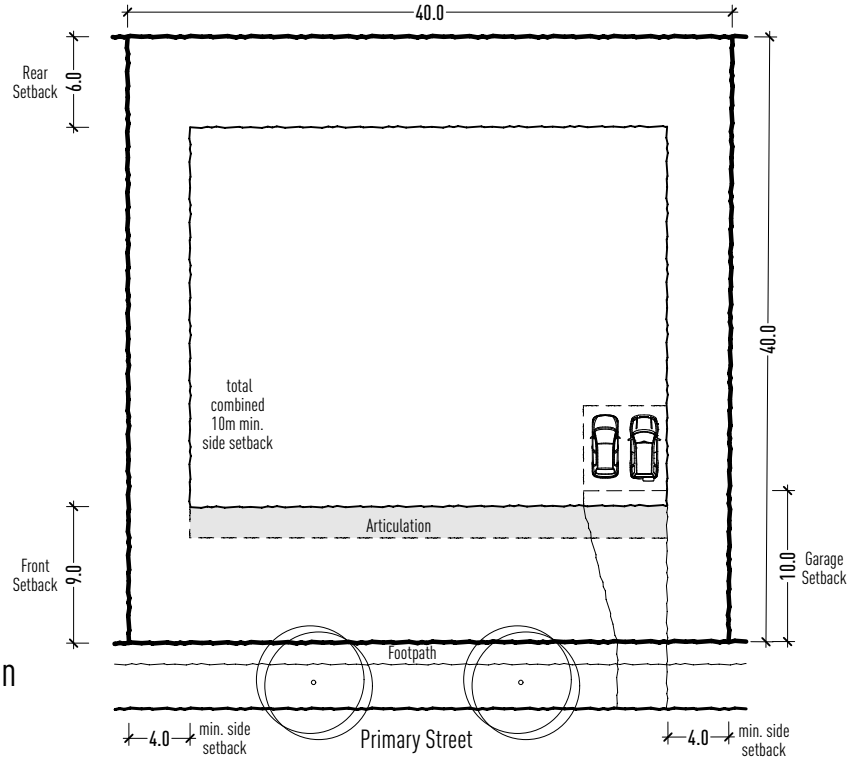
Not to scale.
17-02-2010

Issue:. A

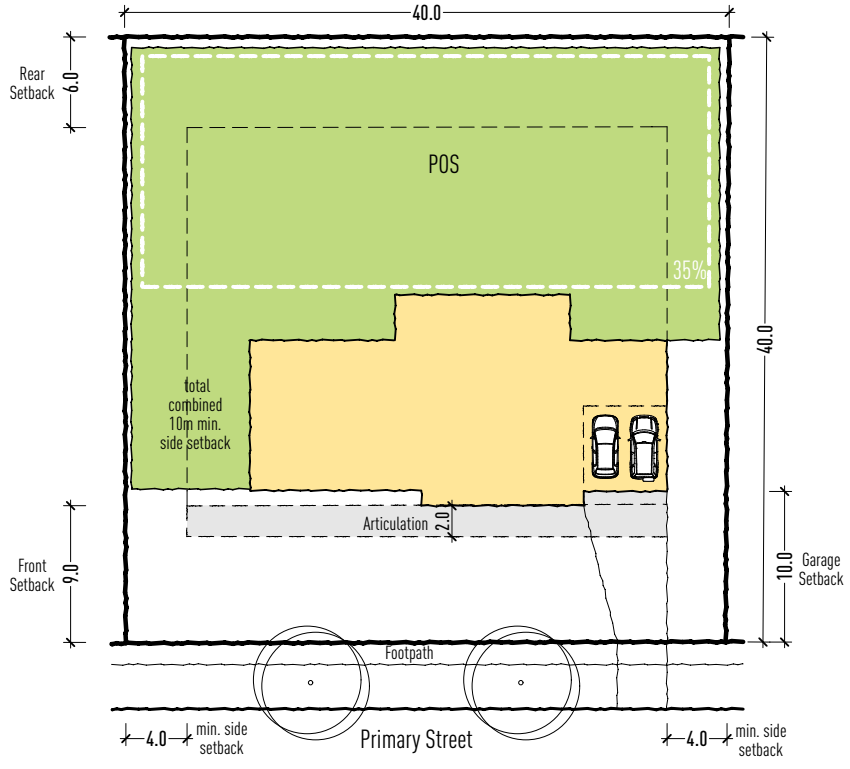
Calderwood

C7 - Standard Residential - Parkland +

Area:	**1,500+ sqm**
Typical Frontage:	**35+ m**
Typical Depth:	**35+ m**



Typical Building Envelope Plan
Detached 40 x 40 (1600sqm)



Example Built Form Typology
Detached 40 x 40 (1600sqm)

Not to scale.

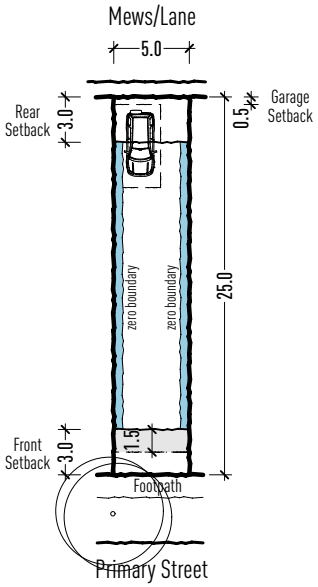
Issue:. A

17-02-2010

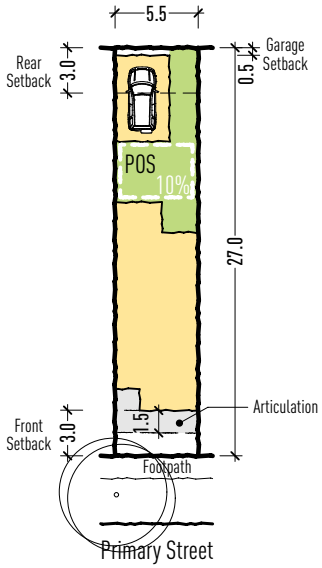
Calderwood

C8 - Integrated Housing - Attached

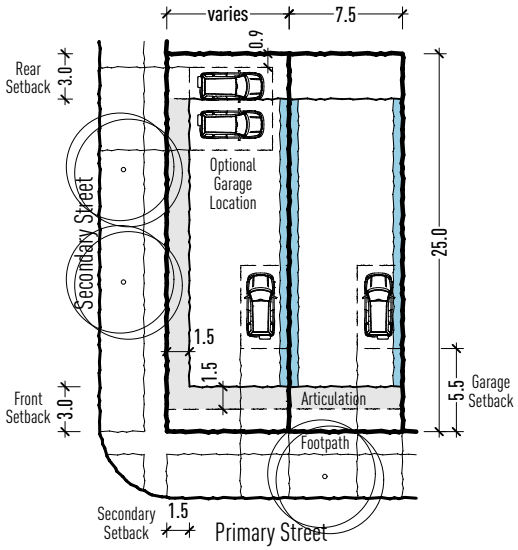
Area: 125-300 sqm
Typical Frontage: 5-20m
Typical Depth: 15-30m



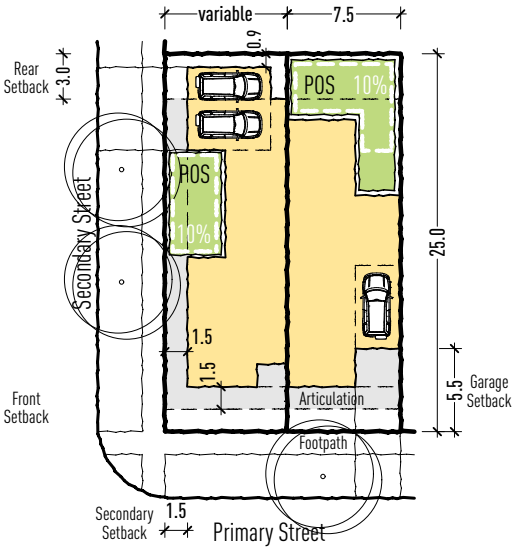
Typical Building Envelope Plan
Attached 5 x 25m (125sqm)



Example Built Form Typology
Attached Rear Loaded 5 x 25m (125sqm)



Typical Building Envelope Plan
Attached 7.5 x 25m (187sqm)

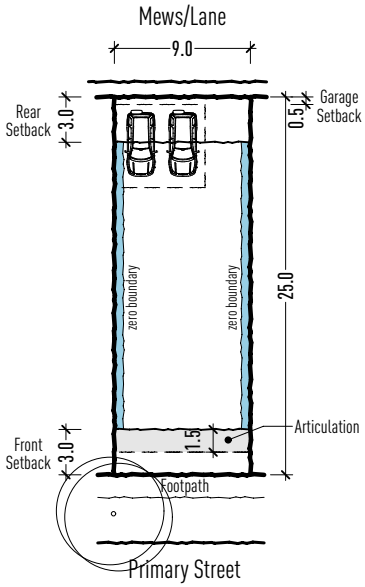


Example Built Form Typology
Attached 7.5 x 25m (187sqm)

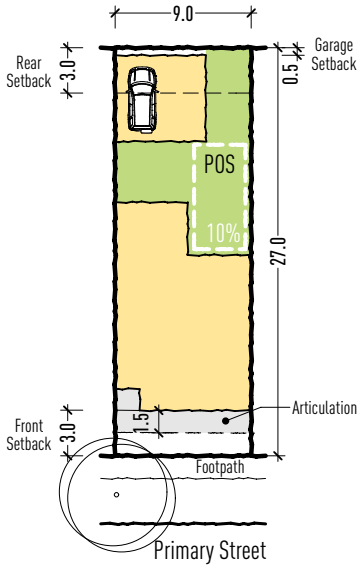
Calderwood

C9 - Integrated Housing - Attached

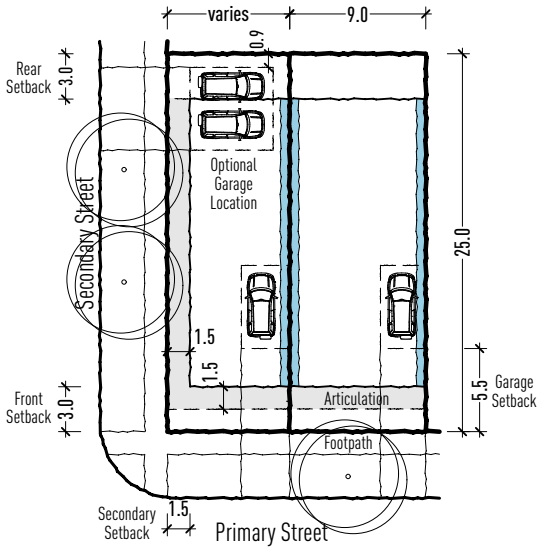
Area: 125-300 sqm
Typical Frontage: 5-20m
Typical Depth: 15-30m



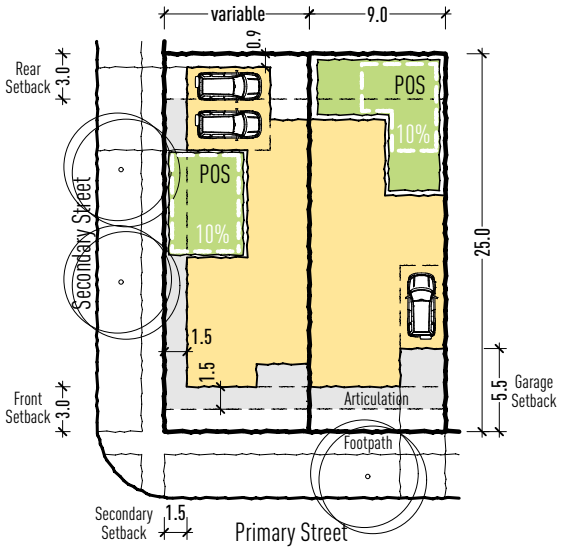
Typical Building Envelope Plan
Attached 9 x 25m (225sqm)



Example Built Form Typology
Attached Rear loaded 9 x 25m (225sqm)



Typical Building Envelope Plan
Attached 9 x 25m (187sqm)

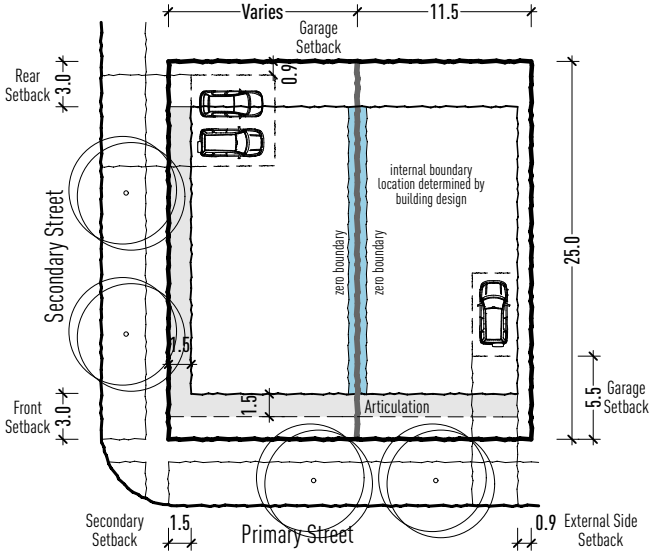


Example Built Form Typology
Attached Front loaded 9 x 25m (225sqm)

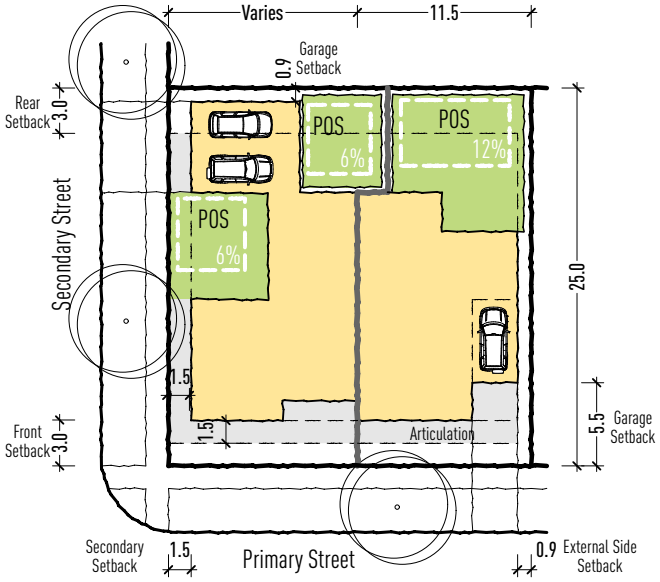
Calderwood

C10 - Integrated Housing - Semi-Detatched

Area: 125-350 sqm (ea. lot)
Typical Frontage: 5-20m
Typical Depth: 15-30m



Typical Building Envelope Plan
Semi Detached Corner Duplex



Example Build Form Typology
Semi Detached Corner Duplex

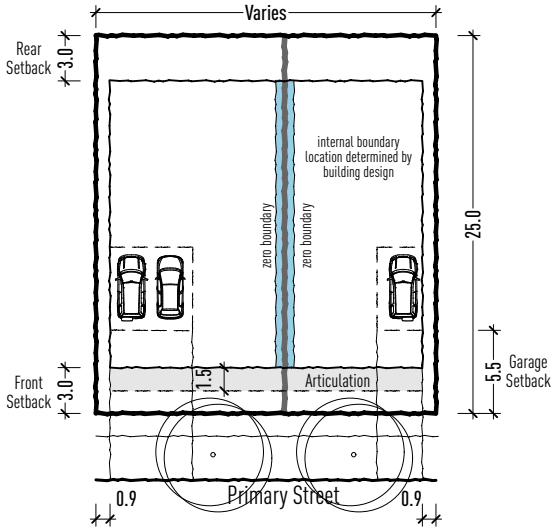
Not to scale.
17-02-2010

Issue:. A

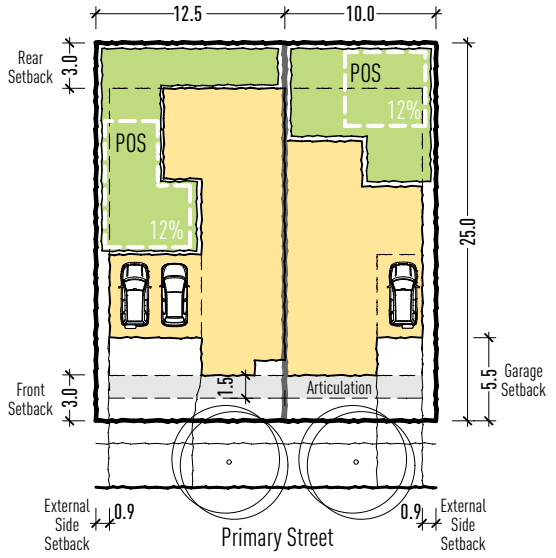
Calderwood

C11 - Integrated Housing - Semi-Detatched

Area: 125-350 sqm (ea. lot)
Typical Frontage: 5-20m
Typical Depth: 15-30m



Typical Building Envelope Plan
Semi Detached Duplex 10/12.5 x 25m (125-350msq)



Example Built Form Typology
Semi Detached Duplex 10/12.5 x 25m (125-350msq)

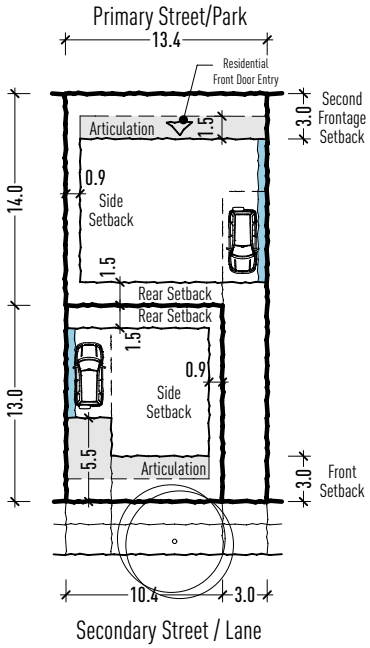
Not to scale.
17-02-2010

Issue:. A

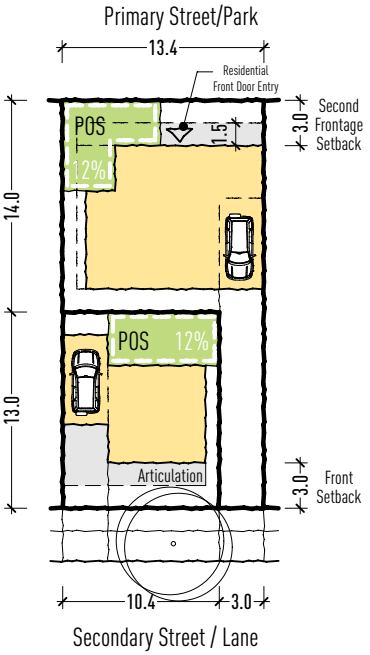
Calderwood

C12 - Integrated Housing - Detatched

Area: 125-300 sqm
Typical Frontage: 7-16m
Typical Depth: 12-25m



Typical Building Envelope Plan
Detached and Rearloaded parkfront



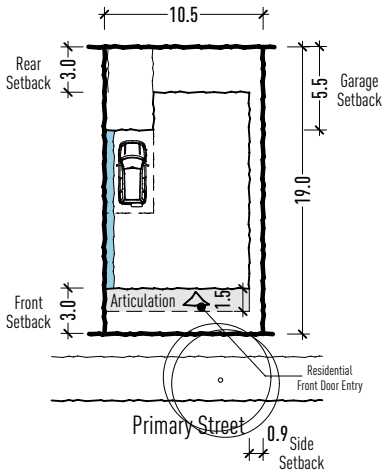
Example Built Form Typology
Detached and Rearloaded Parkfront

Not to scale.
17-02-2010

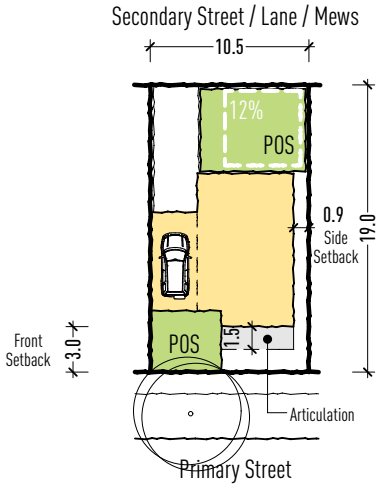
Issue:. A

Calderwood

C13 - Integrated Housing - Detatched



Typical Building Envelope Plan
Detached Rear Loaded 10.5 x 19 (199sqm)

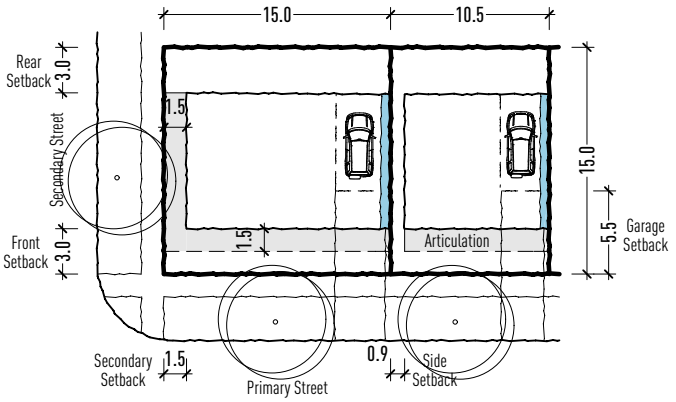


Example Built Form Typology
Detached Rear Loaded 10.5 x 19 (199sqm)

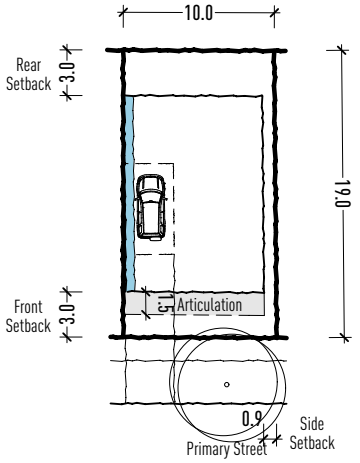
Calderwood

C14 - Integrated Housing - Detatched

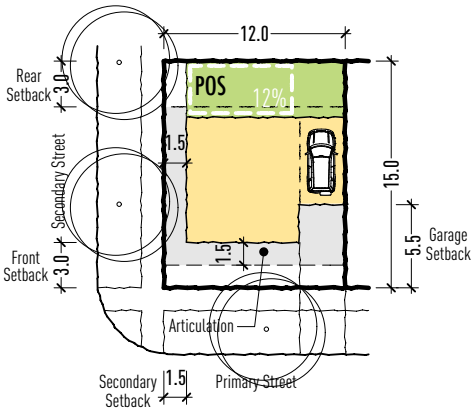
Area: 125-300 sqm
Typical Frontage: 7-16m
Typical Depth: 12-25m



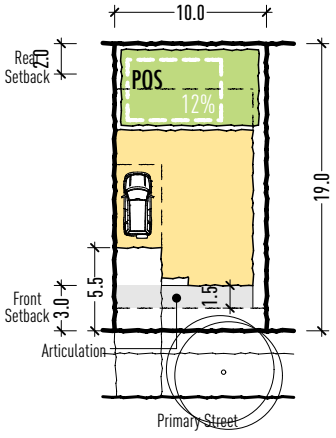
Typical Building Envelope Plan
Detached 10.5 x 15 (165-285sqm)



Typical Building Envelope Plan
Detached 10 x 19 (190 sqm)



Example Built Form Typology
Detached 12 x 15 (180 sqm)



Example Built Form Typology
Detached 10 x 19 (190 sqm)

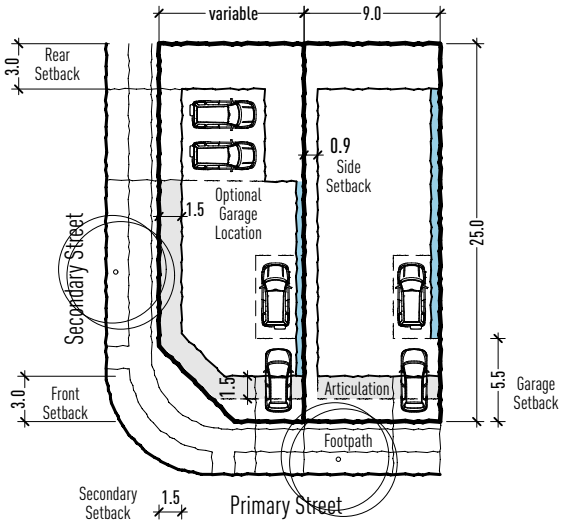
Not to scale.
17-02-2010

Issue:. A

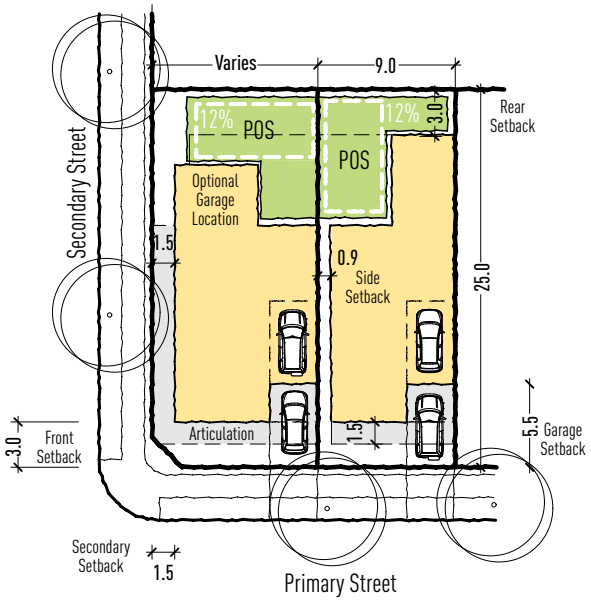
Calderwood

C15 - Integrated Housing - Detatched

Area: 150-300 sqm
Typical Frontage: 7-16m
Typical Depth: 12-25m



Typical Building Envelope Plan
Detached 9 x 25 (225sqm)



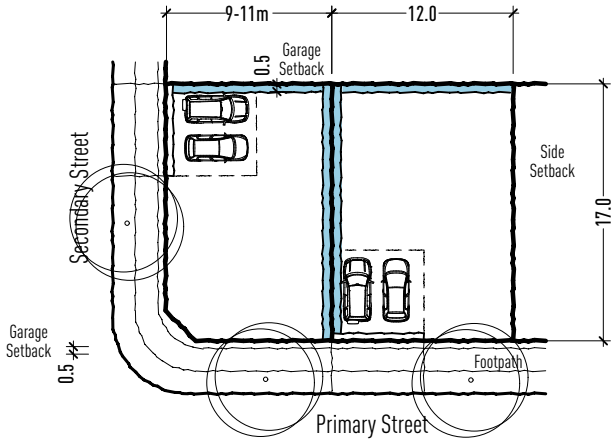
Example Built Form Typology
Detached 9 x 25 (225sqm)

Not to scale.
17-02-2010

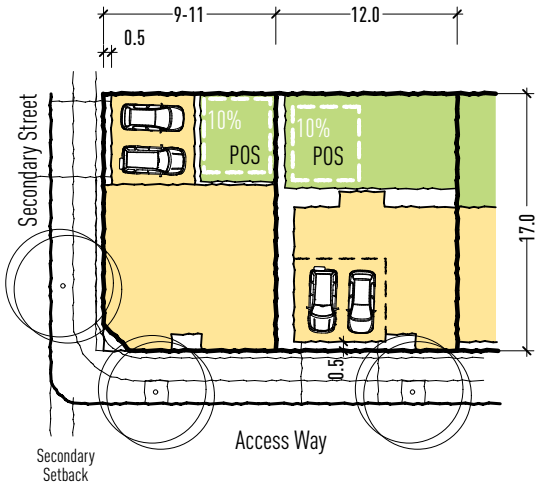
Issue:. A

Calderwood

C16- Warehouse
Area: 150-300sqm
Frontage: 10-15m



Typical building Envelope Plan
Warehouse

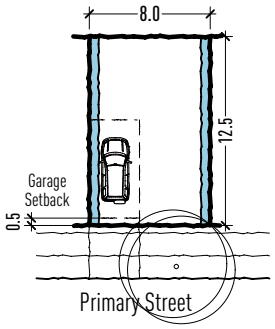


Example Built Form Typology
Warehouse

Calderwood

C17 - Integrated Housing (TC/VC) - Urban Sleeve

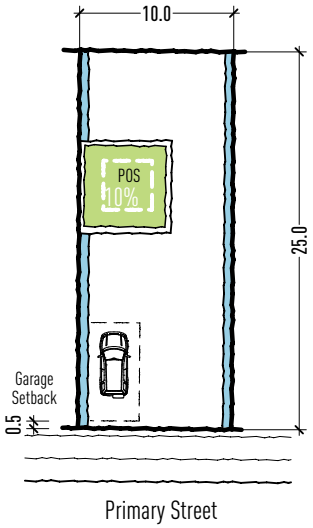
Area: 80+ sqm
Typical Frontage: 8-20 m
Typical Depth: 8-30 m



Typical Building Envelope Plan
Urban Sleeve 8 x 12 (100sqm)

C18 - Integrated Housing (TC/VC) - Live Work

Area: 180+ sqm
Typical Frontage: 5-15 m
Typical Depth: 12-30 m

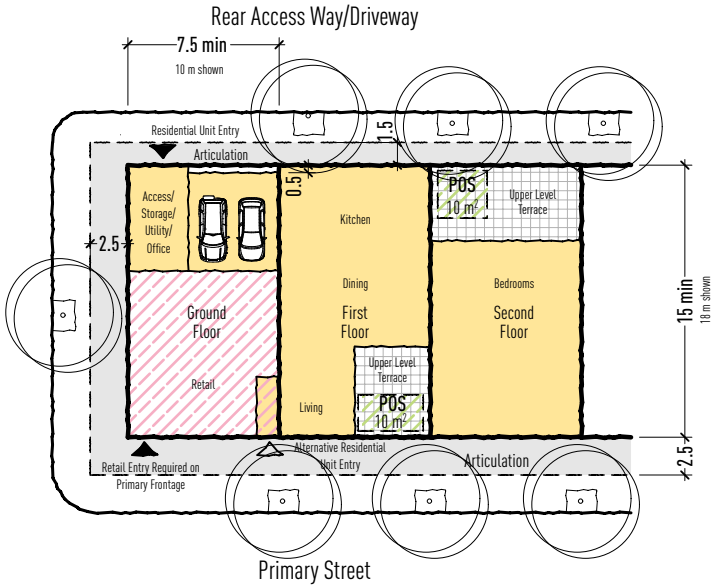


Typical Building Envelope Plan
Live Work 10 x 25 (250sqm)

Calderwood

C19 - Integrated Housing (TC/VC) - Shop-Top

Area:	**80+ sqm**
Typical Frontage:	**6+ m**
Typical Depth:	**8+ m**

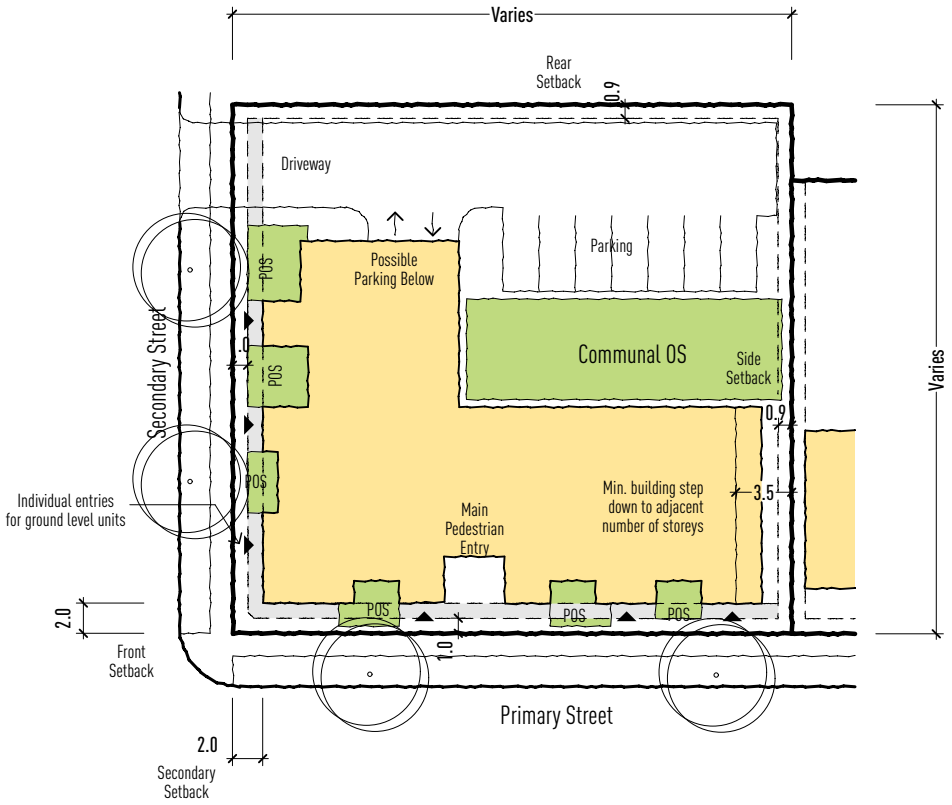


Shop Top Housing

Calderwood

C20 - Integrated Housing (TC/VC) - Apartments

Area:	**na**
Typical Frontage:	**na**
Typical Depth:	**na**



Example Built Form Typology
Apartments

Not to scale.
17-02-2010

Issue:. A