Appendix A

Vegetation Community Descriptions

A.1 Sydney Sandstone Gully Forest

Sydney Sandstone Gully Forest is generally found where deep gullies have been eroded into sandstone and sheltered hillsides, particularly with a southern to easterly aspect (Benson and Howell 1994). High rainfall and steep sheltered gorges foster the development of this vegetation association, as well as nutrient enrichment from shale soils or ridges. Changes in floristic and vegetation structure are related to increased moisture, shelter and soil fertility. This vegetation community is relatively common and widespread in the Sydney region and is well represented in conservation reserves.

The canopy of Sydney Sandstone Gully Forest is characterised by tall growing eucalypt species such as Mountain Blue Gum (*Eucalyptus deanii*) and *Eucalyptus piperita*. The shrub stratum of this community contains a variety of shrubs including *Persoonia pinifolia*, *Acacia terminalis* and *Pulteneae daphnoides*.

Field investigations showed that this vegetation community is widespread within the precinct. It occurs along most of the riparian zones of Cattai and Smalls Creek, as well as along some of the larger tributaries. The condition of this vegetation community within the precinct is generally poor due to weed invasion. The plant biodiversity in the understorey of the riparian zone is low and Privet thickets are widespread due to nutrient enrichment and suitable growing conditions provided by the damp, moist gullies.

Photograph 6.1 Sydney Sandstone Gully Forest

A.2 Sydney Sandstone Ridgetop Woodland

This vegetation community is found on the more exposed ridges and plateau tops with shallow sandy soils and on dry exposed slopes on Hawkesbury Sandstone, interrupted by outcrops of rock (Benson & Howell 1994). Considerable variation can be seen in the structure and floristics of this community, and it varies from open forest to open woodland to open scrub and heathland, with pockets of deeper soil present amongst the underlying rocks allowing larger trees to grow.

Field investigations confirmed the presence of this vegetation community within the precinct, predominantly on the ridges above Cattai Creek in the east of the precinct. The condition of this community was generally good, as it occurs higher in the landscape with less potential for nutrient enrichment and weed invasion. These areas typically have few weeds and are characterised by high levels of biodiversity. Hollow bearing trees were common in this community, and typically all vegetation strata were present.

Photograph 6.2 Sydney Sandstone Ridgetop Woodland

A.3 Sydney Sandstone Heath

Sydney Sandstone Heath varies from open heath to closed scrub, with predominantly low growing, shrubby species. This community forms in areas where the soil is very thin,

thereby preventing the growth of tall trees. Heathland plants typically grow into dense, prickly thickets.

Field investigations confirmed the presence of this vegetation community within the precinct, predominantly in an area to the south of Heath Road, on high rocky and exposed plateaus above Cattai Creek in the east of the precinct. These areas have probably not been cleared as the soil is thin and of limited use for supporting pasture for grazing. This community is in very good condition, similar to Sydney Sandstone Ridgetop Woodland. Few weeds are present in this community due to its high position on the slope and it is characterised by high levels of biodiversity.

Photograph 6.3 Sydney Sandstone Heath

A.4 Shale Sandstone Transition Forest

Shale Sandstone Transition Forest is a vegetation community that only develops in close proximity to a transition in parent geology from Wianamatta Shale to Sandstones. This community occurs around the margin of the Cumberland Plain and marks the transition from the communities on the Cumberland Plain that grow on purely shale derived soils and the surrounding sandstone communities (Tozer 2003). Shale Sandstone Transition Forest is listed as an EEC under the TSC Act

Depending on the location of the community on the transition zone, two variants are recognised – low sandstone influence and high sandstone influence. The boundary of these two variants is indistinct and they grade into each other at the margins making precise delineation of boundaries difficult. Both variants have been recorded within the precinct, however for simplification; Cumberland Ecology combined the map units to form a single category.

The majority of the vegetation within the precinct consists of this community, throughout the central section and extending upwards to the northern tip. The condition of this vegetation type within the precinct is highly variable and dependant on the surrounding and adjacent land uses. Large remnants of this community away from homes and farms are in the highest condition, particularly where they occur higher in the landscape.

A.5 Upper Georges River Sandstone Woodland

Upper Georges River Sandstone Woodland is usually dominated by *Eucalyptus punctata* and *Corymbia gummifera*, with a diverse shrub and ground layer. It is found most often on the upper slopes and ridges, usually close to the boundary between shale and sandstone derived soils (Tozer 2003). It appears to require some shale influence in the soil and is broadly similar to Shale Sandstone Transition Forest community.

Within the precinct this community occurs in the east, next to the Sydney Sandstone Gully Forest adjacent to Smalls Creek on higher ridges and slopes on sandstone. This community is in good condition where residential development has not encroached on it, as these positions in the landscape are typically removed from sources of weed invasion and nutrient enrichment.

A.6 Alluvial Woodland

Alluvial woodland typically occurs in close proximity to watercourses on soils of recent alluvial deposition, particularly those derived from shale (Tozer 2003). The dominant species in this community include *Eucalyptus amplifolia* and *E. tereticornis*, however it can be dominated by smaller trees such as *Casuarina glauca* and *Angophora floribunda*. This community occurs along Smalls Creek to the north-east of the precinct. This area is in relatively poor condition and weeds are prevalent throughout this area. Alluvial woodland is considered to be equivalent to River Flat Eucalypt Forest on Coastal Floodplains an EEC listed under the TSC Act.

Appendix B

Weed Species Recorded from the Baulkham Hills LGA

Table B.1 WEED SPECIES IN BAULKHAM HILLS LGA

Family	Scientific Name	Common Name
Aceraceae		
	*Acer negundo**	Box Elder
Agavaceae		
	*Agave americana**	Century Plant
Alliaceae		
	*Nothoscordum borbonicum**	Onion Weed
	*Alternanthera pungens**	Khaki Weed
	*Amaranthus viridis**	Green Amaranth
Amygdalaceae		
	*Prunus spp.**	
Anacardiaceae		
	*Schinus areira**	Pepper Tree
Anthericaceae		
	*Chlorophytum comosum**	Spider Plant, Ribbon Plant
	*Cyclospermum leptophyllum**	Slender Celery
	*Daucus carota**	Wild Carrot
	*Foeniculum vulgare**	Fennel
	*Hydrocotyle bonariensis**	
Apocynaceae		
	*Araujia sericifera**	Moth Vine
	*Asclepias curassavica**	Blood Flower
	*Nerium oleander**	Oleander
Araceae		
	*Zantedeschia aethiopica**	Arum Lily
Araliaceae		
	*Hedera helix**	English Ivy
Asparagaceae		
	*Asparagus aethiopicus**	Asparagus Fern, Sprengeri Fern
	*Asparagus asparagoides**	Bridal Creeper, Florist's Smilax
Asteraceae		
	*Ageratina adenophora**	Crofton Weed
	*Ageratina riparia**	Mistflower
	*Ambrosia artemisiifolia**	Annual Ragweed

Table B.1 WEED SPECIES IN BAULKHAM HILLS LGA

Family	Scientific Name	Common Name
	*Arctotheca calendula**	Capeweed
	*Aster subulatus**	Wild Aster
	*Bidens pilosa**	Cobbler's Pegs
	*Bidens subalternans**	Greater Beggar's Ticks
	*Cirsium vulgare**	Spear Thistle
	*Conyza bonariensis**	Flaxleaf Fleabane
	*Conyza canadensis var. canadensis**	Canadian Fleabane
	*Conyza spp.**	
	*Conyza sumatrensis**	Tall fleabane
	*Crassocephalum crepidioides**	Thickhead
	*Erigeron karvinskianus**	Bony-tip Fleabane
	*Gamochaeta spicata**	
	*Hypochaeris radicata**	Catsear
	*Lactuca serriola**	Prickly Lettuce
	*Onopordum acanthium subsp. acanthium**	Scotch Thistle
	*Senecio madagascariensis**	Fireweed
	*Senecio pterophorus**	
	*Solidago canadensis var. scabra**	Goldenrod
	*Soliva anthemifolia**	Dwarf Jo-jo
	*Soliva sessilis**	Bindyi
	*Sonchus asper subsp. glaucescens**	Prickly Sowthistle
	*Sonchus oleraceus**	Common Sowthistle
	*Tagetes minuta**	Stinking Roger
	*Taraxacum officinale**	Dandelion
	*Xanthium occidentale**	Noogoora Burr, Cockle Burr
Basellaceae		
	*Anredera cordifolia**	Madeira Vine
Berberidaceae		
	*Nandina domestica**	Japanese Sacred Bamboo
Bignoniaceae		
	*Macfadyena unguis-cati**	Cat's Claw Creeper
Boraginaceae		
	*Echium plantagineum**	Patterson's Curse
Brassicaceae		

Table B.1 WEED SPECIES IN BAULKHAM HILLS LGA

Family	Scientific Name	Common Name
	*Brassica rapa subsp. sylvestris**	Turnip
	Lepidium spp.	
	*Raphanus raphanistrum**	Wild Radish
	*Rorippa nasturtium-aquaticum**	Watercress
Cactaceae		
	*Opuntia spp.**	
	*Opuntia stricta var. stricta**	Common Prickly Pear
	*Opuntia stricta**	
Callitrichaceae		
	*Callitriche stagnalis**	Common Starwort
Cannaceae		
	*Canna indica**	Indian Shot
Caprifoliaceae		
	*Lonicera japonica**	Japanese Honeysuckle
Caryophyllaceae		
	*Cerastium glomeratum**	Mouse-ear Chickweed
	*Petrorhagia nanteuilii**	
	*Polycarpon tetraphyllum**	Four-leaved Allseed
	*Spergula arvensis**	Corn Spurry
	*Stellaria media**	Common Chickweed
Chenopodiaceae		
	*Chenopodium album**	Fat Hen
Clusiaceae		
	*Hypericum perforatum**	St. Johns Wort
Commelinaceae		
	*Tradescantia fluminensis**	Wandering Jew
Convolvulaceae		
	*Calystegia silvatica**	
	*Ipomoea cairica**	
	*Ipomoea indica**	Blue Morning Glory
Crassulaceae		
	*Bryophyllum delagoense**	Mother of millions
	*Bryophyllum pinnatum**	Resurrection Plant
	*Crassula sarmentosa var. sarmentosa**	

Table B.1 WEED SPECIES IN BAULKHAM HILLS LGA

Family	Scientific Name	Common Name
Cyperaceae		
	*Cyperus congestus**	
	*Cyperus eragrostis**	Umbrella Sedge
	*Cyperus rotundus**	Nutgrass
	*Isolepis marginata**	
	*Isolepis prolifera**	
Euphorbiaceae		
	*Chamaesyce maculata**	
	*Euphorbia peplus**	Petty Spurge
	*Ricinus communis**	Castor Oil Plant
Fabaceae (Caesalpinioideae)		
	*Senna pendula var. glabrata**	
Fabaceae (Faboideae)		
	*Erythrina X sykesii**	Coral tree
	*Genista monspessulana**	Montpellier Broom
	*Lotus corniculatus**	Birds-foot Trefoil
	*Lotus suaveolens**	Hairy Birds-foot Trefoil
	*Medicago arabica**	Spotted Burr Medic
	*Medicago lupulina**	Black Medic
	*Medicago polymorpha**	Burr Medic
	*Medicago spp.**	
	*Medicago truncatula**	Barrel Medic
	*Robinia pseudoacacia**	Black Locust
	*Trifolium pratense**	Red Clover
	*Trifolium repens**	White Clover
	*Trifolium tomentosum**	Woolly Clover
	*Vicia sativa subsp. sativa**	Common Vetch
	*Vicia sativa**	
	*Vicia spp.**	
	*Wisteria sinensis**	Chinese wisteria
Fabaceae (Mimosoideae)		
Fagaceae		
	*Quercus spp.**	
Fumariaceae		
	*Fumaria muralis subsp. muralis**	Wall Fumitory

Table B.1 WEED SPECIES IN BAULKHAM HILLS LGA

Family	Scientific Name	Common Name
	*Fumaria spp.**	
Gentianaceae		
	*Centaurium erythraea**	Common Centaury
	*Centaurium tenuiflorum**	
Geraniaceae		
	*Geranium molle subsp. molle**	Cranesbill Geranium
	*Pelargonium domesticum**	Pelargonium
Haloragaceae		
	*Myriophyllum aquaticum**	Parrots Feather, Brazilian Water-milfoil
Hamamelidaceae		
	*Liquidambar styraciflua**	Sweetgum
Iridaceae		
	*Dietes bicolor**	
	*Romulea rosea var. australis**	Onion Grass
Juncaceae		
	*Juncus acutus subsp. acutus**	Sharp Rush
	*Juncus articulatus**	
	*Juncus cognatus**	
Lamiaceae		
	*Lamium amplexicaule**	Dead Nettle
	*Lavandula spp.**	
	*Rosmarinus officinalis**	Rosemary
	*Stachys arvensis**	Stagger Weed
Lauraceae		
	*Cinnamomum camphora**	Camphor Laurel
Loganiaceae		
	*Gelsemium sempervirens**	Yellow Jessamine, Carolina Jasmine
Lythraceae		
	*Lagerstroemia indica**	
Malvaceae		
	*Malva parviflora**	Small-flowered Mallow
	*Malva spp.**	
	*Malva sylvestris**	Tall Mallow
	*Modiola caroliniana**	Red-flowered Mallow
	*Sida rhombifolia**	Paddy's Lucerne

Table B.1 WEED SPECIES IN BAULKHAM HILLS LGA

Family	Scientific Name	Common Name
Moraceae		
	*Morus alba**	White Mulberry
Myrsinaceae		
	*Anagallis arvensis**	Scarlet/Blue Pimpernel
Ochnaceae		
	*Ochna serrulata**	Mickey Mouse Plant
Oleaceae		
	*Fraxinus spp.**	
	*Jasminum polyanthum**	White Jasmine
	*Ligustrum lucidum**	Large-leaved Privet
	*Ligustrum sinense**	Small-leaved Privet
	*Olea europaea subsp. cuspidata**	
Onagraceae		
Oxalidaceae		
	*Oxalis corniculata**	Creeping Oxalis
	*Oxalis latifolia**	
Passifloraceae		
	*Passiflora edulis**	Common Passionfruit
Phytolaccaceae		
	*Phytolacca octandra**	Inkweed
Pinaceae		
	*Pinus radiata**	Radiata Pine
	*Pinus spp.**	
Plantaginaceae		
	*Plantago lanceolata**	Lamb's Tongues
Poaceae		
	*Andropogon virginicus**	Whisky Grass
	*Avena fatua**	Wild Oats
	*Avena sativa**	Oats
	*Axonopus fissifolius**	Narrow-leafed Carpet Grass
	Bothriochloa spp.	
	*Briza minor**	Shivery Grass
	*Briza subaristata**	
	*Bromus catharticus**	Praire Grass
	*Chloris gayana**	Rhodes Grass

Table B.1 WEED SPECIES IN BAULKHAM HILLS LGA

Family	Scientific Name	Common Name
	*Chloris virgata**	Feathertop Rhodes Grass
	*Cortaderia selloana**	Pampas Grass
	*Digitaria ciliaris**	Summer Grass
	*Digitaria sanguinalis**	Summer Grass, Crab Grass
	*Echinochloa crusgalli**	Barnyard Grass
	*Ehrharta erecta**	Panic Veldtgrass
	*Eleusine indica**	Crowsfoot Grass
	*Eleusine tristachya**	Goose Grass
	*Eragrostis cilianensis**	Stinkgrass
	*Eragrostis curvula**	African Lovegrass
	*Hordeum leporinum**	Barley Grass
	*Hordeum spp.**	
	*Lolium perenne**	Perennial Ryegrass
	*Paspalum dilatatum**	Paspalum
	*Paspalum urvillei**	Vasey Grass
	*Pennisetum clandestinum**	Kikuyu Grass
	*Phalaris aquatica**	Phalaris
	*Phalaris minor**	Lesser Canary Grass
	*Phalaris spp.**	
	*Poa annua**	Winter Grass
	*Setaria gracilis**	Slender Pigeon Grass
	*Setaria palmifolia**	Palm Grass
	*Setaria pumila**	Pale Pigeon Grass
	*Sporobolus africanus**	Parramatta Grass
	*Sporobolus fertilis**	
	*Stenotaphrum secundatum**	Buffalo Grass
	*Vulpia bromoides**	Squirrel Tail Fesque
	*Vulpia myuros f. megalura**	
Polygonaceae		
	*Acetosa sagittata**	Rambling Dock, Turkey Rhubarb
	*Polygonum aviculare**	Wireweed
	*Rumex crispus**	Curled Dock
Ranunculaceae		
	*Ranunculus repens**	Creeping Buttercup
Rhamnaceae		

Table B.1 WEED SPECIES IN BAULKHAM HILLS LGA

Family	Scientific Name	Common Name
Rosaceae		
	*Rosa rubiginosa**	Sweet Briar
	*Rubus fruticosus sp. agg.**	Blackberry complex
	*Rubus ulmifolius**	Blackberry
Rubiaceae		
	*Galium aparine**	Goosegrass
	*Richardia stellaris**	
	*Sherardia arvensis**	Field Madder
Salicaceae		
	*Salix babylonica**	Weeping Willow
Sapindaceae		
	*Cardiospermum grandiflorum**	Balloon Vine
Scrophulariaceae		
	Euphrasia collina	
	*Verbascum virgatum**	Twiggy Mullein, Green Mullein
	*Veronica anagallis-aquatica**	Blue Water-speedwell
	*Veronica persica**	Creeping Speedwell
Solanaceae		
	*Cestrum parqui**	Green Cestrum
	*Datura ferox**	Fierce Thornapple
	*Datura stramonium**	Common Thornapple
	*Lycium ferocissimum**	African Boxthorn
	*Salpichroa origanifolia**	Pampas Lily-of-the-valley
	*Solanum jasminoides**	Potato Climber
	*Solanum mauritianum**	Wild Tobacco Bush
	*Solanum nigrum**	Black-berry Nightshade
	*Solanum pseudocapsicum**	Madeira Winter Cherry
	*Solanum sisymbriifolium**	
Urticaceae		
	*Urtica urens**	Small Nettle
Verbenaceae		
	*Lantana camara**	Lantana
	*Verbena bonariensis**	Purpletop
	*Verbena quadrangularis**	
	*Verbena rigida var. rigida**	Veined Verbena

Table B.1 WEED SPECIES IN BAULKHAM HILLS LGA

Family	Scientific Name	Common Name
Zingiberaceae		
	*Hedychium gardnerianum**	Ginger Lily

Appendix C

Schedule of Works

C.1 Five Year Indicative Schedule of Works

Task Name	Duration	Year 1			
		Months 1-3	Months 4-6	Months 7-9	Months 10-12
Preparation of VMP	1 week				
Base-line Monitoring	1 week				
Seed Collection	3 months				
Seed Propagation	4 months				
Primary Weed Control	24 months				
Re-planting	24 months				
Secondary Weeding	12 months				
Maintenance Weeding	24 months				
Site Inspections	5 years				
On-going monitoring	5 years				
Reporting	5 years				

Task Name	Duration	Year 2			
		Months 1-3	Months 4-6	Months 7-9	Months 10-12
Preparation of VMP	1 week				
Base-line Monitoring	1 week				
Seed Collection	3 months				
Seed Propagation	4 months				
Primary Weed Control	24 months				
Re-planting	24 months				
Secondary Weeding	12 months				
Maintenance Weeding	24 months				
Site Inspections	5 years				
On-going monitoring	5 years				
Reporting	5 years				

Task Name	Duration	Year 3			
		Months 1-3	Months 4-6	Months 7-9	Months 10-12
Preparation of VMP	1 week				
Base-line Monitoring	1 week				
Seed Collection	3 months				
Seed Propagation	4 months				
Primary Weed Control	24 months				
Re-planting	24 months				
Secondary Weeding	12 months				
Maintenance Weeding	24 months				
Site Inspections	5 years				
On-going monitoring	5 years				
Reporting	5 years				

Task Name	Duration	Year 4			
		Months 1-3	Months 4-6	Months 7-9	Months 10-12
Preparation of VMP	1 week				
Base-line Monitoring	1 week				
Seed Collection	3 months				
Seed Propagation	4 months				
Primary Weed Control	24 months				
Re-planting	24 months				
Secondary Weeding	12 months				
Maintenance Weeding	24 months				
Site Inspections	5 years				
On-going monitoring	5 years				
Reporting	5 years				

Task Name	Duration	Year 5			
		Months 1-3	Months 4-6	Months 7-9	Months 10-12
Preparation of VMP	1 week				
Base-line Monitoring	1 week				
Seed Collection	3 months				
Seed Propagation	4 months				
Primary Weed Control	24 months				
Re-planting	24 months				
Secondary Weeding	12 months				
Maintenance Weeding	24 months				
Site Inspections	5 years				
On-going monitoring	5 years				
Reporting	5 years				

Appendix D

Plant Species to be used in Revegetation

Table D.1 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN ALLUVIAL WOODLAND

Family	Scientific Name	Common Name
Trees		
Casuarinaceae	*Casuarina glauca*	Swamp Oak
Mimosaceae	*Acacia parramattensis*	Sydney Green Wattle
Myrtaceae	*Angophora floribunda*	Rough-barked Apple
Myrtaceae	*Eucalyptus amplifolia*	Cabbage Gum
Myrtaceae	*Eucalyptus eugenioides*	Thin-leaved Stringybark
Myrtaceae	*Eucalyptus tereticornis*	Forest Red Gum
Myrtaceae	*Melaleuca linariifolia*	Snow in Summer
Shrubs		
Pittosporaceae	*Bursaria spinosa* var. *spinosa*	Blackthorn
Groundcovers		
Lomandraceae	*Lomandra longifolia*	Spiky-headed Mat-rush
Lomandraceae	*Lomandra multiflora*	Many-flowered Mat-rush
Poaceae	*Aristida vagans*	Three-awn Speargrass
Poaceae	*Echinopogon ovatus*	Forest Hedgehog Grass
Poaceae	*Entolasia marginata*	Bordered Panic
Poaceae	*Microlaena stipoides* var. *stipoides*	Weeping Rice Grass
Poaceae	*Oplismenus aemulus*	Basket Grass
Poaceae	*Themeda australis*	Kangaroo Grass
Solanaceae	*Solanum prinophyllum*	Forest Nightshade

Table D.2 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN SYDNEY SANDSTONE GULLY FOREST

Family	Scientific Name	Common Name
Trees		
Myrtaceae	*Angophora costata*	Smooth-barked Apple
Myrtaceae	*Eucalyptus deanei*	Mountian Blue Gum
Myrtaceae	*Eucalyptus piperita*	Peppermint
Myrtaceae	*Eucalyptus punctata*	Grey Gum

Table D.2 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN SYDNEY SANDSTONE GULLY FOREST

Family	Scientific Name	Common Name
Shrubs		
Euphorbiaceae	*Phyllanthus hirtellus*	Thyme Spurge
Fabaceae	*Dillwynia retorta* var. *retorta*	Eggs and Bacon
Fabaceae	*Pultenaea daphnoides*	Large-leaf Bush Pea
Mimosaceae	*Acacia linifolia*	Flax Wattle
Mimosaceae	*Acacia terminalis*	Sunshine Wattle
Myrtaceae	*Leptospermum trinervium*	Flaky-barked Tea-tree
Proteaceae	*Persoonia piniifolia*	Pine-leaved Geebung
Rutaceae	*Eriostemon australasius* subsp. *australasius*	Pink Wax Flower
Groundcovers		
Cyperaceae	*Lepidosperma laterale*	Variable Sword-sedge
Goodeniaceae	*Dampiera stricta*	Blue Dampiera
Lomandraceae	*Lomandra cylindrica*	
Lomandraceae	*Lomandra longifolia*	Spiky-headed Mat-rush
Lomandraceae	*Lomandra obliqua*	Twisted Mat-rush
Poaceae	*Austrostipa pubescens*	Tall Speargrass
Poaceae	*Entolasia stricta*	Wiry Panic
Poaceae	*Themeda australis*	Kangaroo Grass
Xanthorrhoaceae	*Xanthorrhoea media* subsp. *media*	Forest Grass Tree

Table D.3 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN SYDNEY SANDSTONE GULLY FOREST-RAINFOREST

Family	Scientific Name	Common Name
Trees		
Myrtaceae	*Eucalyptus deanei*	Mountian Blue Gum
Myrtaceae	*Eucalyptus piperita*	Peppermint
Myrtaceae	*Eucalyptus punctata*	Grey Gum
Shrubs		
Verbenaceae	*Clerodendrum tomentosum*	Hairy Clerodendrum

Table D.3 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN SYDNEY SANDSTONE GULLY FOREST-RAINFOREST

Family	Scientific Name	Common Name
Pittosporaceae	*Pittosporum revolutum*	Sweet Pittosporum
Euphorbiaceae	*Breynia oblongifolia*	Coffee Bush
Oleaceae	*Notelaea longifolia f. longifolia*	Mock Olive
Euphorbiaceae	*Phyllanthus hirtellus*	Thyme Spurge
Mimosaceae	*Acacia linifolia*	Flax Wattle
Mimosaceae	*Acacia terminalis*	Sunshine Wattle
Mimosaceae	*Acacia implexa*	Hickory
Sapindaceae	*Alectryon subcinereus*	Native Quince
Rutaceae	*Eriostemon australasius* subsp. *australasius*	Pink Wax Flower
Groundcovers		
Adiantaceae	*Adiantum aethiopicum*	Common Maidenhair
Poaceae	*Microlaena stipoides var. stipoides*	Weeping Rice Grass
Poaceae	*Oplismenus imbecillis*	Basket Grass
Myrsinaceae	*Rapanea variabilis*	Muttonwood
Cyperaceae	*Lepidosperma laterale*	Variable Sword-sedge
Lomandraceae	*Lomandra cylindrica*	
Lomandraceae	*Lomandra multiflora subsp. multiflora*	
Lomandraceae	*Lomandra longifolia*	Spiky-headed Mat-rush
Poaceae	*Entolasia stricta*	Wiry Panic
Poaceae	*Themeda australis*	Kangaroo Grass

Table D.4 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN SYDNEY SANDSTONE HEATH

Family	Scientific Name	Common Name
Trees		
Myrtaceae	*Angophora costata*	Smooth-barked Apple
Myrtaceae	*Corymbia gummifera*	Red Bloodwood
Myrtaceae	*Eucalyptus oblonga*	
Myrtaceae	*Eucalyptus punctata*	Grey Gum
Myrtaceae	*Eucalyptus sclerophylla*	Scribbly Gum

Table D.4 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN SYDNEY SANDSTONE HEATH

Family	Scientific Name	Common Name
Proteaceae	*Banksia serrata*	Old Man Banksia
Shrubs		
Euphorbiaceae	*Phyllanthus hirtellus*	Thyme Spurge
Fabaceae	*Dillwynia retorta* var. *retorta*	Eggs and Bacon
Mimosaceae	*Acacia linifolia*	Flax Wattle
Mimosaceae	*Acacia suaveolens*	Sweet Scented Wattle
Myrtaceae	*Leptospermum trinervium*	Flaky-barked Tea-tree
Proteaceae	*Banksia ericifolia* var. *ericifolia*	Heath-leaved Banksia
Proteaceae	*Banksia spinulosa* var. *spinulosa*	Hairpin Banksia
Proteaceae	*Isopogon anemonifolius*	Flat-leaved Drumsticks
Groundcovers		
Cyperaceae	*Lepidosperma laterale*	Variable Sword-sedge
Goodeniaceae	*Dampiera stricta*	Blue Dampiera
Lomandraceae	*Lomandra cylindrica*	
Lomandraceae	*Lomandra longifolia*	Spiky-headed Mat-rush
Lomandraceae	*Lomandra obliqua*	Twisted Mat-rush
Poaceae	*Austrostipa pubescens*	Tall Speargrass
Poaceae	*Entolasia stricta*	Wiry Panic
Poaceae	*Themeda australis*	Kangaroo Grass
Xanthorrhoaceae	*Xanthorrhoea media* subsp. *media*	Forest Grass Tree

Table D.5 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN SYDNEY SANDSTONE RIDGETOP WOODLAND

Family	Scientific Name	Common Name
Trees		
Myrtaceae	*Angophora costata*	Smooth-barked Apple
Myrtaceae	*Corymbia gummifera*	Red Bloodwood
Myrtaceae	*Eucalyptus oblonga*	
Myrtaceae	*Eucalyptus punctata*	Grey Gum
Myrtaceae	*Eucalyptus sclerophylla*	Scribbly Gum

Table D.5 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN SYDNEY SANDSTONE RIDGETOP WOODLAND

Family	Scientific Name	Common Name
Proteaceae	*Banksia serrata*	Old Man Banksia
Shrubs		
Euphorbiaceae	*Phyllanthus hirtellus*	Thyme Spurge
Fabaceae	*Dillwynia retorta* var. *retorta*	Eggs and Bacon
Mimosaceae	*Acacia linifolia*	Flax Wattle
Mimosaceae	*Acacia suaveolens*	Sweet Scented Wattle
Myrtaceae	*Leptospermum trinervium*	Flaky-barked Tea-tree
Proteaceae	*Banksia ericifolia* var. *ericifolia*	Heath-leaved Banksia
Proteaceae	*Banksia spinulosa* var. *spinulosa*	Hairpin Banksia
Proteaceae	*Isopogon anemonifolius*	Flat-leaved Drumsticks
Rutaceae	*Eriostemon australasius* subsp. *australasius*	Pink Wax Flower
Groundcovers		
Cyperaceae	*Lepidosperma laterale*	Variable Sword-sedge
Goodeniaceae	*Dampiera stricta*	Blue Dampiera
Lomandraceae	*Lomandra cylindrica*	-
Lomandraceae	*Lomandra longifolia*	Spiky-headed Mat-rush
Lomandraceae	*Lomandra obliqua*	Twisted Mat-rush
Poaceae	*Austrostipa pubescens*	Tall Speargrass
Poaceae	*Entolasia stricta*	Wiry Panic
Poaceae	*Themeda australis*	Kangaroo Grass
Xanthorrhoaceae	*Xanthorrhoea media* subsp. *media*	Forest Grass Tree

Table D.6 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN UPPER GEORGES RIVER SANDSTONE WOODLAND

Family	Scientific Name	Common Name
Trees		
Santalaceae	*Exocarpos strictus*	Pale Ballart
Casuarinaceae	*Allocasuarina littoralis*	Black She-oak
Myrtaceae	*Corymbia gummifera*	Red Bloodwood
Myrtaceae	*Eucalyptus oblonga*	

Table D.6 SPECIES RECOMMENDED FOR RE-PLANTING WITHIN UPPER GEORGES RIVER SANDSTONE WOODLAND

Family	Scientific Name	Common Name
Myrtaceae	*Eucalyptus punctata*	Grey Gum
Shrubs		
Mimosaceae	*Acacia linifolia*	Flax Wattle
Mimosaceae	*Acacia terminalis*	Sunshine Wattle
Mimosaceae	*Acacia ulicifolia*	Prickly Moses
Myrtaceae	*Leptospermum trinervium*	Flaky-barked Tea-tree
Proteaceae	*Persoonia linearis*	Narrow-leaved Geebung
Groundcovers		
Cyperaceae	*Lepidosperma laterale*	Variable Sword-sedge
Lomandraceae	*Lomandra cylindrica*	
Lomandraceae	*Lomandra multiflora*	Many-flowered Mat-rush
Phormiaceae	*Dianella revoluta* var. *revoluta*	Spreading Flax Lily
Poaceae	*Aristida vagans*	Three-awn Speargrass
Poaceae	*Austrodanthonia linkii* var. *fulva*	Wallaby Grass
Poaceae	*Microlaena stipoides* var. *stipoides*	Weeping Rice Grass
Poaceae	*Stipa pubescens*	Tall Speargrass
Poaceae	*Themeda australis*	Kangaroo Grass
Rubiaceae	*Pomax umbellata*	Pomax

Ordinary Council Meeting 13/12/16 (Item 4)
Post Exhibition – Planning Proposal and DCP Changes for Shop Top Housing and Mixed Use Developments (11/2016/PLP)
Attachment 10 (under separate cover)

DRAFT Box Hill Growth Centre Precincts

Development Control Plan
November 2016

NSW GOVERNMENT Planning & Environment

November 2016

To view an electronic version in PDF format, visit: **www.planning.nsw.gov.au**

Department of Planning and Environment
16/11/2016
Printed September 2016

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1.0

INTRODUCTION

1.0 INTRODUCTION

1.1 Name of this Plan

This Plan is known as the Box Hill Growth Centre Precincts Development Control Plan 2016 (DCP 2016). It has been prepared pursuant to the provisions of Section 74(C)(2) of the *Environmental Planning & Assessment Act 1979* (EP&A Act).

This DCP 2016 applies to all development on the land shown at **Figure 1**.

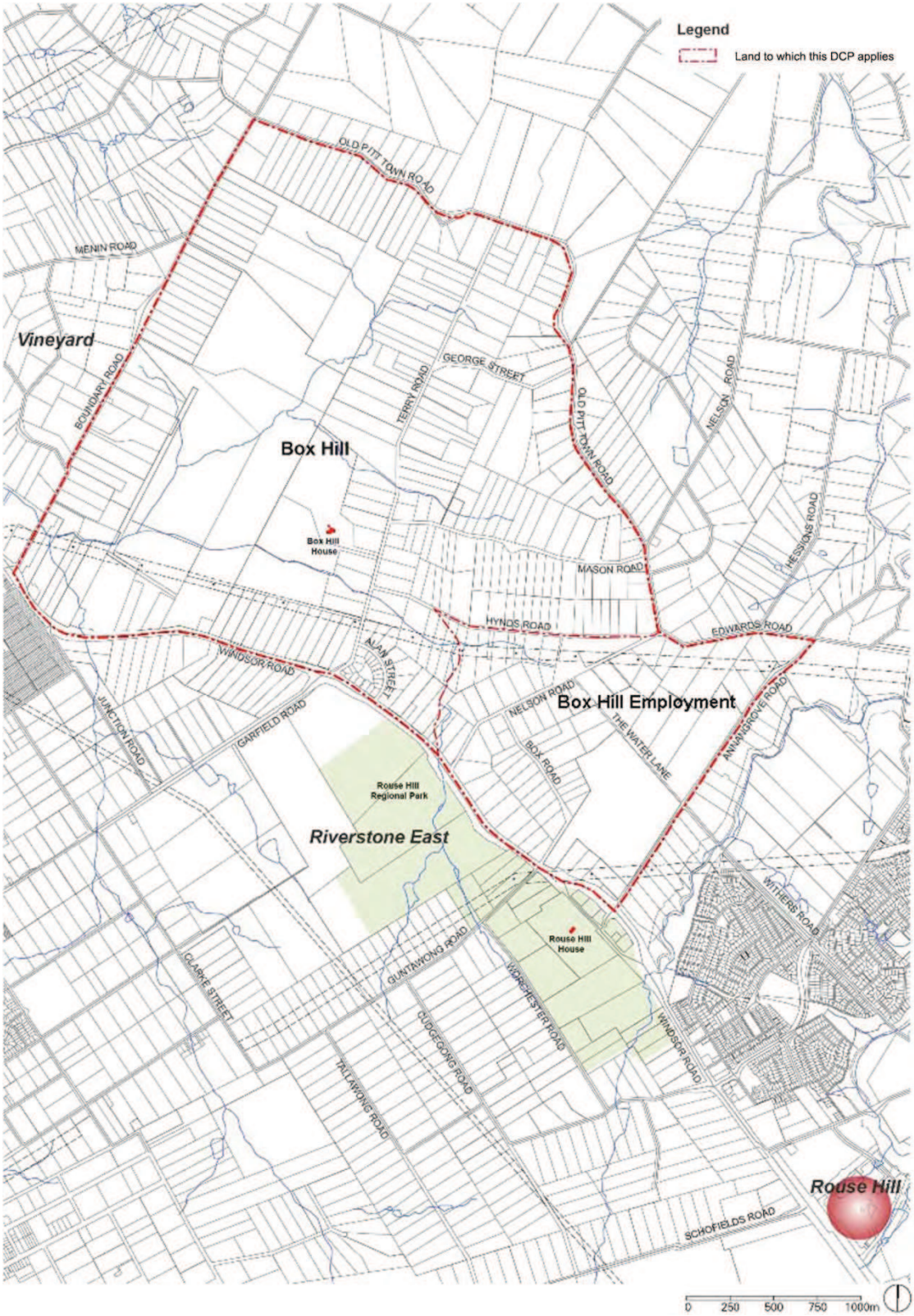


Figure 1 Land to which this DCP applies

1.2 The Purpose of this DCP

The purpose of this DCP is to:

a. Communicate the planning, design and environmental objectives and controls against which The Hills Shire Council (Council) will assess future Development Applications (DAs);

b. Consolidate and simplify the planning controls to ensure the orderly, efficient and environmentally sensitive development of the Box Hill Growth Centre Precincts as envisaged by the North West Sector Structure Plan and refined by the Box Hill Growth Centre Precincts Indicative Layout Plan;

c. Promote high quality urban design outcomes within the context of environmental, social and economic sustainability;

d. Clearly set out the processes, procedures and responsibilities for the involvement of the community and key stakeholders in the development of land;

e. Ensure that development will not detrimentally affect the environment and ensure that satisfactory measures are incorporated to ameliorate any impacts arising from the proposed development;

f. Encourage innovative and imaginative design with particular emphasis on the integration of buildings and landscaped areas that add to the character of neighbourhoods; and

g. Provide safe and high quality environments for the residents, workers and visitors of Box Hill Growth Centre Precincts.

1.3 Relationship to other Plans

This section should be read in conjunction with *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (Growth Centres SEPP) and other relevant State planning policies. This DCP should also be read in conjunction with the following State and Council policies and/or guidelines:

- Environmental Planning and Assessment Act 1979 (NSW) (as amended)
- Environmental Planning and Assessment Regulation 2000 (NSW) (as amended)
- Environmental Planning and Assessment Regulation 2010
- Local Government Act 1993 (NSW) (as amended)
- Threatened Species Conservation Act 1995 (NSW) (as amended)
- Relevant SEPPs
- Planning for Bushfire Protection 2006 (NSW Rural Fire Service 2006) (as amended)
- Safer By Design Guidelines (BHSC 2002)
- Design Guidelines Subdivision/Development (THSC 2011)
- Specification for the Construction of Footpath & Gutter Crossings (THSC 2010)
- Floodplain Development Manual (Department of Planning, Infrastructure and Natural Resources 2005)
- Better Urban Living – Guidelines for Urban Housing in NSW (Urban Design Advisory Service 2000)
- Growth Centres – Development Code (Growth Centres Commission 2006)
- Order to confer Biodiversity Certification on the State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (December 2007)
- Draft Growth Centres Conservation Plan (January 2007).

Provisions from the following sections of The Hills Development Control Plan 2012 apply:

- The Hills Development Control Plan 2012 Part B - Section 5 Residential Flat Buildings
- The Hills Development Control Plan 2012 Part B – Section 6 Business
- The Hills Development Control Plan 2012 Part C – Section 1 Parking
- The Hills Development Control Plan 2012 Part C – Section 2 Signage
- The Hills Development Control Plan 2012 Part C – Section 3 Landscaping
- The Hills Development Control Plan 2012 Part C – Section 5 Telecommunications Facilities
- The Hills Development Control Plan 2012 Part C – Section 6 Flood Controlled Land.

In the event of any inconsistency between this DCP and any other DCP or policy of Council, this DCP will prevail to the extent of the inconsistency.

1.4 Structure of this Plan

This DCP is structured as follows:

Section 1	**Introduction** Sets out the aims and objectives of the DCP, identifies the land to which the DCP applies, explains the structure of the document, the relationship of the DCP to other planning documents, and explains procedures for exempt and complying development and submitting a development application.
Section 2	**Vision and Character** Relates to the overall layout and vision for the future development of the Precincts as well as the controls for character areas including town centres, employment areas and residential density.
Section 3	**Land Development** Relates to the street network including road design standards, the public transport network and the pedestrian and cycleway network, public realm including parks, street planting, signage, street furniture, lighting, public art and utilities as well as residential subdivision, integrated housing development, residue lots and the subdivision process.
Section 4	**Development in the Residential Zones** Establishes the objectives and controls that guide residential development, including dwelling houses, semi-detached, attached and abutting dwellings, multi unit housing, secondary and studio dwellings, dual occupancies, manor homes, residential flat buildings and shop top housing. Also covers residential amenity controls such as streetscape, safety, privacy, sustainable building design and fencing. This section also contains controls applying to non-residential development in residential zones, such as child care centres, neighbourhood shops, schools and community uses.
Section 5	**Additional Controls for Certain Dwelling Types** Establishes additional objectives and controls to guide development of attached or abutting dwellings, secondary dwellings and studio dwellings, dual occupancies, multi dwelling housing, residential flat buildings, manor homes and shop top housing, and non-residential development types within residential zones.
Section 6	**Employment Lands and Development Controls** Relates to built form development controls for the employment areas, including lot subdivision, built form, building layout and orientation, streetscape, landscape design, access and parking, safety and surveillance.
Section 7	**Managing the Environment** Outlines objectives and development controls relating to management of general environmental issues occurring across the precincts.
Section 8	**Special Areas** Outlines the objectives, key controls and design principles relating to areas that require further design attention including Box Hill Town Centre, Mt Carmel Village, Box Hill Inn Village, Nelson Road Village and Neighbourhood Centres.
Appendix A	**Glossary** Explains the terms used in the DCP.
Appendix B	**List of Preferred Planting Species** Identifies trees that are subject to the tree preservation provisions of the Precinct Plans, and provides a list of plant species that are preferred for use in landscaping within the Precinct.
Appendix C	**Materials and finishes colour palette**

1.5 Development

The following information about the different types of development is provided as a guide. Refer to the Growth Centres SEPP for definitions.

Development falls into a number of categories: Exempt Development, Complying Development, Local Development, Integrated Development and Designated Development.

1.5.1 Exempt and Complying Development

For exempt and complying development refer to *State Environmental Planning Policy (Exempt and Complying Development) 2008*.

1.6 Advertising & Notification Procedures

The purpose of this section is to establish a clear process for public participation in the development assessment process. The notification procedures outlined below aim to balance the public's right to participate in the development assessment process whilst minimising delays in the processing of low impact development applications.

1.6.1 Mandatory Advertising/Notification

Planning legislation requires some developments to be advertised in a local newspaper and/or notified to adjoining property owners and relevant public authorities. These types of developments are generally larger scale and/or require approval from one or more public authorities.

Applications which require advertising/notification under legislation are identified below and, if applicable are required to pay an advertising fee at the time of lodgement in accordance with Council's Fees and Charges:

- Nominated Integrated Development
- Threatened Species Development
- Class 1 or Class 2 Aquaculture Development
- Designated Development
- State Significant Development

1.6.2 Notification of Development Applications

Written notification to owners of adjoining and adjacent properties will be undertaken for local development that is permissible with consent except for where identified in in **Section 1.6.4** Circumstances Where Notification is not Required.

Council may also notify additional landowners in the vicinity of a development site, if it is considered the application may have a greater impact. In determining whether to extend or limit the extent of notification the following factors may be considered:

- Siting and design
- Views
- Visual and acoustic privacy
- Access
- Overshadowing
- Public interest
- Topography
- Solar access
- Drainage
- Landfill
- Traffic generation

1.6.3 Notification Timeframes

The notification period for local development is to be a minimum period of 14 days however may be reduced to 7 days in special circumstances. The period of time may also be extended depending on the circumstances of the case. Timeframes for Mandatory Advertised Development is specified in legislation however is generally 30 days, commencing on the day after which the notice of the application is first published in a newspaper. Any notification period shall not include the last week of December and the first week of January in any year.

1.6.4 Circumstances where Notification is not Required

No notification of adjoining and adjacent properties is required for the following types of development applications, if the proposal complies with all applicable development controls (LEP, DCP & other relevant policies) and/or it is considered by Council that the development is unlikely to have a detrimental impact on those properties:

- New rural sheds ancillary to residential use
- New rural fencing
- New tennis courts ancillary to residential use
- Strata subdivisions
- Subdivisions to adjust property boundaries where no additional lots are created
- Where the development site does not adjoin a residential property

Where a development application is not notified by Council in accordance with the above provisions, adjoining and adjacent property owners will be sent a courtesy letter advising that an application has been received that is in accordance with the requirements of the development control plan. The letter will state Council will not be formally notifying or inviting submissions for the application which will be determined within the requirements of the *Environmental Planning and Assessment Act, 1979* no sooner than 14 days from the date of the letter.

1.6.5 Conciliation Conferences

If more than 10 submissions are received relating to a development application during a formal notification period, Council will host a conciliation conference. All conferences are chaired by the Mayor or the Mayor's nominee.

1.7 Development Application Process

The Hills Shire Council is the consent authority in respect of approvals to develop land (except complying development where private certification of development can occur). The development application process is summarised in **Table 1**.

Initial discussions with Council's Duty Planning Officer, Duty Building Surveyor or Duty Subdivision Officer, will help determine whether your proposal is permitted under the Growth Centres SEPP and the type of application required. Council may be contacted on 9843 0555.

VARIATIONS TO DEVELOPMENT CONTROLS

Council may grant consent to a proposal that does not comply with the DCP, providing the intent of the controls is achieved. Similarly, Council may grant consent to a proposal that varies from the Indicative Layout Plan (ILP), where the variation is considered to be minor and the proposal remains generally consistent with the ILP. As such, each Development Application will be considered on its merits. Where a variation is sought it must be justified in writing indicating how the development is consistent with the relevant objective(s) and the intention of the control to be varied and/or is generally consistent with the ILP.

PRE-LODGEMENT

Initial discussions with Council's Duty Planning Officer will help determine whether your proposal is permitted and the type of application required.

For small-scale development an informal pre-lodgement meeting with the Duty Planning Officer at Council's Customer Service Centre should be held to identify relevant issues. It is not necessary to book an appointment. Single residential developments and ancillary construction issues should be discussed with Council's Duty Building Surveyor and subdivision and engineering related enquires directed to Council's Duty Subdivision Officer.

Applicants are required to demonstrate that an appropriate planning process has been undertaken. To ensure that this process is recognised, applicants are required to attend a pre-lodgement meeting to discuss concept plans and any other issues relevant to the site before formal lodgement of the development application.

Generally, developments comprising anything other than application for detached dwellings require a formal pre-lodgement meeting. Specifically a formal pre-lodgement meeting is required prior to the submission of all major development applications for the following types of development:

- major residential
- light industrial
- commercial
- subdivision applications;
- development proposals which exceed $1 million in development costs;
- designated development; and
- telecommunications facilities.

Arrangements for a pre-lodgement meeting can be made at the Customer Service Centre of Council's Administration Building or by telephoning 9843 0555.

Table 1 Development Application Process

Process	Matters to be considered
Consultation with adjoining property owners should be considered	Consider their opinions
Mandatory consultation with Council on draft proposal	Discussion with Duty Town Planner, Duty Building Surveyor, Duty Subdivision Officer or formal Pre-lodgement
Finalise Application and consult with relevant authorities e.g. RMS, Sydney Water	Does proposal comply with Environmental Planning Instruments
Lodge Development Application with Council	Pay Fees
Referral to relevant agencies, notification and advertisement occurs – Refer to **Section 1.6**	Council notifies adjoining property owners and relevant agencies
Assessment of application against relevant planning instruments and DCPs, and consideration of submissions	Conciliation conference may be required
Development/Subdivision determination (Consent/Refusal)	
Development work can commence if all conditions are complied with and Construction Certificate obtained	Pay Section 94 Contributions to Council
Final Plan of subdivision released upon completion of construction and compliance with all conditions of consent	Pay Section 94 Contributions to Council

1.8 Information required for a Development Application

1.8.1 Development Application Form

All development applications must be accompanied by a completed Development Application Form for Development Consent / Construction Certificate and/or Other Approval.

OWNERS CONSENT

The consent of all owners of the property must be lodged with the development application. If the owner is a Company (a list of all Directors is required) or Owners Corporation, its Common Seal must be stamped over the signature/s, otherwise the Managing Director must sign and clearly indicate the A.C.N.

DEVELOPMENT APPLICATION FEES

All relevant fees must be paid upon lodgement of the Development Application.

STATEMENT OF ENVIRONMENTAL EFFECTS

A Statement of Environmental Effects (SEE) is the written covering documentation, which must accompany your development application. Details must include:

- A description of the site including a property description;
- A description of the proposed development including all proposed works;
- Details of compliance with the Growth Centres SEPP and any of its amendments;
- A description of how the development controls have been achieved or provide written justification to vary any development standard contained in the DCP; and
- Details of how the development satisfies the provisions of Section 79C of the EP&A Act 1979.

The following plans, studies, assessments and/or reports may also be required to accompany a development application. All plans shall include the name and contact telephone number of the person who prepared the plans. A list of minimum requirements to be submitted for each application is provided in the Matrix of Lodgement Requirements.

Two (2) copies of all plans and documentation required with an application are to be submitted with a development application, unless otherwise specified within this DCP.

All hard copy Development Applications lodged with Council are required to be accompanied by a CD, DVD or USB drive with electronic files containing all documentation. This requirement also applies to the submission of revised information during the development assessment process. In instances where such documentation is not provided in an electronic format a scanning fee in accordance with Council's Fees & Charges will be charged.

1.8.2 Documentation

A development application must be accompanied by plans which accurately reflect the layout and scale of the development proposal and a SEE which will be discussed at the pre-lodgement meeting. The type of plans depend on the land use proposed and its complexity and generally includes: a site survey/analysis plan, site plan, floor plan, elevations and cross sections, landscape plan, shadow diagrams (two storey development and as otherwise specified). The preliminary plans are to include an Isometric raised plan of proposal for residential flat buildings and

attached and multi dwelling housing developments. Relevant consultants and advisors used by the applicant should also attend these meetings.

Table 2 outlines documentation that is required and documentation that may be required to be lodged as part of the development application for various types of development. **Table 3** describes in detail what is required in the preparation of each type of document mentioned in **Table 2**. This does not limit the ability of Council to require any other documentation dependent on the nature of the development and the characteristics of the site to adequately inform the merit based assessment.

Table 2 Matrix of Lodgement Requirements

Key : ✓ - Required

■ - Possibly required – Pre lodgement discussion required

	Subdivision	Dwelling house, Dual Occupancy and Semi-detached dwellings	Attached dwellings and Multi Dwelling Housing	Residential Flat Building	Commercial/Retail Premises	Light Industrial	Home Business	Open Space and landscape	Heritage Item
Access Report			✓	✓	✓				
Architectural Plans	✓	✓	✓	✓	✓	✓	✓	✓	✓
Asbestos Management Plan	■	■	■	■	■	■	■	■	■
BASIX Certificate		✓	✓	✓					
Building Envelope Plan	■								
Bushfire Assessment	■	■	■	■	■	■	■	■	■
Construction Noise and Vibration Management Plan		✓	✓	✓	✓	✓			
Contamination Assessment	✓	✓	✓	✓	✓	✓	✓	✓	✓
Crime Risk Assessment Report	■		✓	✓	✓			✓	
Earthworks Plan	✓					✓			
Economic Analysis					■				
Emergency Evacuation Plan	✓								
Erosion and Sedimentation Control Plan	✓	✓	✓	✓	✓	✓			■
Flora and Fauna Assessment	■					✓			
Fuel Management Plan	✓								

	Subdivision	Dwelling house, Dual Occupancy and Semi-detached dwellings	Attached dwellings and Multi Dwelling Housing	Residential Flat Building	Commercial/Retail Premises	Light Industrial	Home Business	Open Space and landscape	Heritage Item
Geotechnical Assessment	■	■	■	■	■	■	■	■	■
Heritage Impact Statement	■	■	■	■	■	■	■	■	■
Indigenous Archaeological Assessment	✓								
Landscape Plan	■	✓	✓	✓	✓	✓	■	✓	✓
Landscape Management Statement	■		■	■		■			
Loading facilities					✓	✓			
Model			■	✓	■				■
Noise Impact Analysis (Acoustic Report)	■	■	■	■	✓	✓	■	■	■
On-site Detention (OSD) Plan	✓	■	■	■	■				
Photo Montage			✓	✓	✓				■
Public Domain Plan	■								
Preliminary Engineering Drainage Plans	✓	■	✓	✓	✓				■
Schedule of external materials		✓	✓	✓	✓	✓			✓
Services	✓	✓	✓	✓	✓	✓			✓
Shadow Diagrams		✓	✓	✓	✓	■	■		■
Signage Plan					✓	✓	✓		■
Site Plan	✓	✓	✓	✓	✓	✓	✓	✓	✓
Site Survey or Analysis Plan	✓	✓	✓	✓	✓	✓			✓

	Subdivision	Dwelling house, Dual Occupancy and Semi-detached dwellings	Attached dwellings and Multi Dwelling Housing	Residential Flat Building	Commercial/Retail Premises	Light Industrial	Home Business	Open Space and landscape	Heritage Item
Statement of Environmental Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Streetscape Perspective		■	✓	✓	✓	✓			✓
Traffic and Car parking Study	✓			✓	✓	■			
Tree Management Plan	■	■	■	■	■	■		✓	■
Vegetation Management Plan	✓	■	■	■	■	■	■	■	■
Waste Management Plan	■	✓	✓	✓	✓	✓	✓		■

Key : ✓ - Required

■ - Possibly required – Pre lodgement discussion required

Table 3 Description of documentation

ACCESS REPORT	An Access Report shall be prepared by a registered access consultant demonstrating compliance with the *Disability Discrimination Act 1992* (Cth) and relevant Australian Standards such as AS1428.1-2001, AS1428.2-1992, AS1428.3-1992 and AS1428.4-2002. A certification prepared by a registered access consultant must confirm that units identified as 'adaptable' in Multi Dwelling Housing and Residential Flat Buildings are capable of being modified.
ARCHITECTURAL PLANS	
FLOOR PLAN	The internal layout of all buildings is to be illustrated on floor plans. Floor plans are to contain dimensions and floor areas for each room, window locations and other relevant internal building details.
CROSS SECTION	At least one longitudinal and one transversal cross section should be provided for buildings and/or open spaces indicating the relationship of the natural ground with existing and proposed levels.
ELEVATION PLAN	The external appearance of all aspects (north, south, east, west) of a building are to be illustrated on the elevations to a minimum scale of 1:200. Details of the relationship of elevations to natural ground level indicating: • Existing and proposed levels; • Proposed cut and fill; and • Fencing details fronting public streets.
BASIX CERTIFICATE	Submission of a current BASIX Certificate is required for any development to which BASIX applies. See www.basix.nsw.gov.au for further information.
BUILDING ENVELOPE PLAN	Submission of a Building Envelope Plan is required with development applications for subdivision of lots less than 300m^2 and equal to or greater than 225m^2 in area, and with a width equal to or greater than 9m. Refer to **Section 3.2**.
BUSHFIRE ASSESSMENT	Development applications for land identified as bush prone in accordance with the Council's Bushfire prone land Map will be prepared in accordance with *Planning for Bushfire Protection 2006* (NSW Rural Fire Service 2006). The Bushfire Assessment must include the following: • Review the capability of the site to provide a safe development in accordance with *Planning for Bushfire Protection 2006;* • Review the potential to carry out hazard management over the landscape; • Review the evacuation capability of the area; and • Provide advice on the adequacy of the design/construction to meet the requirement of Planning for Bushfire Protection 2006; and • Provide an emergency evacuation plan.
CONSTRUCTION NOISE AND	A Construction Noise and Vibration Management Plan should include:

VIBRATION MANAGEMENT PLAN (CNWMP)	• details of construction activities and an indicative schedule for construction works; • identification of nearby residences and other sensitive land uses, and the relevant noise management levels and blasting and vibration goals; • identification of construction activities, including ancillary activities, that have the potential to generate noise and/ or vibration impacts on surrounding land uses, particularly residential areas and heritage items; • an assessment of noise and vibration impacts on receivers; • detailed examination of reasonable and feasible actions and measures that would be implemented to minimise noise and vibration impacts (including negotiated agreements); and • a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, the locations where monitoring would take place, how the results of this monitoring would be recorded and reported; and, if any exceedance is detected how any non-compliance would be rectified; and • strategies to promptly deal with and address noise and vibration related complaints. The following policies, guidelines and Standards should be referenced where relevant: • DECCW 'Interim Construction Noise Guideline' (ICNG) • DECCW's 'Assessing Vibration; A Technical Guideline', February 2006 • British Standard 7385: Part 2 'Evaluation and measurement of vibration in buildings' • German standard DIN 4150 - Part 3 - 'Structural vibration in buildings - Effects on Structures'. • NSW State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) • NSW Department of Planning 'Development Near Rail Corridors and Busy Roads - Interim Guideline' (the ISEPP Guideline) • NSW 'Environmental Criteria for Road Traffic Noise' (ECRTN) DECCW 1999 • AS2107:2000 'Acoustics – Recommended design sound levels and reverberation times for building interiors'
CONTAMINATION ASSESSMENT	A geotechnical site contamination assessment shall be prepared by a suitably qualified consultant for all sites in the Box Hill and Box Hill Industrial Precincts. An assessment is required to identify whether the site is suitable for its intended purpose, including human occupation and any remediation measures. A review of the Land Capability, Salinity and Contamination Assessment Box Hill and Box Hill Industrial Precincts prepared by WSP Environment and Energy will be required as part of the assessment.
CRIME RISK ASSESSMENT REPORT	Certain developments due to their size, function or location may require the submission of a Crime Risk Assessment report and will be referred to NSW Police for comment. These types of developments include, but are not limited to: • Transport facilities; • Residential flat buildings, attached dwellings and multi dwelling

	housing developments (50 or more dwellings); • Large mixed use developments (50 or more dwellings); • Major shopping centre developments; • New industrial complexes (multiple units/ major works); • New schools and hospitals; • Child care centres; • Large sport facilities; • Clubs and hotels; and • Service stations, convenience stores and other high risk businesses. A Crime Risk Assessment report should detail design and other measures to be incorporated into the development to reduce the potential for crime. To assist in preparation of a Crime Risk Assessment report applicants should refer to Hills Shire Council's Designing Safer Communities: Safer by Design Guidelines (June 2002).
EARTHWORKS PLAN	An Earthworks Plan is to be prepared by a suitably qualified consultant. The Plan should show the existing and proposed level/contours.
EMERGENCY EVACUATION PLAN	The Emergency Evacuation Plan will include the following: • Identify the ability for areas to be evacuated within acceptable time frames; • Define an integrated procedure for the evacuation of residents from premises in the event of a bushfire or flood event; • Identify appropriate evacuation assembly points and protected safe havens; and • Provide for the evacuation and care of infirm or elderly residents.
EROSION AND SEDIMENTATION CONTROL PLAN	An Erosion and Sediment Control Plan is to be prepared in accordance with "Managing Urban Stormwater – Soils and Construction", produced by the NSW Department of Housing and Landcom. An Erosion and Sediment Control Plan shall include: • locality of the site, north point and scale; • existing contours with catchment boundaries; • description and location of vegetation; • staging of works to minimise disturbance; • movement of water onto, through and off the site; • location of specific controls; • maintenance of the controls; • rehabilitation/maintenance of the works area; and • location of topsoil stockpile to be reused on-site.

FUEL MANAGEMENT PLAN	The fuel management plan is to be prepared for lots where existing vegetation is required to be managed by several registered proprietors, strata corporation or community association or cluster style developments that jointly share asset protection zones. This plan may also be required for land that is: • Subject to occupation by residents or designated as private property; • Intended for imminent development; i.e. Village style development; • Regularly managed land due to neighbouring responsibilities; or • Special habitat management that is subject to prescriptive burning requirements to maintain a desired level of habitat diversity. The Fuel Management Plan will address the main priorities of fuel management planning, i.e.: • The protection of lives and property; and • The protection of the ecological (plants and animals) and environmental elements (soil, water and air) of the landscape. In determining priorities for fuel management, the land managers have a clear community obligation to protect life and property, as well as valuable natural assets. The Fuel Management Plan will identify: • Hazard reduction (burning and physical removal) to protect life and property; • Hazard reduction (burning and physical removal) to protect the broad range of vegetation resources and assets from the effects of uncontrolled wildfire; and • Infrastructure works that allow fuel management to occur (e.g. construction and maintenance of fire trails).
GEOTECHNICAL ASSESSMENT	A geotechnical assessment shall be prepared by a suitably qualified consultant registered with the Institute of Engineers, Australia or similar professionally recognised affiliation. An assessment is required to: identify that an acceptable level of risk is achieved with respect to the likelihood of movement, landslip or other geotechnical hazard adversely affecting the proposed subdivision or development or being caused by the proposed subdivision or development;
HERITAGE IMPACT STATEMENT	A Heritage Impact Statement should be prepared in accordance with the Statement of Heritage Guidelines prepared by the Heritage Office and Department of Urban Affairs & Planning 1996, revised 2002.
INDIGENOUS ARCHAEOLOGICAL ASSESSMENT	An Indigenous Archaeological Assessment will be prepared to assess the impact of proposed development on areas identified as of Aboriginal archaeological significance in Part 6.2 of this DCP. The Indigenous Archaeological Assessment shall provide details of the ongoing management of areas of Aboriginal archaeological significance, including a conservation management plan outlining how these areas will be conserved. The assessment shall be prepared in consultation with relevant local Aboriginal groups.
LANDSCAPE PLAN	A landscape plan to a minimum scale of 1:200 and accompanying documentation is to be prepared by a suitably qualified landscape architect or horticulturalist. Details to be provided include: • site boundaries and dimensions surveyed;

	• north point, scale (1:200 desirable); • existing and proposed levels; • all existing trees, grassed areas, landscape features and main structures on the site (buildings, car parking, driveways, walls, fences (location, height and type), paving, storage areas, elements contributing to the significance of a heritage item.); • a schedule of proposed planting, including botanic name, common name, expected mature height and staking requirements; • details indicating a minimum of 300mm of good quality topsoil to all garden beds; • details indicating a minimum of 150mm of good quality topsoil to all open space areas; • all garden bed areas to be clearly defined by brick, concrete or timber edging with its top edge finishing flush with the surface of adjacent grass areas; and • name and contact telephone number of the person who prepared the plans. Also, where relevant, the landscape plan should address: • outdoor recreation, seating or lunch areas for commercial and retail developments or the like; • all proposed structures – buildings, fences, boundary lines, retaining walls and parking spaces; • overland drainage proposals and on-site detention; • landscape treatment of building setbacks including mounding and screen planting; • planting proposed for privacy screening; • delineation of the principle area of private open space for each dwelling; • provision for rain gardens; • outline of all hard paved areas and materials to be used (including communal streets, driveways and paths) and identification of purpose. Consideration should also be given to the most likely routes taken by pedestrians, and sited accordingly; • details of landscaping to garbage bin storage or standing areas; • lighting for vehicle areas, cycle and pedestrian paths, and security; • location of underground services; • the requirements of other authorities such as water, electricity, telecommunications and gas, should be considered in the development of the landscape proposal. • protection of high conservation value vegetation and threatened flora and fauna habitat and hollow bearing trees. • protection and restoration of designated riparian zones. • fuel management for asset protection purposes. • maximum tree density and understorey cover to the standard of the required asset protection zones. • planting of key endemic foraging species for threatened fauna. • planting of regional significant flora species.
LANDSCAPE MANAGEMENT STATEMENT	A Landscape Management Statement is to accompany the landscape plan for all developments other than where only private open space is proposed. The Landscape Management Statement is to provide the intended management and maintenance principles for non-private,

	community or common open space, including grassed areas, ornamental and native planting, water features, play equipment, outdoor furniture and other facilities.
LOADING FACILITIES	Plans and details are to be provided that demonstrate that the loading dock facilities are adequate to serve the development.
MODEL	As required by Table 2 a scale model at either 1:100 or 1:200 of the proposed development is to be provided. The model shall show development on immediately adjoining properties.
NOISE IMPACT ASSESSMENT (ACOUSTIC REPORT)	A noise impact assessment or acoustic report is to be undertaken by a suitably qualified acoustic consultant (e.g. a member of the Australian Acoustical Society, Engineers Australia, The Association of Australian Acoustical Consultants or a person with appropriate professional qualifications). For noise generating development an acoustic report should include: • description of the extent of the noise impact and all noise sources (eg number of vehicle movements, plant & equipment used etc); • determination of the background (L_{A90}) and ambient (L_{Aeq}) noise levels (refer to DECCW INP Appendix B); • noise criteria, relevant guidelines or policy that has been applied and site specific noise goals; • site plan (with dimensions) not necessarily to scale; • Sound Power Level or appropriately defined sound pressure levels of all noise sources (specified in Octave bands); • prediction methods with formulae; • predicted noise levels at all relevant receiver points, including future development identified within the ILP; • comparison of predicted results to the noise goals; and • recommendations for noise control and attenuation. For noise sensitive development an acoustic report should include: • description of the noise sources impacting the site (e.g. road traffic noise, rail, aircraft noise, industrial noise etc); • determination of the extent of noise from the relevant sources in accordance with relevant policy requirements (e.g. DECCW Environmental Criteria for Road Traffic Noise (ECRTN), ISEPP etc); • where measurements of relevant noise can not be carried out, undertake appropriate predictions of existing and/or future noise exposure on the site; • noise criteria, relevant guidelines or policy that has been applied and site specific noise goals; • predicted noise levels at all relevant receiver points; • comparison of predicted results to the noise goals; and • recommendations for noise control and attenuation. The following policies, guidelines and Standards should be referenced where relevant: • NSW Protection of The Environment Operations Act 1997 (POEO Act) • NSW Protection of the Environment Operations (Noise Control) Regulation 2008 • NSW State Environmental Planning Policy (Infrastructure) 2007

	• NSW Department of Planning 'Development Near Rail Corridors and Busy Roads - Interim Guideline' (the ISEPP Guideline) • NSW 'Environmental Criteria for Road Traffic Noise' DECCW 1999 • AS2107:2000 'Acoustics – Recommended design sound levels and reverberation times for building interiors' • NSW 'Industrial Noise Policy' EPA (now DECCW) 2000 • AS2021 'Acoustics - Aircraft noise intrusion – Building siting and construction' • The Hills Development Control Plan 2012 Part B Section 6 – Business (Appendix E) • Office of Liquor Gaming and Racing's (OLGR) 'Standard Noise Condition' • DECCW 'Interim Construction Noise Guideline' (ICNG) • DECCW Noise Guideline for Local Government October 2010 • DECCW's 'Assessing Vibration; A Technical Guideline', February 2006 • British Standard 7385: Part 2 'Evaluation and measurement of vibration in buildings' • German standard DIN 4150 - Part 3 - 'Structural vibration in buildings - Effects on Structures'.
ON-SITE DETENTION (OSD) PLANS	OSD Plans are to be prepared in accordance with the Upper Parramatta River Catchment Trust OSD Handbook (with amended parameters reflective of the precinct wide stormwater management strategy referred to in **Section 7.1**) by a suitably qualified consultant possessing one of the following accreditations: • National Professional Engineer Register in Civil Engineering (Institute of Engineers Australia); • Surveyors Certificate of Accreditation in OSD and Drainage Design (Institution of Surveyors of NSW and the Association of Consulting Surveyors NSW); or • Accreditation as a certifier under the EP&A Act 1979 (NSW) in the relevant discipline. Reference should be made to J. Wyndham Prince Water Cycle Management Report 2012 for the Box/ Box Hill Industrial Precinct. Referral should be made to the Dam Safety Committee as part of any future development application process.
PHOTO MONTAGE	The photo montage must indicate the appearance of the proposed development within the context of existing development and shall be no greater than A3 in size.
PUBLIC DOMAIN PLAN	Applications for subdivision using approval pathways A2, B1 and B2 require a Public Domain Plan (PDP) to be submitted as part of the application. Refer to **Section 3.2**.
PRELIMINARY ENGINEERING DRAINAGE PLANS	Preliminary engineering plans indicating the proposed drainage design and infrastructure are to be prepared by a qualified drainage engineer. The plans shall include the following information: • existing and proposed contours and levels (Australian Height Datum); • catchment plan including boundaries of the site and adjacent properties and any areas not able to drain to the On-site detention (OSD) system; • storage/flow calculations;

	• location and invert and surface level of all proposed pits, pipes and storage chambers; • High Early Discharge Control pit and orifice detail including levels and location; • proposed lawful point of discharge; and • location and extent of any floodway, overland flow path or drainage easements through the site.
SCHEDULE OF EXTERNAL MATERIALS	A schedule of the proposed external colours, including a sample of materials and finishes, description and location of colour/material in relation to the development, at a size no greater than A3. Details of alternative materials considered and reasons as to why proposed materials were selected are to be disclosed.
SERVICES	Evidence of suitable arrangements with the following are required to be submitted with development applications: • Sydney Water for potable and recycled water, sewage and drainage; • Telecommunications carrier for telephones and associated equipment; and • Integral Energy for underground electricity; Jemena for gas supplies.
SHADOW DIAGRAMS	Shadow diagrams shall be submitted for all development which exceeds one storey in height and for light industry development where it adjoins residential development. Details to be shown on plans include: • shadows cast by the proposal during mid-winter and summer (ie 21 June and 21 December); • shadows cast during the early morning, middle of the day and afternoon (9.00am, 12 noon and 3:00pm); • the impact of the proposal on adjoining residential properties and their open space areas, and open space areas of each dwelling within the proposed development; and • consideration of shadows from existing trees. For the purpose of overshadowing requirements, fence lines are not included in shadow calculations.
SIGNAGE PLAN	A plan drawn to scale with the following information: • site dimensions and area; • location of the proposed sign; • a diagram of the sign, including: – dimensions and area, height, construction materials, colour – wording, logos, symbols. For illuminated signs, the following additional information is required: • The type of illumination; • A light spill diagram; and • The hours of illumination.
SITE PLAN	This plan is to convey the design concept and layout of the proposal. Details to be shown include: • A scale of 1:100 or 1:200, a title, and north point; • The site coverage depicting building envelopes, car parking,

	driveways and all other built features with supporting floor space ratio calculations; • The location of open space areas; • A schedule of calculations including site area, site coverage, floor areas and associated floor space ratios and private open space/landscape areas; • The dimensions and area of site; • The distance to all boundaries from buildings and car parking areas; • The internal layout of buildings; • The access and car parking arrangements including number of car parking spaces and bicycle parking spaces; For light industry developments details of the proposed vehicular access and circulation, in particular vehicular movement, layout and turning circles must be provided. • The dimensions of all car parking spaces and driveway widths; • Any existing trees (and a notation to indicate whether they are to be removed or retained); • The location of service/ancillary facilities including easements and infrastructure; • The location and general description of any adjoining developments; • Building height and internal site levels; • Changes in levels – proposed spot levels and/or contours at 1m intervals; • The original ground level; and • The proposed finished ground level.
SITE SURVEY/ANALYSIS PLAN	The purpose of this plan is to identify the opportunities and constraints presented by the development site. The plan must be prepared by a registered surveyor to a minimum scale of 1:200. The extent and level of detail of the analysis will depend on the application. Details to be shown include:- A. The Site • Site Dimensions: – Length, Width, Area • Topography: – Existing spot levels and/or contours at one metre intervals – Natural drainage – Any contaminated soils or filled areas – Any natural or man-made artefacts of archaeological significance • Services: – Easements, Connections to drainage and utility services • Existing Vegetation: – Location – Height – Spread of established trees – Species – existing threatened flora species – existing threatened fauna habitat

  - hollow bearing trees for hollow dependent fauna
  - All trees greater than 100 mm dbh
  - Significant foraging species as identified by Council and or Consulting Ecologist
- Fuel Management Zones:
  - Asset protection zones
  - Fuel reduction methods (hand removal, mechanical or managed landscaping)
  - Understorey conservation zones for threatened flora and fauna habitat (maximum 20% of understorey by cover)
  - Tree removal for creating discontinuous canopies (2-5 m separation)
  - Maximum Tree Density
- Micro Climates:
  - Orientation, Prevailing winds
- The area of any land containing protected native vegetation as shown on the relevant SEPP maps.
- The location of existing buildings and other structures
- Heritage features
- Fences
- Property boundaries
- Pedestrian and vehicle access
- Infrastructure
- Views to and from the site
- Overshadowing by neighbouring structures
- Heritage features and items including archaeology contributing to significance – curtilage, views, archaeological features, outbuildings, garden elements etc
- Demonstration of how allotment/dwelling locations and dimensions respond to topography, site constraints and achieve solar orientation
- An indication of how social and environmental issues have been considered in the design

B. The Surrounds

Investigation of the surrounds should identify:

- Neighbouring buildings/developments:
  - Location, Height, Use, Type of construction materials
- Privacy
  - Any adjoining private open space, Windows overlooking the site (particularly those within 9m of the site), Location of any facing doors and/or windows
- Walls built to the site's boundary:
  - Location, Height, Materials
- Difference in levels between the site and adjacent properties at their boundaries
- Views and solar access enjoyed by neighbouring properties
- Street frontage features:
  - Poles, Trees, Kerb crossovers, Bus stops, Other services
- The built form and character of adjacent development including:

	– Architectural character, Front fencing, Garden styles • Heritage features of surrounding locality and landscape • Direction and distance to local facilities: – Local shops, Schools, Public transport, Recreation and community facilities • Public open space: – Location, Use • Adjoining bushland or environmentally sensitive land • Source of nuisance: – Flight paths, Noisy roads or significant noise source, Polluting operations
SPECIES IMPACT STATEMENT	A Species Impact Statement is to be prepared where development is on land containing critical habitat or is likely significantly affect threatened species, populations or ecological communities or if there is likely to be a significant impact on threatened fish or marine vegetation protected under the Fisheries Management Act 1994. A Species Impact Statement is to be prepared by a suitably qualified consultant. The Species Impact Statement must include a full description of the action proposed, including its nature, extent, location, timing and layout and, to the fullest extent reasonably practicable, the information referred to in Section 110 of the *Threatened Species Conservation Act 1995*. A Species Impact Statement is not required where development consent is required and on areas that have had biodiversity certification conferred.
STREETSCAPE PERSPECTIVE	A streetscape perspective shall be provided as a colour perspective of the proposed building(s) and streetscape including landscaping and be no greater than A3 in size.
TRAFFIC AND CAR PARKING STUDY	A traffic and car parking study must be prepared by a suitably qualified consultant. The traffic report must address the following: • The existing traffic environment including recent traffic volume counts; • The traffic expected to be generated as a result of the proposed development; • The cumulative impact of the proposed development and any other nearby developments on the surrounding road network; • The need for traffic improvements to the road network as a result of the proposed development; • The impact of the proposal on intersections that access arterial/sub-arterial roads; • A detailed assessment of the proposed access arrangements including the suitabiliy of the sight distance and any other relevant safety issues; and • An assessment of the proposed parking provision and layout.
TREE MANAGEMENT PLAN	A Tree Management Plan is to be prepared by a qualified arborist. The Tree Management Plan shall be accompanied by a site plan clearly indicating which trees are to be retained and those to be removed. The Tree Management Plan shall include: • A tree survey, including a site plan indicating the location of all trees on the site and the location of trees on adjoining properties located within close proximity of the development site. All trees should be numbered;

	• A schedule of all trees including species identification, dimensions, whether they are to be retained or removed and a rating of the condition of all trees, their health, aesthetic value and life expectancy as a basis for ascertaining their value for retention; • Justification for removal of any trees; • The design measures incorporated to allow trees to be retained and definitions of tree protection zones; • The design and construction techniques to be used to minimise the impact on trees to be retained. These measures must demonstrate that the on-going health of the tree has been considered; • Details indicating the position of trees in relation to proposed roads and building platforms; • Identification of hollow bearing trees and identify retention priority (High, Medium and Low quality) based on hollow dimensions and hollow dependent fauna habitat requirements; • A hollow retention strategy for any hollow bearing trees that balances the needs of hollow dependent fauna against the needs of providing a safe tree within or adjacent to buildings or services; and • An artificial hollow replacement strategy at a ratio of 2 artificial hollows to every 1 hollow removed on securely protected trees using a mix of nest box designs for a variety of fauna including microbats.
VEGETATION MANAGEMENT PLAN (VMP)	Any subdivision within land identified as Riparian Corridor Protection Area, or residential sub-division on land adjacent to such an area will be required to be accompanied by a VMP and integrated with the required Landscape Plan, Bushfire Assessment, Sedimentation & Erosion Control Plan. The recommendations of the VMP will be imposed as conditions of any consent that may be issued. The following management principles are to be incorporated into a VMP consistent with NSW Office of Water guidelines for the corridor: • The riparian corridor is to remain, or become vegetated, with native vegetation (trees, shrubs and groundcover species) according to the appropriate vegetation community. • Identify existing trees to be retained. • Indicate the location, type and size and all new plant species. • No battering is permitted within the riparian corridor unless within approved online detention areas. • The impact of salinity on the landscape and watercourses shall be managed in accordance with the Western Sydney Salinity Code of Practice. • The location of access ways to and within a riparian protection area must not compromise the environmental objectives for that watercourse or stream bed and/or bed stability and also be consistent with NSW State Government Guidelines (e.g. protection of fish habitat, water quality, waterway stability). • Measures to contain and attenuate low flow events (less than five years) are permitted providing they are fully vegetated and it can be demonstrated that the required environmental outcomes can be achieved. • Use piered crossings for Category 1 watercourses (other than for utilities) to maintain riparian connectivity. • Ensure vegetation in the CRZ is at a density that would occur naturally for the riparian ecotone.

WASTE MANAGEMENT PLAN (WMP)	A WMP is to be prepared in accordance with the requirements identified in The Hills Development Control Plan Appendix A Waste Management Plan. A WMP demonstrates appropriate project management and construction techniques that minimise waste including the following: • Re-use of topsoil and disposal of any excess to an approved site; • Green waste re-use in landscaping either on-site or off-site; • The re-use of materials such as bricks, tiles, plasterboard, windows, window frames, doors, joinery and concrete re-use on-site as appropriate, or recycled off-site; • The recycling of plumbing, fittings and metal elements • The location of on-site storage facilities for material to be reused on-site, or separated for recycling off-site; and • The destination and transportation routes of all materials to be either recycled or disposed of off-site. A WMP is to provide the following information: • Construction and Demolition details – Types of waste to be produced; – Quantities of waste likely to be produced; – Re-use or recycling methods for waste either on-site or off-site; – Location of on-site storage facilities for waste materials; – Contractor and destination of all waste materials; – Demonstrate that waste going to landfill is not recyclable or is hazardous; and – A Waste Data File (a file containing the WMP together with records - waste receipts or dockets) of recycling and disposal of demolition and construction materials must be kept by the person/s responsible for the site. • Design of Facilities and On-going Management – Type of future use for the development; – Types of waste to be generated; – Estimated volume of waste to be generated per week; – Location (on plans) and description of on-site storage and/or treatment facilities for waste; and – Destination for waste produced. For assistance with preparation of a Waste Management Plan, please contact Council's Waste Management Project Officer on 9843 0505.

1.9 Assessment of Applications

In assessing development proposals, Council will have regard to:

1. Section 79C of the EP&A Act 1979;
2. The Growth Centres SEPP;
3. Relevant State Environmental Planning Policies;
4. Conformity with this DCP;
5. Conformity with other Council Policies and guidelines;
6. Submissions received as a result of the notification/advertising process;
7. Any other legislation applying to the land or to the type of development proposed; and
8. Developments that fail to comply with the statutory provisions of the EP&A Act 1979 (NSW), any relevant SEPPs, or the objectives stated within this DCP are unlikely to be granted development consent.

1.10 Amendments

The Box Hill Growth Centre Precincts Development Control Plan came into force on March 2014 and has subsequently been amended as shown in **Table 4** below:

Table 4 DCP Amendments

Section	Description of amendment	Date amended DCP adopted	Date amended DCP came into force	Former file reference
3 and 4	New controls for residential development and subdivision (Housing Diversity Package)	13/08/2014	19/08/2014	
Various	Amend notification and advertising requirements to reflect The Hills Development Control Plan 2012 and minor administrative corrections	26/04/2016	24/05/2016	FP183
Various	Amendments relating to the rezoning of employment land and other administrative changes	25/08/2015	22/08/2016	6/2014/PLP
Various	Amendments relating to minimum lot size- Development Control Plan (Main Body)	29/11/2016	29/11/2016	

2.0

VISION AND CHARACTER

2.0 VISION AND CHARACTER

This section of the DCP describes the vision and objectives relating to the overall layout and character of the future development of the Precincts.

2.1 Vision and Development Objectives

VISION

The planning for the Box Hill Growth Centre Precincts promotes the development of a vibrant residential and employment urban area that responds to the Precincts' natural environment, represented in its streams, landform, heritage, environmental characteristics and landscape setting.

The planning of the Precincts seeks to promote a community that is less dependent on private vehicle use thereby contributes to a reduced carbon footprint.

A balanced mix and distribution of recreation, employment and residential uses encourage public transport, walking and cycling. A safe and permeable street network promotes accessibility, connectivity and social interaction.

Direct connections to nearby regional transport hubs, including the Rouse Hill, Riverstone, Area 20 and Schofields Road Transit Boulevard ensure regional public transport accessibility.

Retail and commercial areas complement and support surrounding centres. The centrally located Box Hill Town Centre provides the retail, commercial and community services that promote a community hub. Three villages and two neighbourhood centres service all local residential and employment areas.

A business park, an enterprise corridor and a light industrial area provide a mix of local and regional employment opportunities that meet the regional demand for jobs.

BOX HILL GROWTH CENTRE PRECINCTS OBJECTIVES

a. To accommodate the future population, in a manner which responds to environmental constraints.

b. To create strong pedestrian, public transport, cycleway and vehicular links with surrounding areas.

c. To protect and enhance existing natural features.

d. To create opportunities for the development of a variety of housing types and densities.

e. To encourage higher densities along public transport corridors and areas of high amenity.

f. To promote economically viable development.

g. To create a layout plan that will assist in an equitable and manageable development process.

h. To provide a hierarchy of centres as focal points for walkable neighbourhoods.

i. To provide local employment areas for the North West Sector.

j. To recognise the heritage significance of key heritage items and places.

2.2 Indicative Layout Plan

The Indicative Layout Plan (ILP) (**Figure 2**) illustrates the broad level development outcomes for the Box Hill Growth Centre Precincts. It outlines the development footprint, land uses, open space, heritage item, major transport linkages and location of community facilities and schools.

OBJECTIVES

a. To ensure development of the Precincts is undertaken in a co-ordinated manner consistent with the North West Sector Structure Plan and the Box Hill Growth Centre Precincts Indicative Layout Plan.

CONTROLS

1. All development is to be undertaken generally in accordance with the Indicative Layout Plan at **Figure 2** subject to compliance with the objectives and development controls set out in this DCP.
2. Where variation from the ILP is proposed, the applicant is to demonstrate that the proposed development is consistent with the Vision and Development Objectives for the Precinct set out in Section 2 and the Objectives and Controls in Sections 3, 4, 5, 6 and 7 of this DCP and the Growth Centres SEPP.

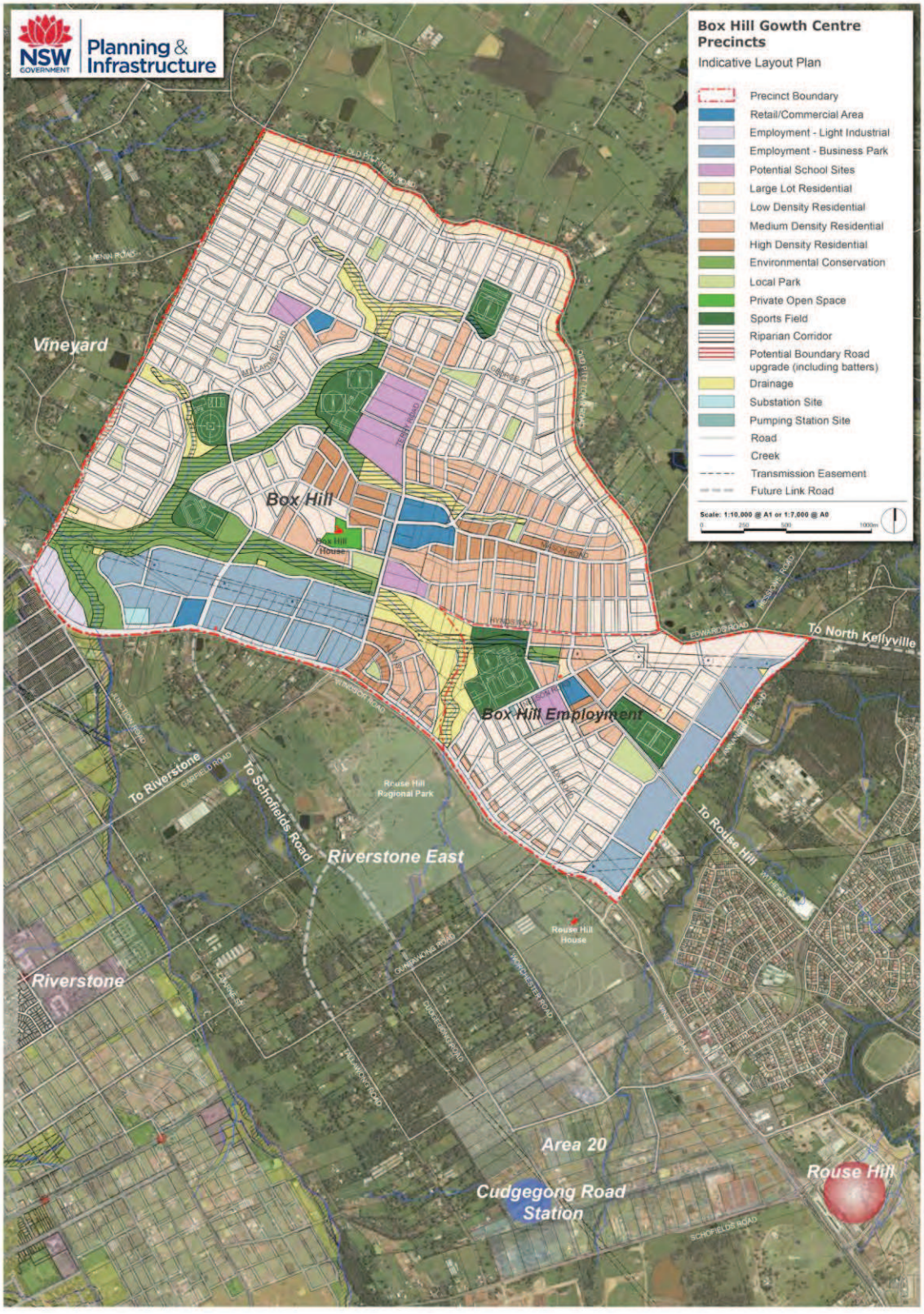


Figure 2 Box Hill Growth Centre Precincts Indicative Layout Plan

2.3 Character Areas

Character Areas reflect the desired built form and landscape character of the area based on the physical and visual qualities of the natural landscape. They aim to give a distinct identity and sense of place for different areas within the Box Hill Growth Centre Precincts through specific built form, landscape and public domain controls (refer to **Figure 3**).

2.3.1 Centres

BOX HILL TOWN CENTRE

The Box Hill Town Centre is located at the corner of Terry Road and Mason Road. It is located to the east of Terry Road and is dissected by the existing Mason Road. The existing Mason Road will be converted into a 'main street' to run through the centre of the town centre. A new by-pass road that takes away local traffic from the centre will be located to the north of the town centre to connect to Terry Road.

The Box Hill Town Centre will provide the retail and community focus for the Box Hill Growth Centre Precincts, featuring a mix of residential, retail, commercial, community and recreational uses without undermining the retail offered at the Rouse Hill Town Centre.

The Town Centre comprises up to 30,000m^2 of shop front space which will contain one discount department store, two supermarkets, mini-majors and a range of specialty shops (note: additional floor space for retail and commercial premises and/or other employment uses will be considered subject to an assessment of demand as part of any future application).

Residential uses are encouraged above the retail centre with a maximum height for the centre to be up to six storeys.

The town centre interface area on the western side of Terry Road is envisaged for offices and ancillary services such as child care centres and medical centres.

A passive recreation park for the Box Hill Town Centre, located between the Killarney Chain of Ponds and the southern steep slopes of Box Hill House, allows the retention of the view corridor towards Box Hill House while being close to the primary school and the residential areas.

BUSINESS PARK VILLAGE

The Business Park Village is located in the south-west of the Precincts at the intersection of Windsor Road and the proposed Mt Carmel Road. This village is positioned to service the business park as well as passing motorists along Windsor Road.

It is anticipated that the Business Park Village will contain a 3,000 m^2 supermarket and 20-25 speciality stores.

MT CARMEL VILLAGE

The Mt Carmel Village is located at the intersection of the proposed Mt Carmel Road and the proposed extension of George Street. The village is positioned to facilitate community focus and complement nearby community uses. The village comprises retail, a primary school and a local park with a supporting sporting field and is directly adjacent to a high density residential area. This village will service the northern area of the Precincts.

It is anticipated that the village centre will be approximately 5,000 to 6,000 m^2 in size and contain a 2,000 – 3,000 m^2 supermarket and 20-25 speciality stores.

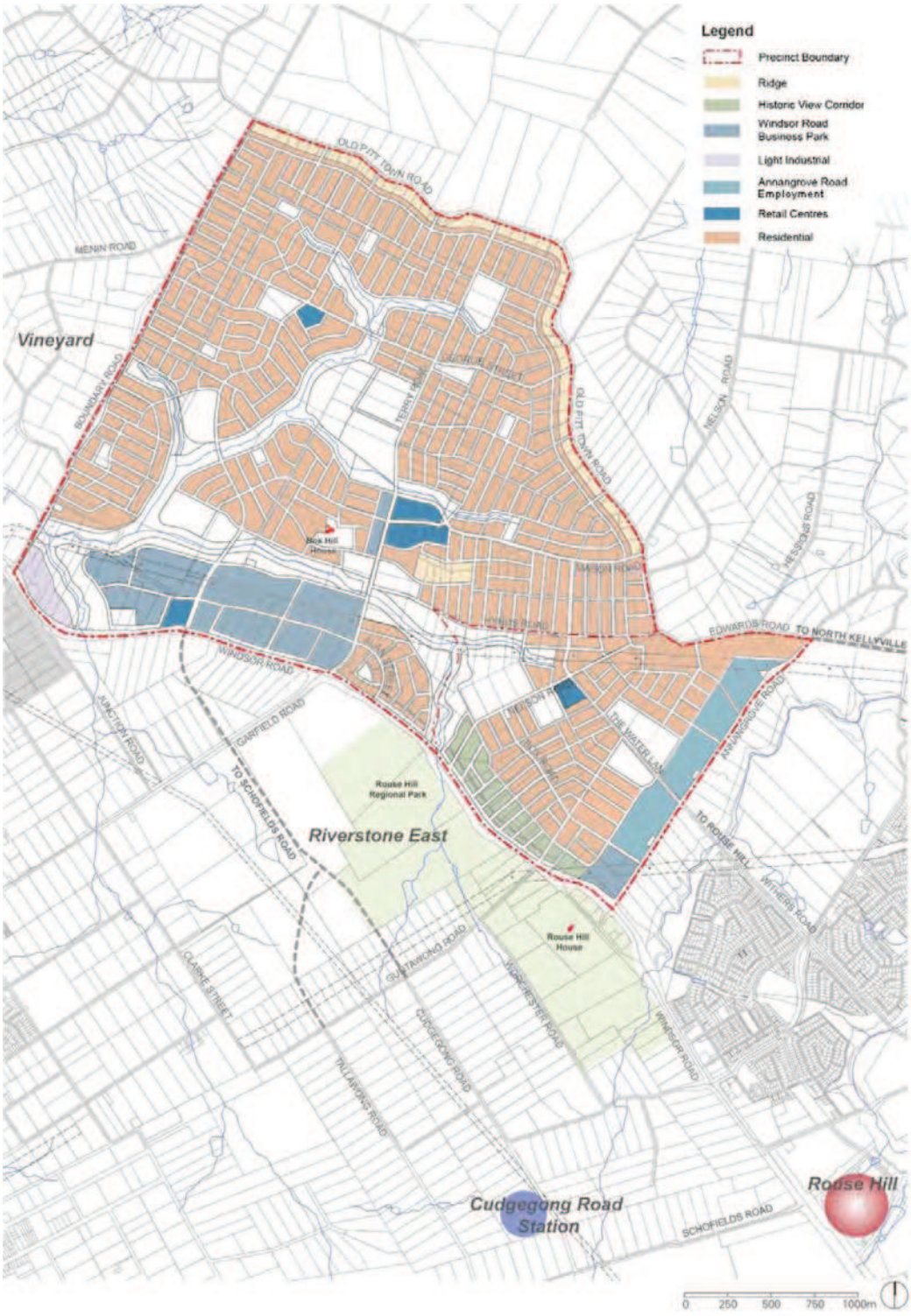


Figure 3 Box Hill Growth Centre Precincts character areas

NELSON ROAD VILLAGE

The Nelson Road Village is located in the south-east of the Precincts at the intersection of Nelson Road and The Water Lane opposite heritage listed Marklye House. This Village will also have a strong relationship to the adjacent school and nearby playing fields, strengthening its role as a neighbourhood hub and meeting place for the local community. The Village will primarily service the south-eastern catchment area, including the employment corridor along Annangrove Road.

It is anticipated that the village centre will be approximately 5,000 to 6,000 m^2 in size and contain a 2,000 – 3,000 m^2 supermarket and 20-25 speciality stores.

NEIGHBOURHOOD CENTRES

The Precincts will include the potential for two neighbourhood centres that could be located on Boundary Road in the west of the Precincts and one on Old Pitt Town Road in the north-east. The Neighbourhood Centres will comprise up to 1,000 m^2 of floor space and will service the local catchments and the passing traffic along these main roads.

WINDSOR ROAD BUSINESS PARK

The Windsor Road Business Park is characterised by six storey buildings that have good exposure to Windsor Road. Reduced heights of four storeys are located in the vicinity of the Box Hill Inn and in the Killarney Chain of Ponds.

The northern aspect and overlook to the Killarney Chain of Ponds and Box Hill House encourages a high quality built form.

ANNANGROVE ROAD EMPLOYMENT CORRIDOR

The Annangrove Road Employment Corridor is characterised by one to two storey buildings. The design controls promote the location of offices, show rooms and cafes close to the street front while ensuring that parking areas do not dominate the streetscape and can be located at the side boundaries.

Light Industrial sites fronting residential areas have a densely vegetated setback that retains remnant vegetation wherever possible. Building setbacks are increased to minimise noise and odour impacts to the residential areas.

2.3.2 Ridge

The Ridge Character Area is a residential area located along the main ridgelines running along Old Pitt Town Road.

The Ridge Character Area will have a predominately large lot residential zone, characterised by one or two storey detached housing with large setbacks. The large lot residential zone will allow the retention of the existing vegetation, the ridgeline formation and the existing views towards these ridges.

The Ridge Character Area provides a buffer between the higher density land uses in the Precinct and the rural land north of Old Pitt Town Road.

2.3.3 Historic View Corridor

The historic view corridor is located between Box Hill House and Rouse Hill House in the south-east of the Precincts. The area will be characterised by low density residential housing with wider streets that encourage heavily planted streetscapes.

The alignment of streets is perpendicular to Windsor Road to promote a dense tree canopy outlook from the heritage buildings. Appropriate tree planting will be used in this area to ensure development respects the character of this sensitive corridor.

Small lot housing is located along the Windsor Road boundary to assist in mitigating traffic noise by locating private open spaces away from the road.

A road parallel to Windsor Road provides setbacks to the houses fronting the road whilst facilitating a densely vegetated interface.

2.4 Sub-precincts

Development sub-precincts are areas bounded by fixed roads as indicated in **Figure 4**.

OBJECTIVES

a. To allow departure from the Indicative Layout Plan; and

b. To ensure that access, drainage and servicing is appropriately provided to all sub-precincts.

CONTROLS

An applicant may depart from the subdivision layout within a sub-precinct provided that:

1. The block layout and subdivision objectives and controls outlined in **Section 3.6** are met;
2. The level of access to fixed roads is retained;
3. The provision of drainage and service infrastructure is retained; and
4. Any variation from the Indicative Layout Plan does not limit the development potential for adjoining precincts to meet the objectives of the Indicative Layout Plan. This must be demonstrated by the submission of an indicative subdivision layout for adjoining affected properties.

VARIATIONS TO THE RESIDENTIAL STREET NETWORK

1. Where any variation to the residential street network indicated at **Figure 14** is proposed, the alternative street network is to be designed to achieve the following principles:
    - a permeable street network that is based on a grid system;
    - maximise connectivity across sub-precincts;
    - maximise connectivity between residential areas and community facilities, open space and centres;
    - encourage walking and cycling and reduce travel distances;
    - take account of topography and accommodate significant vegetation;

- optimise solar access opportunities for dwellings;
- provide frontage to and maximise surveillance of open space and riparian corridors;
- provide views and vistas to landscape features and visual connections to nodal points and centres;
- maximise the use of water sensitive urban design measures; and
- minimise the use of cul-de-sacs. If required, the maximum number of dwellings to be served by cul-de-sac is 10.

NEIGHBOURHOOD BLOCK DESIGN

1. The size of the block must facilitate circulation on public streets through each sub precinct.
2. The subdivision layout is to create a legible and permeable street hierarchy that responds to the natural site topography, the location of existing significant trees and solar design principles.
3. Orientate blocks, wherever possible, to maximise the number of east, west and south facing lots and to minimise the number of narrow north facing blocks.
4. Variation in the size of the blocks is permitted provided that a regular layout of streets allows for ease of circulation, and that the number of streets as indicated in the Indicative Layout Plan (refer to **Figure 2**) is not reduced.
5. Maximum block lengths are not to exceed 250 metres.

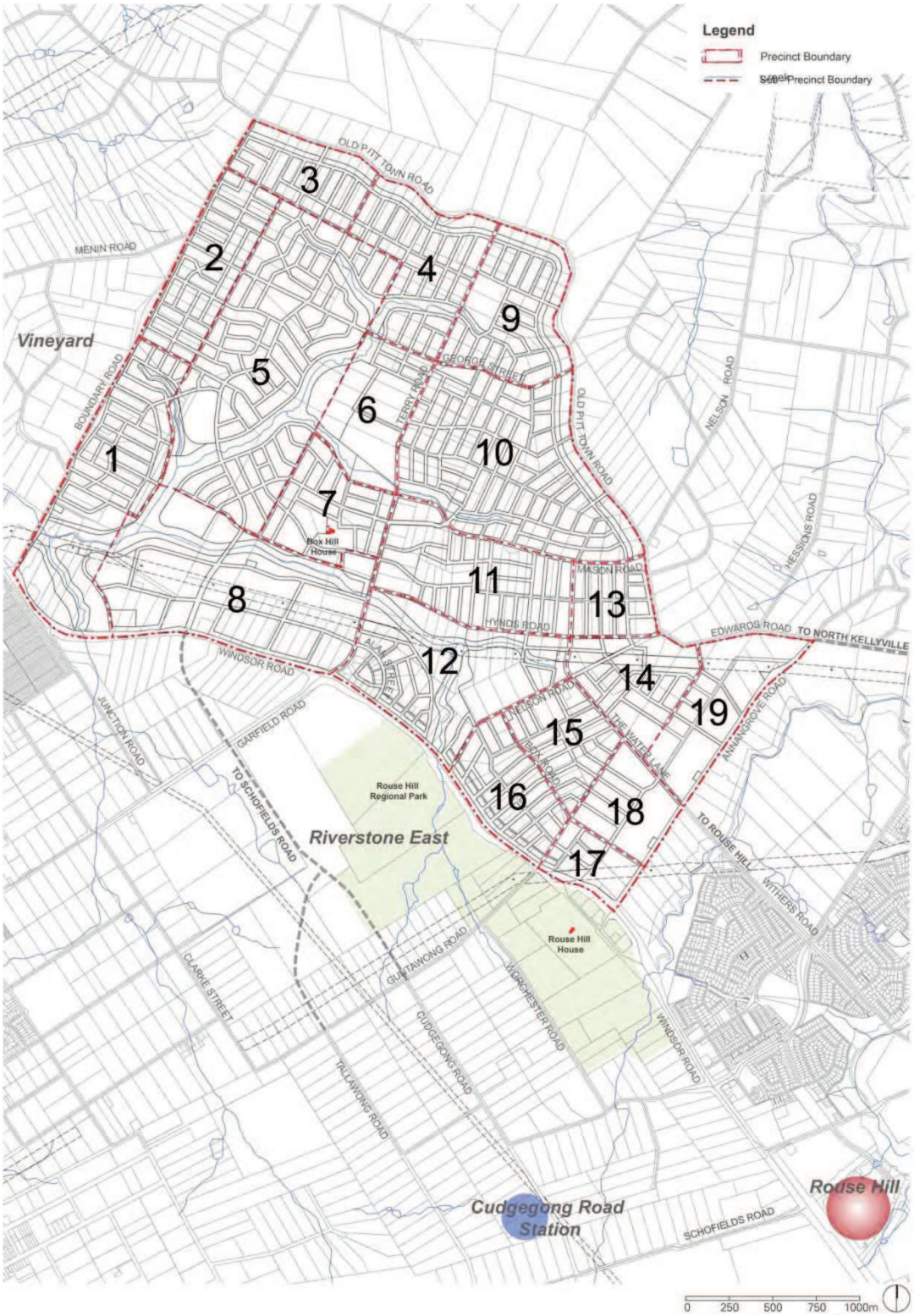


Figure 4 Sub precincts

3.0

LAND DEVELOPMENT

3.0 LAND DEVELOPMENT

3.1 Residential Density and Subdivision

The Growth Centres are subject to minimum residential density targets as detailed in the Residential Density Maps in the SEPP. This section provides guidance on the typical characteristics of the residential density target bands.

Net Residential Density means the net developable area in hectares of the land on which the development is situated divided by the number of dwellings proposed to be located on that land. Net Developable Area means the land occupied by the development, including internal streets plus half the width of any adjoining access roads that provide vehicular access, but excluding land that is not zoned for residential purposes. Refer to **Figure 5** and Landcom's "Residential Density Guide" and the Department of Planning and Environments' "Dwelling Density Guide" for further information.

Figure 5 Example for calculating Net Residential Density of a subdivision application

Net Residential Density is an averaging statistic. The average dwelling density target in the SEPP should be achieved across the identified area with a diversity of lot and housing types. However, this does not mean that all streets offer the same housing and lot mix. Built form intensity should vary across a neighbourhood in response to the place: more intense around centres or fronting parks, less intense in quieter back streets. In lower density areas, there will be a higher proportion of larger lots and suburban streetscapes but there may also be some streets with an urban character. In higher density areas, urban streets with more attached housing forms will be more common but there will also be some suburban streetscapes.

In recognition of different objectives and street characters at varying densities, certain built form controls vary by density bands. Refer to the section Residential Development.

3.1.1 Residential Density

Objectives

a. To ensure minimum density targets are delivered.

b. To provide guidance to applicants on the appropriate mix of housing types and appropriate locations for certain housing types.

c. To establish the desired character of the residential areas.

d. To promote housing diversity and affordability.

Controls

1. All applications for residential subdivision and the construction of residential buildings are to demonstrate that the proposal meets the minimum residential density requirements of the relevant Precinct Plan and contributes to meeting the overall dwelling target in the relevant Precinct.

2. Residential development is to be generally consistent with the typical characteristics of the corresponding Density Band in **Table 5**.

Table 5 Typical Characteristics of Residential Net Densities

Net Residential Density dw/Ha	Typical Characteristics
7 dw/Ha	• Detached single and double storey dwelling houses on larger suburban lots.
10 - 12.5 dw/Ha	• Generally located away from centres and transport. • Predominantly detached dwelling houses on larger lots with some semi-detached dwellings and / or dual occupancies. • Single and double storey dwellings. • Mainly garden suburban and suburban streetscapes. (See **Figure 6**).
15 -20dw/Ha	• Predominantly a mix of detached dwelling houses, semi-detached dwellings and dual occupancies with some secondary dwellings. • Focused areas of small lot dwelling houses in high amenity locations. • At 20dw/Ha, the occasional manor home on corner lots. • Single and double storey dwellings. • Mainly suburban streetscapes, the occasional urban streetscape. (See **Figure 6**).
25 - 30 dw/Ha	• Generally located within the walking catchment of centres, corridors and / or rail based public transport. • Consists of predominantly small lot housing forms with some multi-dwelling housing, manor homes and residential flat buildings located close to the local centre and public transport. • Generally single and double storey dwellings with some 3 storey buildings. • Incorporates some laneways and shared driveways. • Be designed to provide for activation of the public domain, including streets and public open space through the orientation and design of buildings and communal spaces. • Mainly urban streetscapes, some suburban streetscapes. (See **Figure 6**).
40+ dw/Ha	• Generally located immediately adjacent centres and / or rail based public transport • Consists of predominantly residential flat buildings, shop top housing, manor homes, attached or abutting dwellings and multi-dwelling housing • Generally double and multi-storey buildings • Predominantly urban streetscapes with minimal front setback; incorporates laneways and shared driveways. (See **Figure 6**).

Garden Suburban

Suburban

Urban

Figure 6 Distinct and coherent streetscapes occur in varying proportions in density bands

3. Residential development in the Ridge Area is to:

- Consist primarily of single dwellings on larger lots, reflecting the environmental sensitivity and visual character of these parts of the Precincts.
- Emphasise high quality housing design to make the most of the environmental characteristics of the surrounding area.
- Be designed and located to minimise impacts on flood prone land, and risks to property from flooding.
- Avoid impacts on Existing Native Vegetation and other remnant native vegetation.
- Consider relationships to adjoining land uses including public open space and drainage infrastructure.
- Be designed to respond to constraints from infrastructure corridors such as electricity lines, underground gas pipelines and any Sydney Catchment Authority infrastructure.
- Consider views to and from the land and surrounding parts of the Growth Centre.

4. Non-residential development in the residential areas is encouraged where it:

- Contributes to the amenity and character of the residential area within which it is located.
- Provides services, facilities or other opportunities that meet the needs of the surrounding residential population, and contributes to reduced motor vehicle use.
- Will not result in detrimental impacts on the amenity and safety of surrounding residential areas, including factors such as noise and air quality.
- Is of a design that is visually and functionally integrated with the surrounding residential area.

Note: *The relevant Precinct Plan permits certain non-residential development within the residential zones. Other parts of this DCP provide more detailed objectives and controls for these types of development.*

3.1.2 Block and Lot Layout

OBJECTIVES

a. To establish a clear urban structure that promotes a 'sense of neighbourhood' and encourages walking and cycling.

b. To efficiently utilise land and achieve the target dwelling yield for the relevant Precinct.

c. To emphasise the natural attributes of the site and reinforce neighbourhood identity through the placement of visible key landmark features, such as parks, squares and landmark buildings.

d. To optimise outlook and proximity to public and community facilities, parks and public transport with increased residential density.

e. To encourage variety in dwelling size, type and design to promote housing choice and create attractive streetscapes with distinctive characters.

f. To accommodate a mix of lot sizes and dwelling types across a precinct.

g. To establish minimum lot dimensions for different residential dwelling types.

CONTROLS

BLOCKS

1. Residential neighbourhoods are to be focused on elements of the public domain such as a school, park, retail, or community facility that are typically within walking distance.

2. Subdivision layout is to create a legible and permeable street hierarchy that responds to the natural site topography, the location of existing significant trees and site features, place making opportunities and solar design principles.

3. Pedestrian connectivity is to be maximised within and between each residential neighbourhood with a particular focus on pedestrian routes connecting to public open space, bus stops and railway stations, educational establishments and community/recreation facilities.

4. Street blocks are to be generally a maximum of 250m long and 70m deep. Block lengths in excess of 250m may be considered by Council where pedestrian connectivity, stormwater management and traffic safety objectives are achieved. In areas around neighbourhood and town centres, the block perimeters should generally be a maximum of 520m (typically 190m x 70m) to increase permeability and promote walking.

LOTS

5. Minimum lot sizes for each dwelling type will comply with the minimum lot size provisions permitted by the Sydney Region Growth Centres SEPP, summarised here as **Table 6**. In certain density bands, variations to some lot sizes may be possible subject to clauses 4.1AC, 4.1AD and 4.1AE in the Sydney Region Growth Centres SEPP.

6. Minimum lot frontages applying to each density band will comply with **Table 7**. Lot frontage is measured at the street facing building line as indicated in **Figure 7**.

Table 6 Minimum lot size by density bands

	R2 Low Density Residential	R2 Low Density Residential	R3 Medium Density Residential	R4 High Density Residential
Minimum Net Residential Target (dwellings/Ha)	**7**	**15**	**18**	**30**
Dwelling House (base control)	700	300	300	300
With BEP	N/A	250	225	225
As Integrated DA	N/A	250	225	125
Location Criteria* (BEP or Integrated DA)	N/A	225	N/A	N/A
Studio Dwelling	No minimum lot size as strata development not subject to minimum lot size controls			
Secondary Dwelling	700	450	450	In principle lot
Dual Occupancy	700	500	500	300
Semi Detached Dwelling	2000	200	150	125
Attached Dwelling	N/A	1500*	1500	375
Multi Dwelling Housing	N/A	1500*	1500	375
Manor Homes	Not permissible	Not permissible	Not permissible	600
Residential Flat Buildings	Not permissible	Not permissible	Not permissible	1000

** On land zoned R2 with a minimum residential density of 15d/ha, the minimum development lot size for the purposes of a dwelling house can be varied to 225m^2. Attached dwellings and Multi dwelling housing is also permissible on land zoned R2 with a minimum residential density of 15d/ha that also satisfies one of these criteria:*

a) adjoining land set aside for open space or recreation or is separated from that land only by a public road,

b) adjoining land in Zone B1 Neighbourhood Centre, Zone B2 Local Centre or Zone B4 Mixed Use or land that is separated from land within Zone B1 Neighbourhood Centre, Zone B2 Local Centre or Zone B4 Mixed Use only by a public road.

c) adjoining land that is set aside for drainage or educational purposes, or is separated from that land only by a public road; and is within 400m of land in Zone B1 Neighbourhood Centre or Zone B2 Local Centre.

Table 7 Minimum lot frontages by density bands

		Net Residential Density Target (dw/Ha)			
		7 dw/Ha	10 to 12.5dw/Ha	15dw/Ha	20 to 45dw/Ha
Minimum Lot Frontages	Front Loaded	18m	12.5m	9m	7m
	Rear Loaded	Not permitted	4.5m	4.5m	4.5m

Note: *The combination of the lot frontage width and the size of the lot determine the type of dwelling that can be erected on the lot, and the development controls that apply to that dwelling*.

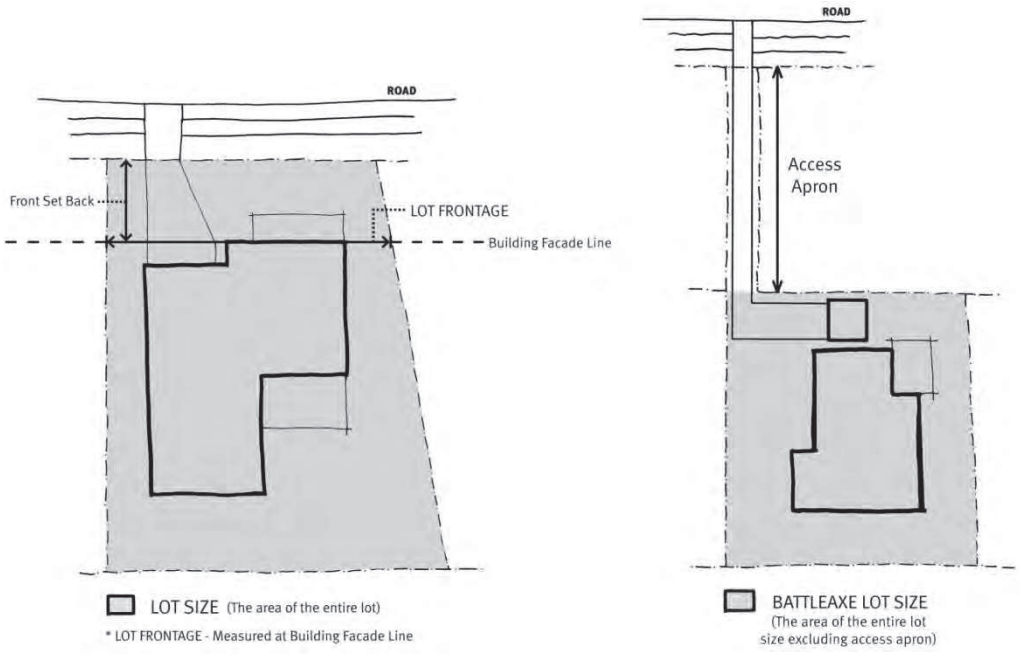


Figure 7 Measurement of minimum lot widths and lot area

7. A range of residential lot types (area, frontage, depth, zero lot and access) must be provided to ensure a mix of housing types and dwelling sizes and to create coherent streetscapes with distinctive garden suburban, suburban and urban characters across a neighbourhood.

8. In areas with a minimum residential density of ≤20dw/ha no more than 40% of the total residential lots proposed in any one street block may have a frontage of less than 10m wide. Lots subdivided using Subdivision Approval Pathway B1 or B2 (Integrated Housing) for attached or abutting dwellings are exempt from this control.

   Note: A street block is defined as a portion of a city, town etc., enclosed by (usually four) neighbouring and intersecting streets.

9. In density bands ≤25dw/Ha, total lot frontage for front accessed lots greater than or equal to 7m and less than 9m should not exceed 20% of any block length due to garage dominance and on-street parking impacts.

10. Lots should be rectangular. Where lots are an irregular shape, they are to be large enough and oriented appropriately to enable dwellings to meet the controls in this DCP.

11. Where residential development adjoins land zoned RE1 Public Recreation or SP2 Drainage, subdivision is to create lots for the dwelling and main residential entry to front the open space or drainage land.

12. The orientation and configuration of lots is to be generally consistent with the following subdivision principles:

    - Smallest lots achievable for the given orientations fronting parks and open space with the larger lots in the back streets;
    - Larger lots on corners;
    - North to the front lots are either the widest or deepest lots, or lots suitable for residential development forms with private open space at the front. Narrowest lots with north to the rear.

13. Preferred block orientation is established by the road layout on the Indicative Layout Plan in the relevant Precinct Schedule. Optimal lot orientation is east-west, or north-south where the road pattern requires. Exceptions to the preferred lot orientation may be considered where factors such as the layout of existing roads and cadastral boundaries, or topography and drainage lines, prevent achievement of the preferred orientation.

14. An alternative lot orientation may be considered where other amenities such as views and outlook over open space are available, and providing appropriate solar access and overshadowing outcomes can be achieved.

Note: *The combination of the lot frontage width and the size of the lot determine the type of dwelling that can be erected on the lot, and the development controls that apply to that dwelling.*

ZERO LOT LINES

15. The location of a zero lot line is to be determined primarily by topography and should be on the low side of the lot to minimise water penetration and termite issues. Other factors to consider include dwelling design, adjoining dwellings, landscape features, street trees, vehicle crossovers and the lot orientation as illustrated at **Figure 39**.

16. On all lots where a zero lot line is permitted, the side of the allotment that may have a zero lot alignment must be shown on the approved subdivision plan.

17. Where a zero lot line is nominated on an allotment on the subdivision plan, the adjoining (burdened) allotment is to include a 900mm easement for single storey zero lot walls and 1200mm for two storey zero lot walls to enable servicing, construction and maintenance of the adjoining dwelling. No overhanging eaves, gutters or services (including rainwater tanks, hot water units, air-conditioning units or the like) of the dwelling on the benefited lot will be permitted within the easement. Any services and projections permitted under Clause 4.4 (6) within the easement to the burdened lot dwelling should not impede the ability for maintenance to be undertaken to the benefitted lot.

18. The S88B instrument for the subject (benefited) lot and the adjoining (burdened) lot shall include a note identifying the potential for a building to have a zero lot line. The S88B instrument supporting the easement is to be worded so that Council is removed from any dispute resolution process between adjoining allotments.

For more information, refer to the **Department of Planning and Environment Delivery Notes: Zero Lot Boundaries and Building Envelope Plans**.

SUBDIVISION OF SHALLOW LOTS

19. Shallow lots (typical depth 14-18m, typical area <200sqm) intended for double storey dwellings should be located only in locations where it can be demonstrated that impacts on adjoining lots, such as overshadowing

and overlooking of private open space, satisfy the requirements of the DCP. For lots over 225sqm where development is not Integrated Assessment, the Building Envelope Plan should demonstrate in principle how DCP requirements such as solar access and privacy to neighbouring private open spaces will be satisfied.

SUBDIVISION FOR ATTACHED OR ABUTTING DWELLINGS

20. Subdivision of lots for Torrens title attached or abutting dwellings must take into account that construction will be in 'sets'. A 'set' is a group of attached or abutting dwellings built together at the same time that are designed and constructed independently from other dwellings.

21. The maximum number of attached or abutted dwellings permissible in a set is six.

22. The composition of sets needs to be determined in the subdivision design to take into account the lot width required for a side setback to the end dwellings in each set. Examples of lot subdivisions for sets are illustrated in **Figure 8**.

Figure 8 Two examples of lot subdivision for 'sets' of attached or abutting terraces.

RESIDENTIAL FLAT BUILDINGS

23. A person may not amalgamate two or more adjoining allotments after principle subdivision to create a larger lot that achieves the minimum lot size required for residential flat buildings.

3.1.3 Battle-axe Lots

OBJECTIVES

a. To limit battle-axe lots to certain circumstances.

b. To ensure that where a battle-axe lot without public road or open space frontage is provided, their amenity and the amenity of neighbouring lots is not compromised by their location.

c. To enable battle-axe shaped lots or shared driveway access to lots fronting access denied roads.

CONTROLS

1. Principles for the location of battle-axe lots are illustrated at **Figure 9**.

2. Subdivision layout should minimise the use of battle-axe lots without public frontage to resolve residual land issues.

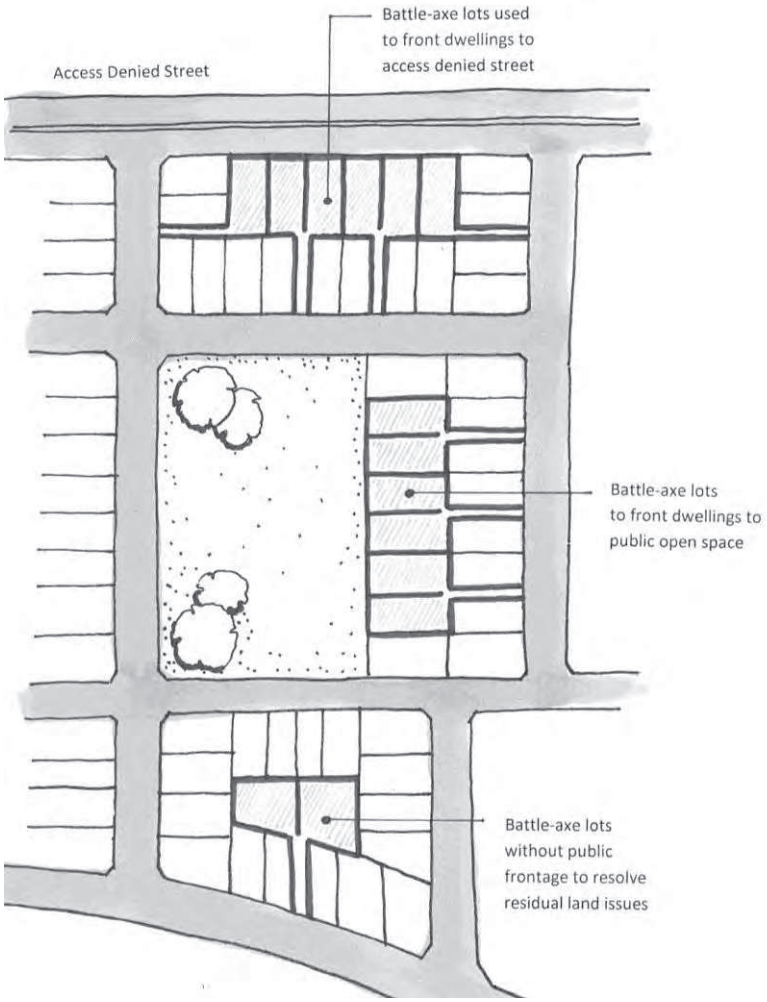


Figure 9 Examples of locations of battle-axe lots

3. In density bands 10, 15 and 20dw/Ha, the minimum site area for battle-axe lots without any street or park frontage is 500m² (excluding the shared driveway) and only detached dwelling houses will be permitted.

4. The driveway or shared driveway will include adjacent planting and trees, as indicated in **Figure 10**.

5. Driveway design, including dimensions and corner splays, is to be in accordance with Council's Engineering Specifications.

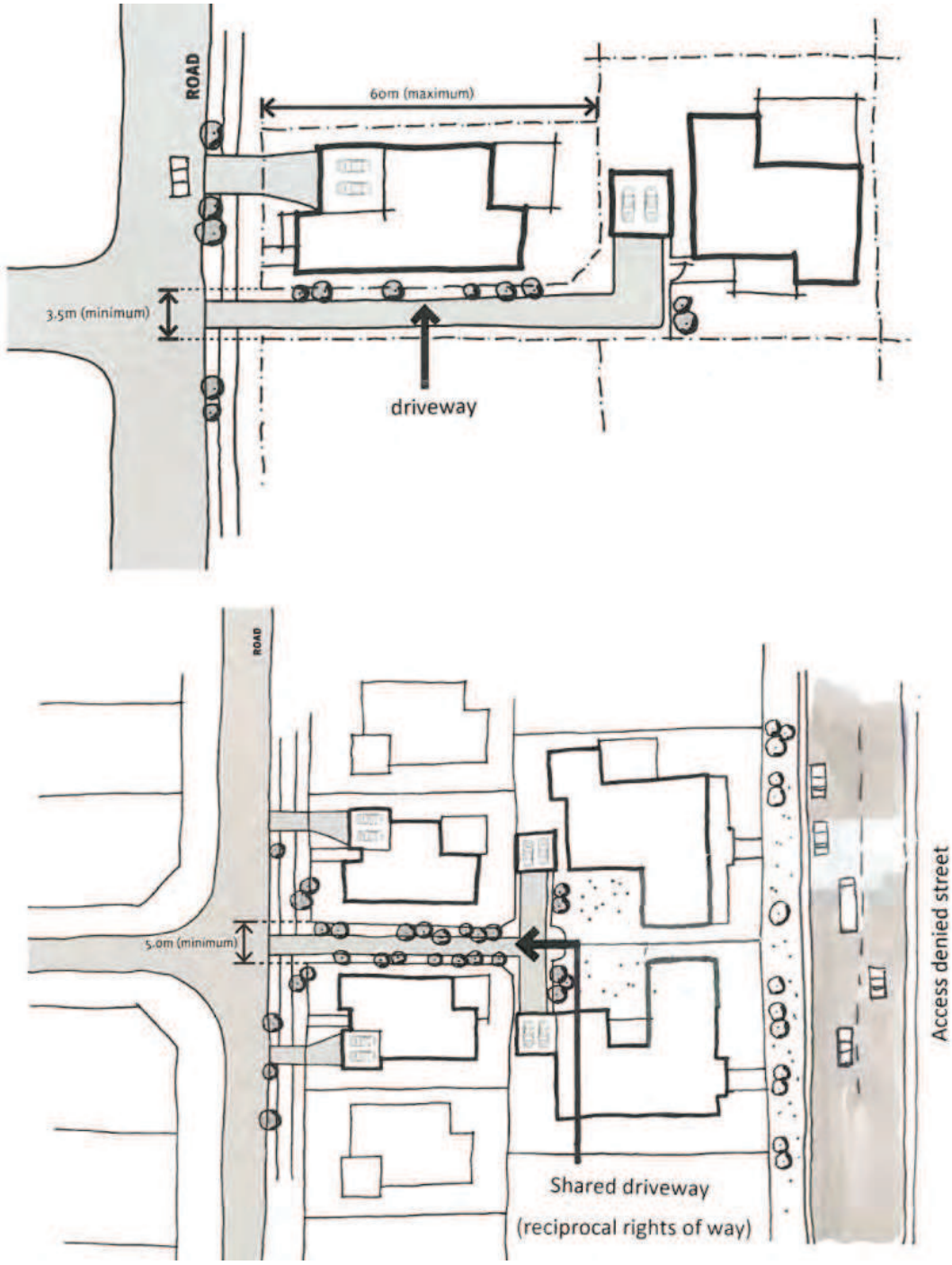


Figure 10 Examples of driveways and shared driveways for battle-axe lots

3.1.4 Corner Lots

OBJECTIVES

a. To ensure corner lots are of sufficient dimensions and size to enable residential controls to be met.

CONTROLS

1. Corner lots, including splays and driveway location, are to be designed in accordance with AS 2890 and Council's Engineering Specifications.
2. Corner lots are to be designed to allow dwellings to positively address both street frontages as indicated in **Figure 11**.
3. Garages on corner lots are encouraged to be accessed from the secondary street or a rear lane.
4. Plans of subdivision are to show the location of proposed or existing substations, kiosks, sewer man holes and/or vents affecting corner lots.

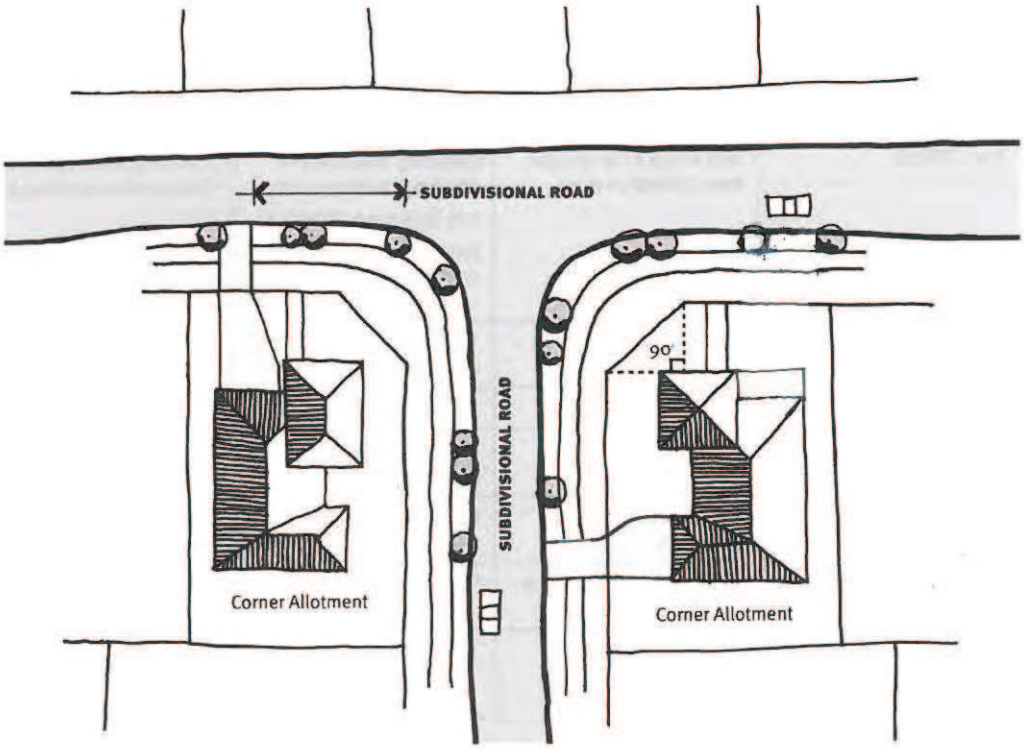


Figure 11 Corner lots

3.2 Subdivision Approval Process

Objectives

a. To facilitate a diversity of housing sizes and products.

b. To ensure that subdivision and development on smaller lots is undertaken in a coordinated manner.

c. To ensure that all residential lots achieve an appropriate level of amenity.

Controls

1. The land subdivision approval process is to be consistent with the requirements of **Table 8**.

2. Subdivision of land creating residential lots less than 225m^2 or lots less than 9m wide shall include a dwelling design as part of the subdivision development application. The dwelling design is to be included on the S88B instrument attached to the lot.

Table 8 Subdivision Approval Process

Approval pathway	DA for Subdivision *Pathway A1*	DA for Subdivision with Building Envelope Plan *Pathway A2*	DA for Integrated Housing (Integrated Assessment with subdivision prior to construction of dwellings) *Pathway B1*	DA for Integrated Housing *Pathway B2*
Application	Lots equal to greater than 300m^2	Lots less than 300m^2 and equal to or greater than 225m^2 in area, and with a width equal to or greater than 9m*.	Dwelling construction involving **detached** or **abutting** dwellings on: lots less than 225m^2, or lots with a width less than 9m*.	Dwelling construction involving common walls (ie **attached** dwellings) on: lots less than 225m^2, or lots with a width less than 9m*.
Dwelling plans required	As part of future DA or CDC	As part of future DA or CDC	Yes as part of subdivision application	Yes as part of subdivision application
Dwelling Design 88B restriction required	No	Yes	Yes, only approved dwelling can be built	Yes, only approved dwelling can be built
Timing of subdivision (release of linen plan)	Pre-construction of dwellings	Pre-construction of dwellings	Prior to the issue of the CC	Post-construction of dwellings
Housing Code applicable	Yes	Yes (for 200m^2 lots and above)	No	No

*Minimum lot width refer to **Figure 7.**

3. Subdivision applications that create lots smaller than 300m^2 and larger than or equal to 225m^2 must be accompanied by a Building Envelope Plan (BEP). An example of a BEP is included at **Figure 12**.

The BEP should be at a legible scale (suggested 1:500) and include the following elements:

- Lot numbers, north point, scale, drawing title and site labels such as street names
- Maximum permissible building envelope (setbacks, storeys, articulation zones)
- Preferred principal private open space
- Garage size (single or double) and location
- Zero lot line boundaries

A BEP should be fit for purpose and include only those elements that are necessary for that particular lot. Other elements that may be relevant to show include:

- Special fencing requirements
- Easements and sewer lines
- Retaining walls
- Preferred entry/frontage (e.g. corner lots)
- Access denied frontages
- Electricity kiosks or substations
- Indicative yield on residue or super lots

For further information, refer to the **Department of Planning and Environment Delivery Note: Building Envelope Plans**

4. Applications for subdivision using approval pathways A2, B1 and B2 require a Public Domain Plan (PDP) to be submitted as part of the application. The purpose of the PDP is to demonstrate how the public domain will be developed as a result of future development on the proposed lots. An example of a PDP is included at **Figure 13**.

The PDP should be a legible scale (suggested 1:500) and include the following elements:

- Lot numbers, north point, scale, drawing title and site labels such as street names.
- Indicative building footprints on the residential lots.
- Location of driveways and driveway crossovers.
- Verge design (footpath, landscape).
- Surrounding streets and lanes (kerb line, material surface where special treatments proposed).
- In laneways, indicative provision for bin collection.
- Street tree locations. (Sizes and species list can be provided on a separate plan).
- Demonstrated provision and arrangements for on-street car parking particularly in relation to street tree planting, driveways and intersections.*
- Extent of kerb line where parking is not permitted.*

* In principle, not as public domain works

Other elements that may be relevant to show include:

- Location and type of any proposed street furniture
- Location of retaining walls in the public domain
- Electricity substations
- Indicative hydrant locations at lane thresholds

Information on landscape treatment within the private lot is not required.

For further information, refer to the **Department of Planning and Environment Delivery Note: Public Domain Plans**

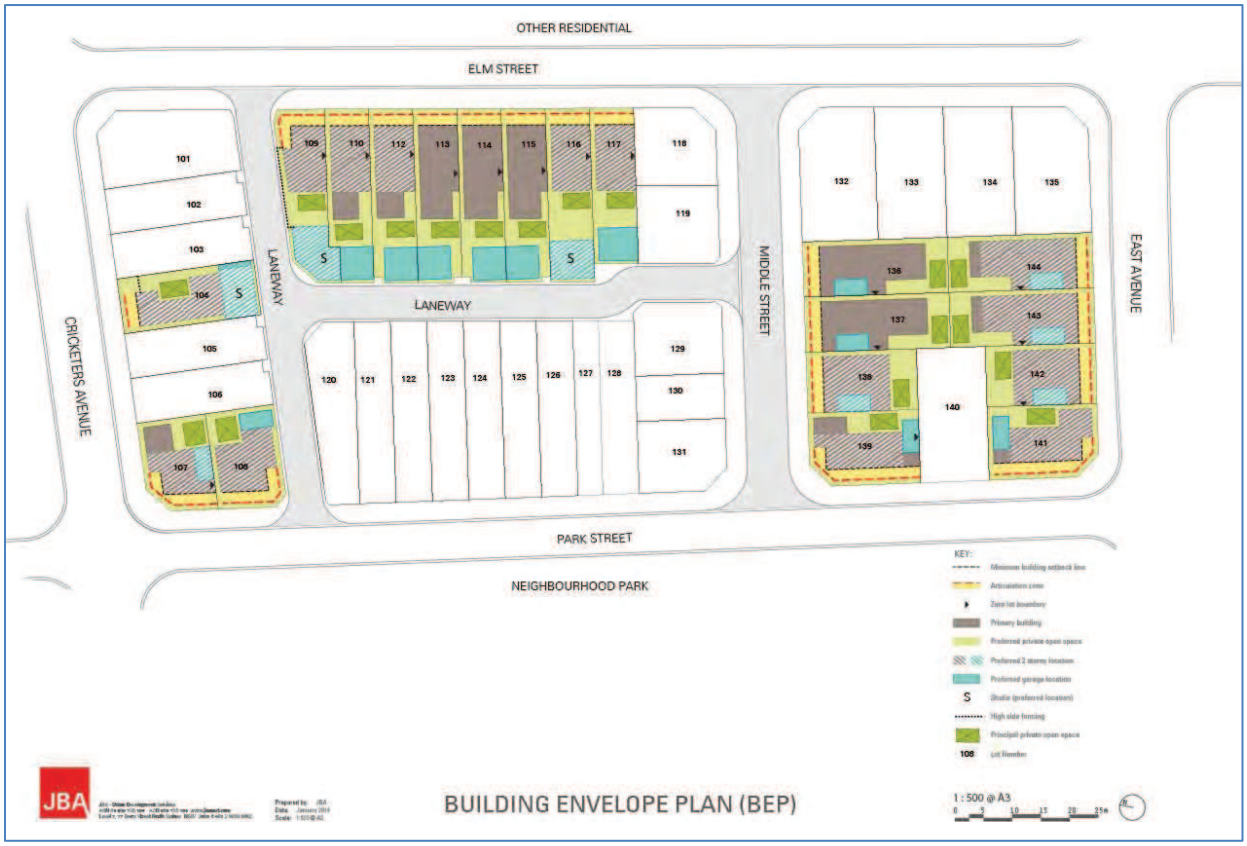


Figure 12 Sample of a Building Envelope Plan (BEP)

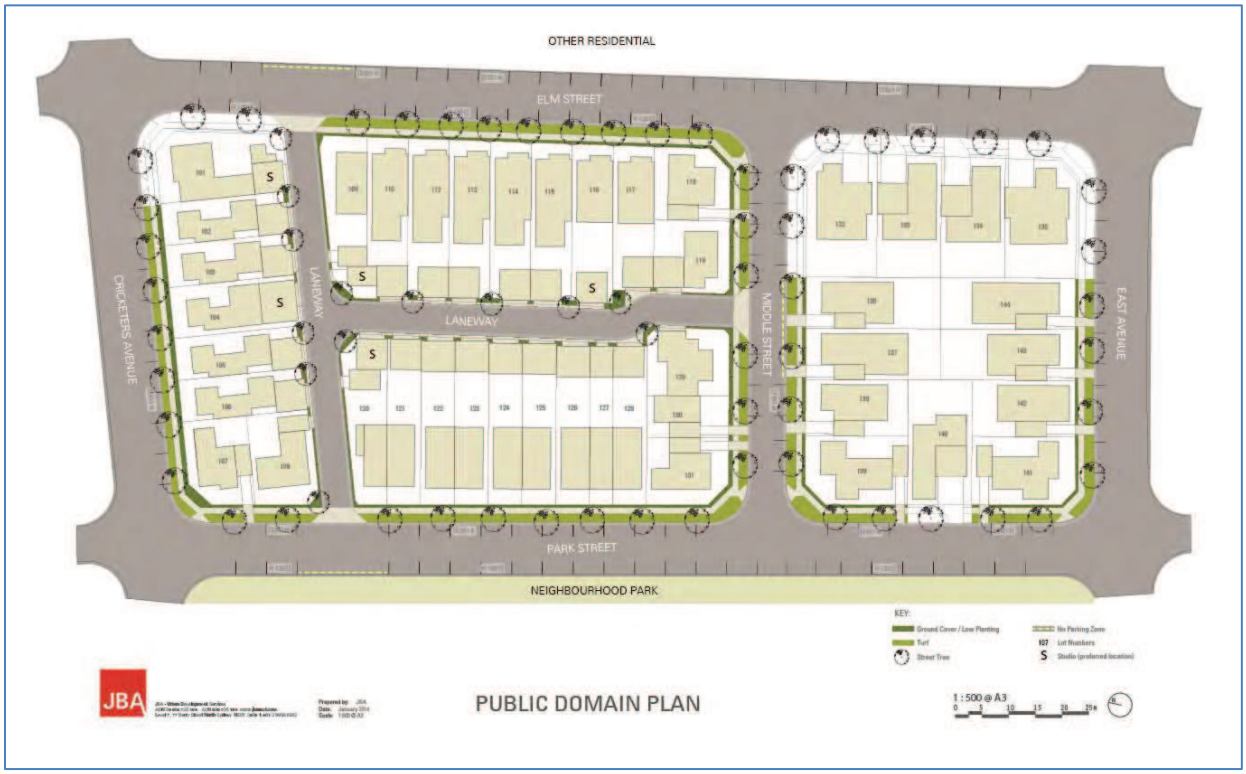


Figure 13 Sample of a Public Domain Plan (PDP)

3.3 Movement Network

3.3.1 Street Network, Design and Hierarchy

OBJECTIVES

a. To provide a hierarchy of interconnected streets that gives safe, convenient and clear access within and beyond the Precincts.

b. To ensure that the hierarchy of streets is clearly discernible through variations in carriageway width, on-street parking, street tree planting, and pedestrian amenities.

c. To provide an acceptable level of access, safety and convenience for all street and road users within the Box Hill Growth Centre Precincts, whilst ensuring emergency access and egress, acceptable levels of amenity, and minimising the negative impact of traffic.

d. To provide a legible and permeable movement network for pedestrians and cyclists along streets and paths to points of attraction within and adjoining any development.

e. To facilitate the orientation of lots and dwellings to front public and private open spaces.

f. To enhance the outlook, setting and amenity of subdivisions adjoining open space and other public areas.

g. To promote passive surveillance of publicly accessible areas thereby increasing safety.

h. To ensure sufficient carriageway and verge widths are provided to allow streets to perform their designated functions within the street network and to accommodate public utilities and drainage systems.

i. To encourage the use of streets by pedestrians and cyclists, and to allow cars, buses and other users to proceed safely without unacceptable inconvenience or delay.

j. To provide blocks that can accommodate a range of densities and lot sizes with appropriate solar orientation.

ROADS ADJACENT TO OPEN SPACE, TRUNK DRAINAGE AND OTHER PUBLIC AREAS

k. To facilitate the orientation of lots and dwellings to front the open space and drainage areas.

l. To enhance the outlook, setting and amenity of subdivisions adjoining open space, drainage areas and other public areas.

m. To increase pedestrian accessibility to those public areas.

n. To promote passive surveillance of publicly accessible areas thereby increasing safety.

CONTROLS

1. The street network and road hierarchy is to be provided generally in accordance with **Figure 14** and **Table 9**

2. Roads are to be at the cost of the developer unless the Section 94 plan makes provision for the road construction.

3. No vehicular access is permitted from individual lots to Edwards Road in the location identified in **Figure 14**.

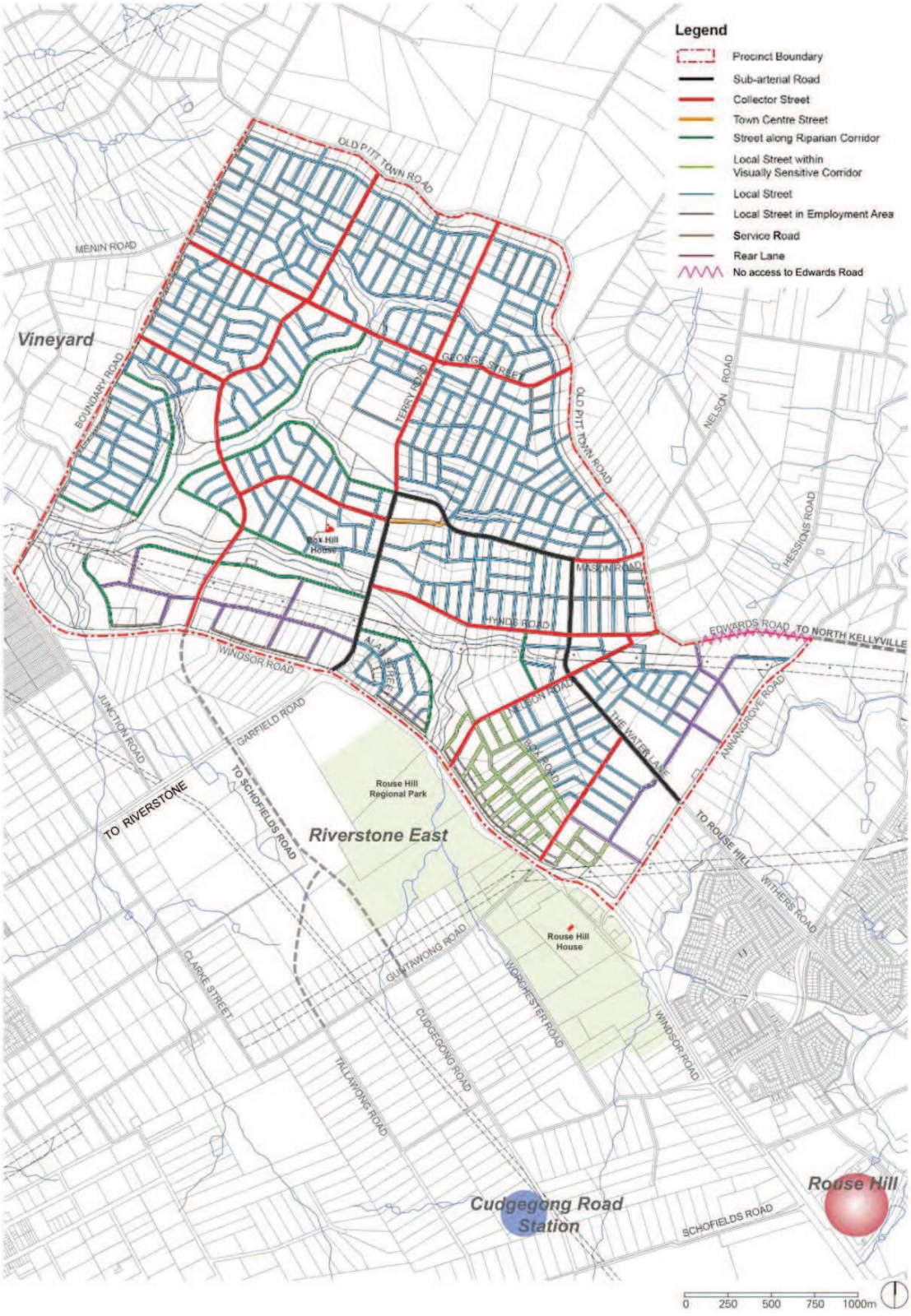


Figure 14 Road network

Table 9 Street types

Street Type	Description
Sub-Arterial	Sub-arterial roads mediate between regional traffic routes and local traffic routes, and link arterial routes to town centres. Vehicular access to property is not permitted along these roads, so rear access should be provided for properties fronting them. Shared paths are provided for pedestrian and cycle use and on-street parking on both sides of the street is generally provided. There are two cross sections for Terry Road, one is located between Windsor Road and Killarney Chain of Ponds and the other is located between Killarney Chain of Ponds and Mason Road. Refer to **Figure 14**, **Figure 15**, **Figure 16** and **Figure 17**.
Collector Road	Collects traffic from local streets and carries a higher volume of traffic, linking neighbourhoods and centres and accommodating public transport routes. Amenity and safety is to be maintained by restricting vehicle speeds through traffic-calming measures and intersection design. Intermittent parking with landscaping is provided on both sides of the street. The section of Mt Carmel Road between Windsor Road and the Killarney Chain of Ponds has an additional median and carriageway to accommodate traffic flows. Refer to **Figure 14**, **Figure 18** and **Figure 19**.
Town Centre Main Street	The Box Hill Town Centre Main Street is specially designed to create a pleasant and comfortable pedestrian environment. Amenity and safety is to be maintained through wide shaded footpaths, regular traffic calmed street and crossing points. Public transport routes can be accommodated along the street. On-street parking is to be provided on both sides of the street to contribute to street activity while providing a buffer between pedestrians and cars. Refer to **Figure 14** and **Figure 20**.
Local Streets	Provide local residential access. These streets are designed to slow residential traffic in order to give priority to pedestrians. Amenity and safety is to be maintained by introducing various traffic calming measures. On-street parking is provided on both sides of the street. Refer **Figure 14** and **Figure 21**.
Local Streets within visual corridor	As above with a median to accommodate additional trees. Refer **Figure 14** and **Figure 22**.
Local Streets within the employment area	Local streets with additional road reserve widths to allow for movement of trucks, integrated parking and trees for screening and amenity. Powerlines, gas lines, communication and other utilities will be located underground to allow for tree canopy development. Verge crossings will be limited to increase tree planting opportunities along roads. Refer **Figure 14** and **Figure 23**.
Local Street, parallel road to Windsor Road	Local Street located directly behind and parallel to Windsor Road. It is characterised by 21 m landscape planting to create an interface between Windsor Road and residential areas. This service street will not have any direct connection to Windsor Road. Refer **Figure 14** and **Figure 24**.
Street along Riparian Corridors/Parks	Perimeter streets are located along riparian corridors and parks. When adjoining riparian corridors the streets form part of the Asset Protection Zone and allow the provision of shared cycleways that link the open space network. Amenity, safety and emergency access and egress for fire fighting is to be maintained by designing the road in accordance with acceptable solutions as stipulated under *Planning for Bushfire Protection 2006*. Traffic calming measures are to be introduced and parking is to be provided on the dwelling side of the street to allow access for emergency vehicles as per **Figure 14** and **Figure 25**.
Rear Lane	Provide access to developments fronting sub-arterial and collector roads and also to medium density developments. Rear lanes will provide access for servicing. Laneways must have splayed entrances of 3 metres to allow for garbage trucks. Refer to **Figure 14** and **Section 3.3.2**.

STREET DESIGN

Streets are to be provided in accordance with the minimum cross-sections in **Figure 15** to **Figure 25** and relevant cross-sections in **Section 3.3.2**.

4. Internal intersections are to be T-junctions, roundabouts or controlled by other appropriate traffic management treatments to slow and control traffic.
5. Direct vehicular access to sub-arterial roads will not be permitted where alternate access is available. Access will not be restricted to any property with existing access from arterial roads until such time as alternate access is available.
6. Roundabouts, street cross falls, longitudinal gradient, vehicle-turning movements and sight distances are to comply with Council's Design Guidelines Subdivisions/ Developments.
7. Kerb and guttering is to be provided in accordance with Council's Design Guidelines Subdivisions/ Developments.
8. An Acoustic Report prepared by a suitably qualified consultant is to be submitted with all development applications for land adjacent to existing or proposed arterial roads or bus routes and should comply with the Environmental Protection Authority publication NSW Road Noise Policy (July 2011).
9. For roads that cross natural drainage lines, the construction of bridges with raised approaches is preferred to culverts in order to maintain stream corridor function. Any works within, or alterations to, natural drainage systems will require consideration of the *Water Management Act 2000* as well as consideration of the *Fisheries Management Act 1944* for dredging or reclamation works.
10. Roads constructed across waterways are to be designed and constructed with reference to the Department of Primary Industries preferred waterway crossing design documented in "Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterways Crossings" (NSW Fisheries 2003).
11. Where culverts are required to be constructed across natural drainage lines, light wells are to be provided in the centre of the road.
12. Footpath provision should follow the requirements of **Table 10** below.

Table 10 Minimum Footpath Requirements

Street type	Traffic volumes (vehicles per day)	Footpath required
Local Street	Up to 3000 vpd	Yes 1.2m path on one side only
Local Street	Over 3,000 vpd	Yes 1.2m path on both sides
Collector Road	Over 3,000 vpd	Yes 1.5m path on both sides
Town Centre Main Street	N/A	Both sides as per Figure 10

TEMPORARY ROAD CONSTRUCTION

13. Temporary public roads are permitted subject to the following criteria being satisfied:

    - The temporary public road is not to be constructed upon land zoned for Local or Neighbourhood Centre, Public Recreation, Infrastructure or Environmental Management;
    - A minimum trafficable width of 6.0m is provided to cater for two-way traffic with 3.5m wide verges on both sides;
    - The allotment layout associated with temporary public road construction does not result in the creation of undevelopable residue lots;
    - The temporary public road does not compromise the safety of all road users including service and passenger vehicles, pedestrians and cyclists;
    - The temporary public road is to be constructed to a standard in accordance with Council's Design Guidelines Subdivisions/ Developments; and
    - The final road configuration is consistent with the pre-planned road network and street type as identified in **Figure 14**.

14. The following information must be submitted in support of a DA proposing temporary road construction:

    - An engineering design for the partial and full width road works must be submitted including details of any necessary drainage and service utility provision requirements;
    - A traffic safety report prepared by an appropriately experienced professional must be submitted demonstrating how the partial road proposal provides for the safe usage of all road users including service and passenger vehicles, pedestrians and cyclists; and
    - Written evidence demonstrating that an attempt to cooperate with adjacent landowners has been undertaken must be submitted. Such evidence could be in the form of letters and responses (if applicable).

15. Temporary public roads are permitted subject to the following criteria being satisfied:

    - The temporary public road is to be constructed upon a minimum of two (2) residential development lots, except as provided for below;
    - The temporary public road is not to be constructed upon land zoned for Open Space, Trunk Drainage, Transport Corridor or Educational Establishment, except where the land zoned Open Space is in private ownership.

16. Where a temporary public road is proposed to be constructed on private land zoned Open Space, the applicant will be required to enter into an agreement with Council that the temporary public road be removed and the land reinstated when alternate road access becomes available;

    - A minimum trafficable width of 6.0 m is provided to cater for two-way traffic with 3.5 m wide verges on both sides;
    - The allotment layout associated with temporary public road construction does not result in the creation of undevelopable residue allotments;

- The temporary public road does not compromise the safety of all road users including service and passenger vehicles, pedestrians and cyclists;
- The temporary public road is to be constructed to a standard in accordance with BHSC Design Guidelines for Subdivisions/Developments (Section 5.07); and
- The final road configuration is consistent with the pre-planned road layout and road type as shown on the accompanying development control plan map.

PARTIAL WIDTH ROAD CONSTRUCTION

17. Partial width road construction is permitted subject to the following criteria being satisfied:
    - The site(s) located opposite the proposed partial road are zoned for residential use and are not in public ownership or identified for acquisition, that is, the site(s) opposite are not zoned for Open Space, Trunk Drainage, Transport Corridor or Educational Establishment;
    - A minimum trafficable road width of 6.0 m is provided to cater for two-way traffic, and a 3.5 m verge on one side as a minimum;
    - The development potential of all adjoining allotments is maintained. The proposed development shall not, in the opinion of the consent authority, render any allotment adjoining or opposite the site of the proposed development incapable of development for the purpose of residential development because the allotment would not meet minimum DCP or LEP development standards;
    - The safety of all road users including service and passenger vehicles, pedestrians and cyclists is not compromised by the proposed partial road construction; and
    - The final road configuration is consistent with the pre-planned road layout and road type as shown on the accompanying development control plan map.

Note: *In some circumstances where proposed partial width roads straddle existing boundaries, the alignment of the road may need to be slightly offset to ensure the partial road is wholly contained on the applicant's land.*

SUBMISSION REQUIREMENTS

PARTIAL WIDTH ROADS

18. An engineering design for the partial and full width road works must be submitted including details of any necessary drainage and service utility provision requirements.
19. A traffic safety report prepared by an appropriately experienced professional must be submitted demonstrating how the partial road proposal provides for the safe usage of all road users including service and passenger vehicles, pedestrians and cyclists.
20. Partial width construction of existing and proposed roads is permitted subject to the following criteria being satisfied:
    - The site(s) located opposite the proposed partial road are zoned for residential or business use and are not in public ownership or identified for acquisition, that is, the site(s) opposite are not zoned for Local Centre or Neighbourhood Centre, Public Recreation or Infrastructure;
    - A minimum trafficable road width of 6.0m is provided to cater for two-way traffic;

- The development potential of all adjoining allotments is maintained. The proposed development shall not, in the opinion of the consent authority, render any allotment adjoining or opposite the site of the proposed development incapable of development for the purpose of residential development because the allotment would not meet minimum DCP or SEPP development standards;
- The safety of all road users including service and passenger vehicles, pedestrians and cyclists is not compromised by the proposed partial road construction; and
- The final road configuration is consistent with the pre-planned road layout and road type as shown in the Box Hill and Box Hill Industrial Indicative Layout Plan and Part 3.1 of this DCP. Note: In some circumstances where proposed partial width roads straddle existing boundaries, the alignment of the road may need to be slightly offset to ensure the partial road is wholly contained on the applicant's land.

TEMPORARY ROADS

21. An engineering design for the proposed road works, as well as plans demonstrating the future road configuration after closure of the temporary road must be submitted including details of any necessary drainage and service utility provision requirements.
22. A traffic safety report prepared by an appropriately experienced professional must be submitted demonstrating how the temporary road proposal provides for the safe usage of all road users including service and passenger vehicles, pedestrians and cyclists.

Written evidence demonstrating that an attempt to cooperate with adjacent landowners has been undertaken must be submitted. Such evidence could be in the form of letters and responses (if applicable).

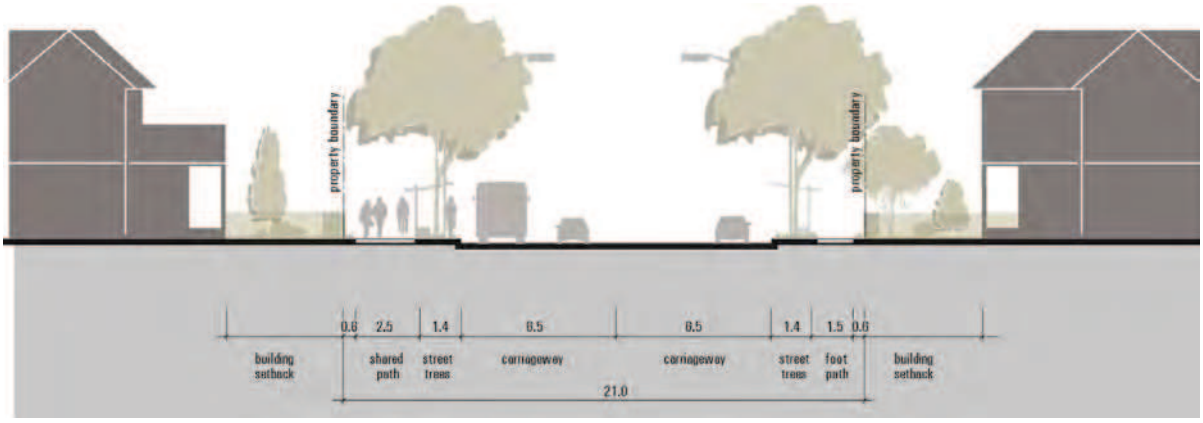


Figure 15 Typical Sub Arterial Road

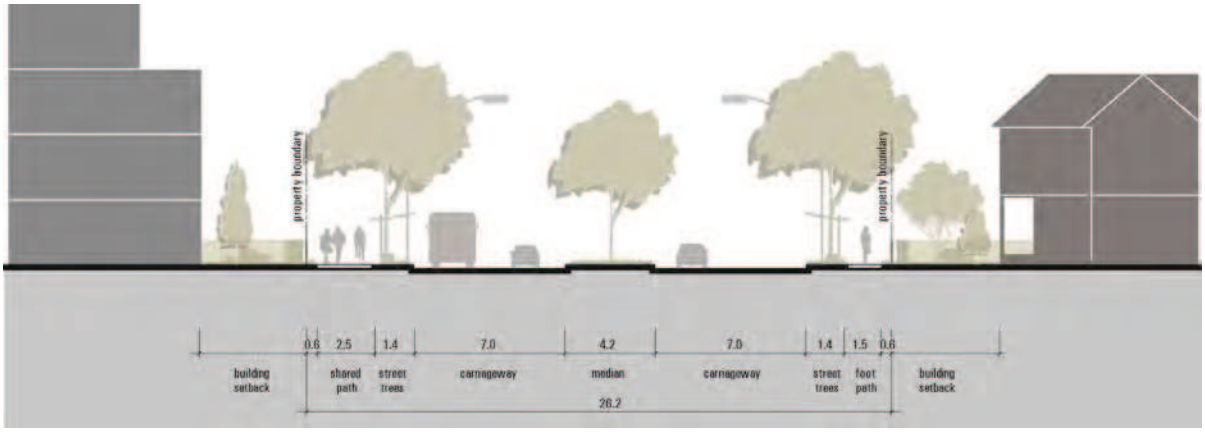


Figure 16 Sub-arterial Road (Terry Road between Windsor Road and Killarney Chain of Ponds)

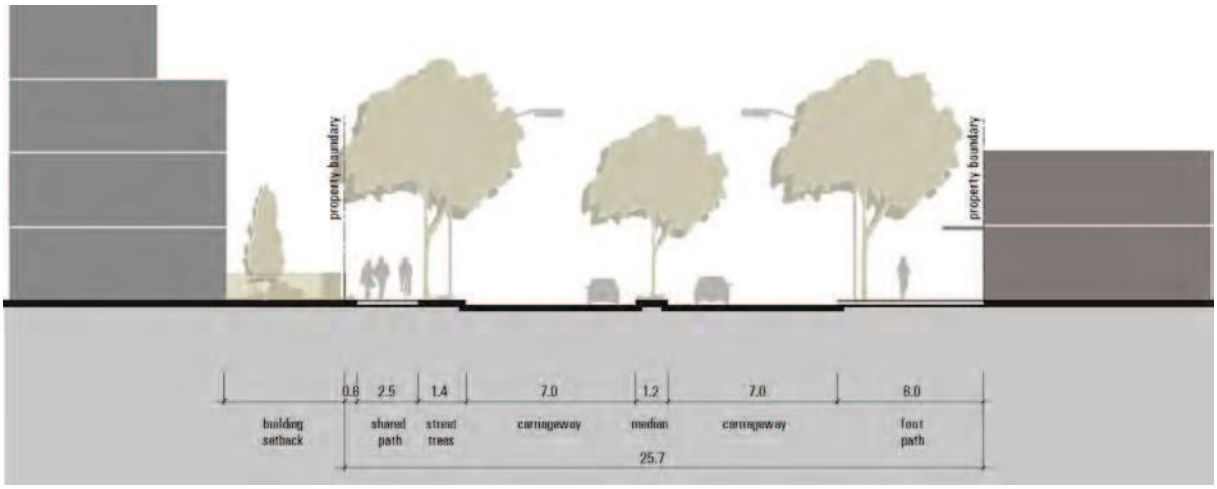


Figure 17 Sub-arterial Road (Terry Road between Killarney Chain of Ponds and Mason Road)

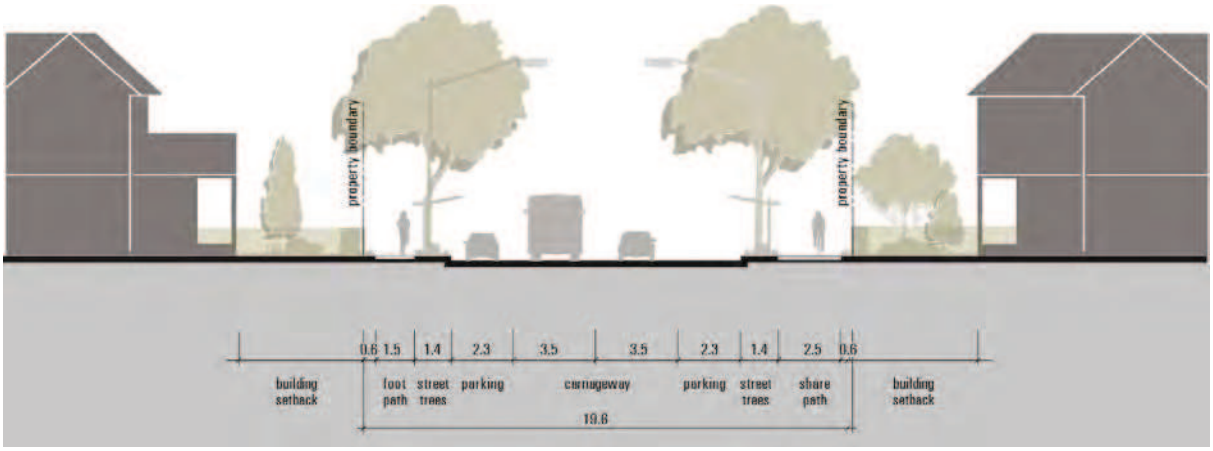


Figure 18 Typical Collector Road

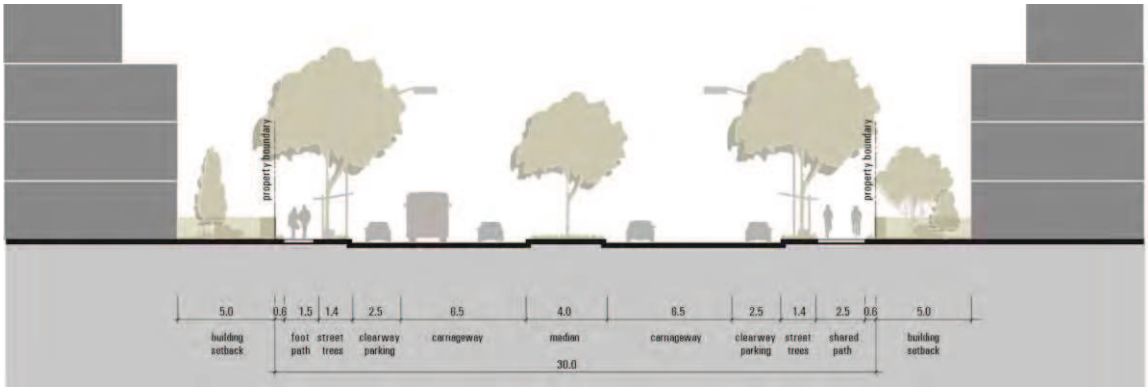


Figure 19 Mt Carmel Road (between Windsor Road and the Killarney Chain of Ponds)

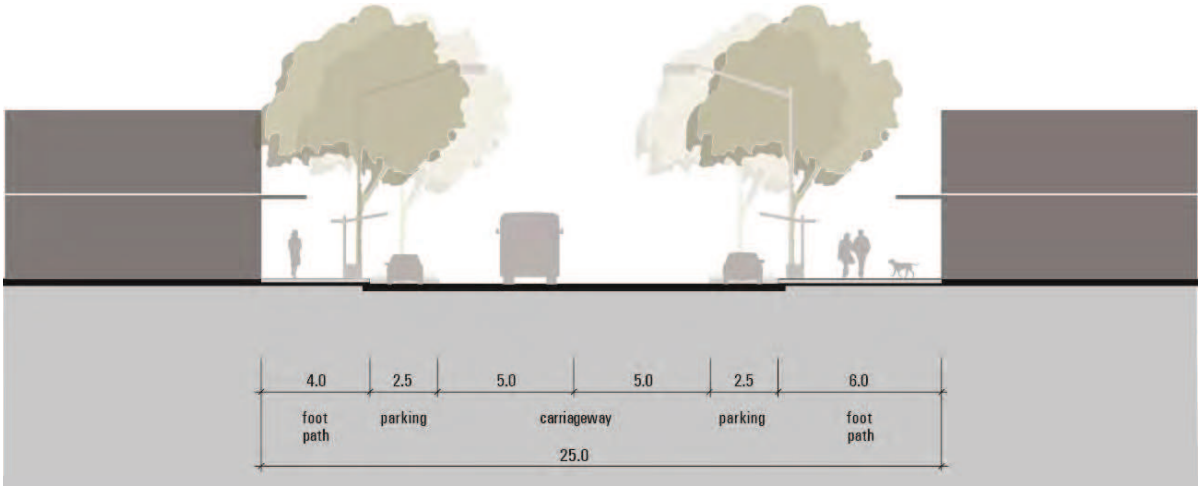


Figure 20 Town Centre Main Street

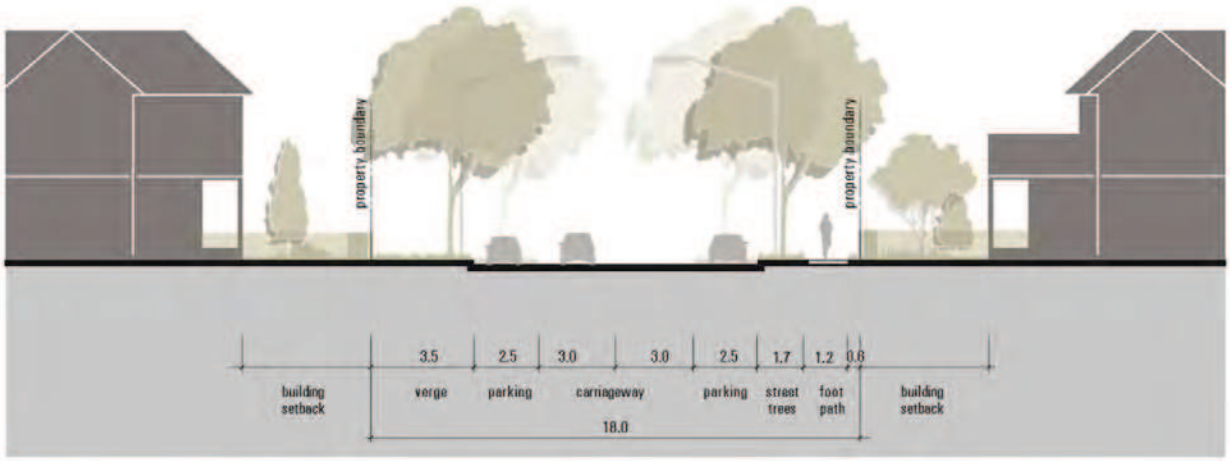


Figure 21 Local Street

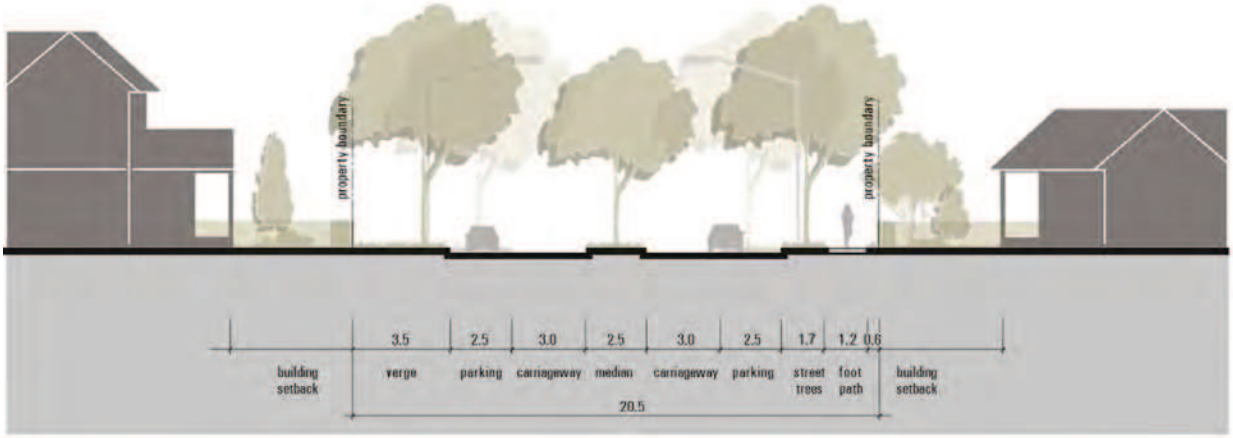


Figure 22 Local Street within visual corridor

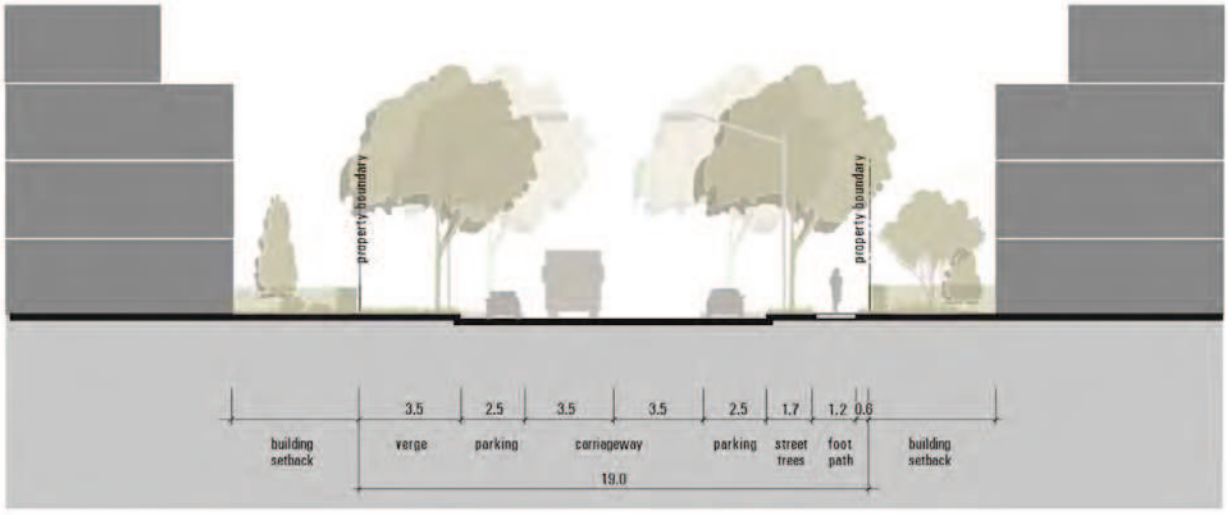


Figure 23 Local Street within the employment area

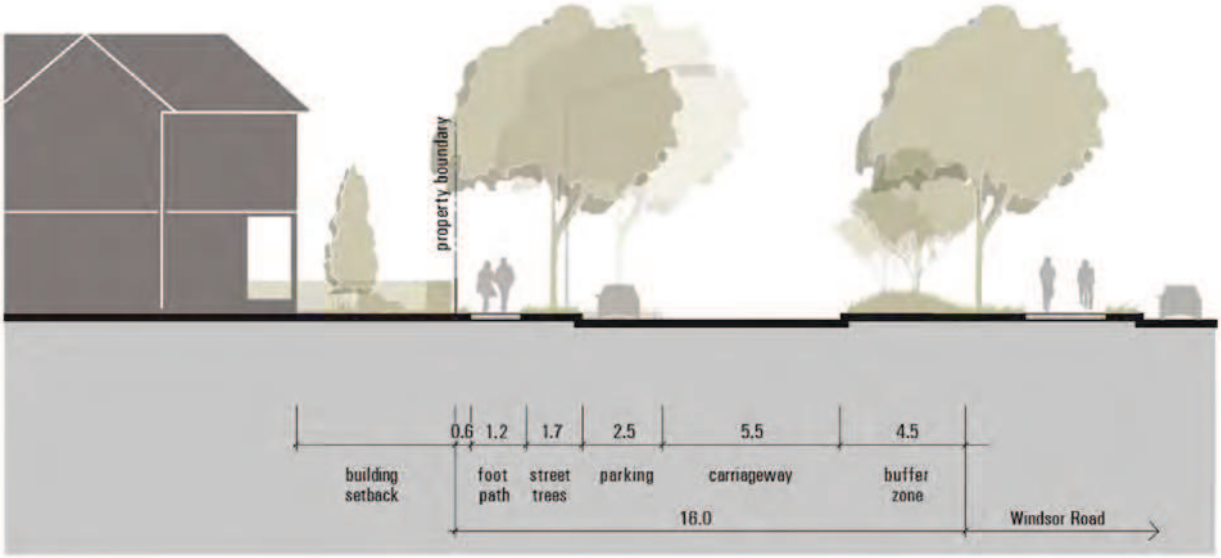


Figure 24 Parallel Road to Windsor Road

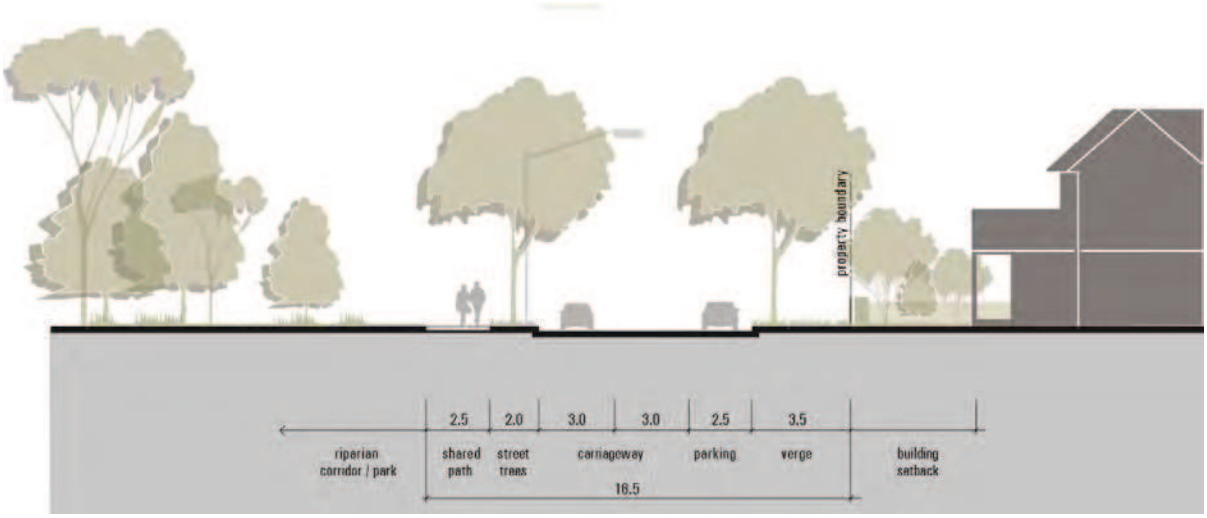


Figure 25 Perimeter Road along Riparian Corridors/Parks

3.3.2 Laneways

Laneways are public roads that are shareways, utilitarian throughways of the street network that provide rear vehicular access to compact or restricted access lots. The primary purpose of rear laneways is to create attractive front residential streets by removing garages and driveway cuts from the street frontages, improving the presentation of houses and maximising on street parking spaces and street trees. Laneways are a 'sacrificial' network device: while they should be neat and tidy, they should not be confused with streets in width, character or function.

A laneway is a shareway, designed to be shared by all users whether they are pedestrians, cyclists or drivers. Equal priority between all users reinforces the distinctive, slow speed environment for drivers.

In their design and subdivision of lots, laneways should be provided with casual surveillance from some second floor rooms and balconies over garages. Various building forms can provide this casual surveillance along the lane such as studio dwellings, secondary dwellings and rooms of the principal dwelling or lofts over garages. Separate titling of studio dwellings may affect servicing requirements. Generally there will be no underground services in the laneway (except for streetlights) as the studios will be strata titled so power, water, gas, sewer and communications will be located in the front street and reticulated from the front of the allotment through the lot to the rear studio.

Objectives

a. To provide vehicular access to the rear or side of lots where front access is restricted or not possible, particularly narrow lots where front garaging is not permitted.

b. To reduce garage dominance in residential streets.

c. To maximise on-street parking spaces and landscaping in residential streets.

d. To provide opportunities for affordable housing options.

e. To reduce vehicular conflict through reduced driveway cross overs and focusing of traffic to known points.

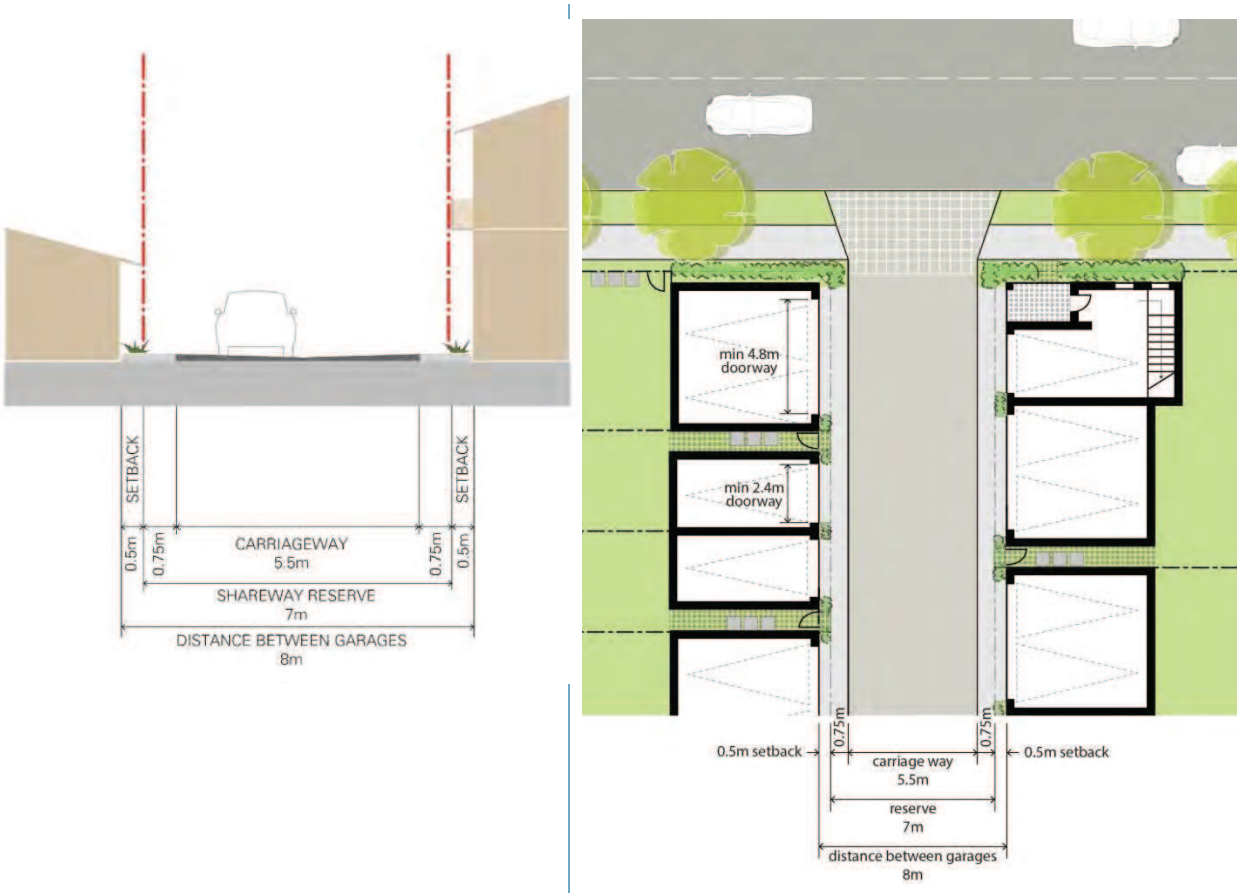
f. To enable garbage collection.

g. To facilitate the use of attached and narrow lot housing to achieve overall higher neighbourhood densities.

h. To create a slow speed shared zone requiring co-operative driving practices for the very low volume and frequency of vehicle movements that is distinctly different in character and materials to residential streets.

CONTROLS

1. The design and construction of laneways is to be consistent with Figure 26 and Growth Centres Practice Note: Laneways.



Typical Laneway section **Typical Laneway (plan)**

Figure 26 Laneway principles

2. The laneway is a public “shareway” as the paved surface is for cyclists, pedestrians, garbage collection, mail deliveries, cars etc, with a 10 km speed limit and driveway-style crossovers to the street rather than a road junction.

3. The minimum garage doorway widths for manoeuvrability in this laneway section are 2.4m (single) and 4.8m (double).

4. The configuration of the laneway, associated subdivision and likely arrangement of garages arising from that subdivision should create ordered, safe and tidy laneways by designing out ambiguous spaces and unintended uses such as casual parking, the storage of trailers, bin stacking etc.

5. The layout of laneways should take into account subdivision efficiency, maximising favourable lot orientations, intersection locations with streets, topography, opportunities for affordable housing, legibility and passive surveillance.

   - Generally, straight layouts across the block are preferred for safety and legibility, but the detailed alignment can employ subtle bends or secondary or studio dwellings over garages to add visual interest and avoid long distance monotonous views. "C" shaped layouts with the laneway length parallel to the front street can limit the views of laneways from residential streets to short sections. However, if the laneway is used for garbage collection, any bends or intersections are to be sized for garbage truck movements. Suggested layouts are in **Figure 27**.

   - Lanes on sloping land with significant longitudinal and/or cross falls require detailed design consideration to demonstrate functionality.

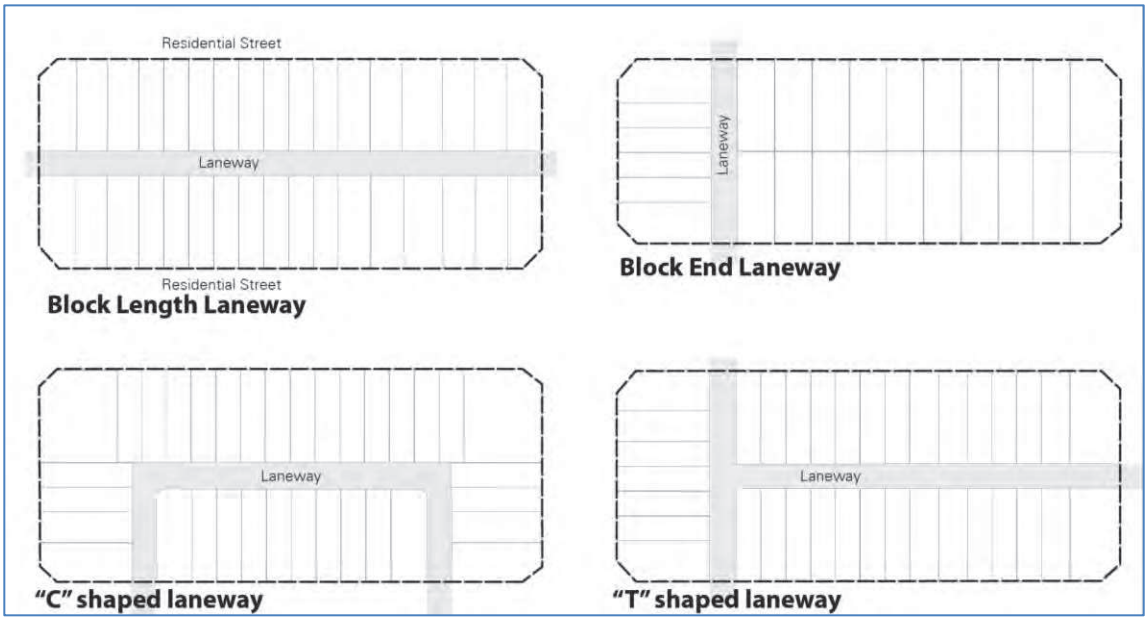


Figure 27 Sample lane layouts

6. Laneways that create a 'fronts to backs' layout (front addressed principle dwellings on one side and rear accessed garages on the other side) are to be avoided.

7. All lots adjoining a laneway should utilise the laneway for vehicular/garage access.

8. Passive surveillance along the laneway from the upper storey rooms or balconies of secondary dwellings, studio dwellings, principal dwelling or lofts over rear garages is encouraged. Ground floor habitable rooms on laneways are to be avoided unless they are located on external corners (laneway with a street) and face the

street to take advantage of the residential street for an address, shown in **Figure 28** as lane entry/street corner lots. **Figure 28** indicates mid-lane lots and internal corner locations (lane with another lane) where ground floor habitable rooms in secondary dwellings or strata studios (marked 'S') are to be avoided.

9. A continuous run of secondary dwellings or strata studios along the lane is to be avoided, as it changes the character, purpose and function of the lane. No more than 25% of the lots adjoining lanes (excluding street corner lots with studio at the lane entry) are to have secondary dwellings or strata studios. See **Figure 28**.

10. All lot boundaries adjoining the lane are to be defined by fencing or built form. The garage setback to the lane is minimal (0.5m) to allow overhanging eaves or balconies to remain in the lot without creating spaces where people park illegally in front of garages and/or on the laneway. Deeper balconies requiring larger garage setbacks (up to 2m) may be permitted occasionally along the laneway provided the application demonstrates how the setback space will not create an opportunity for illegal parking, such as the presence of a supporting post or bollard.

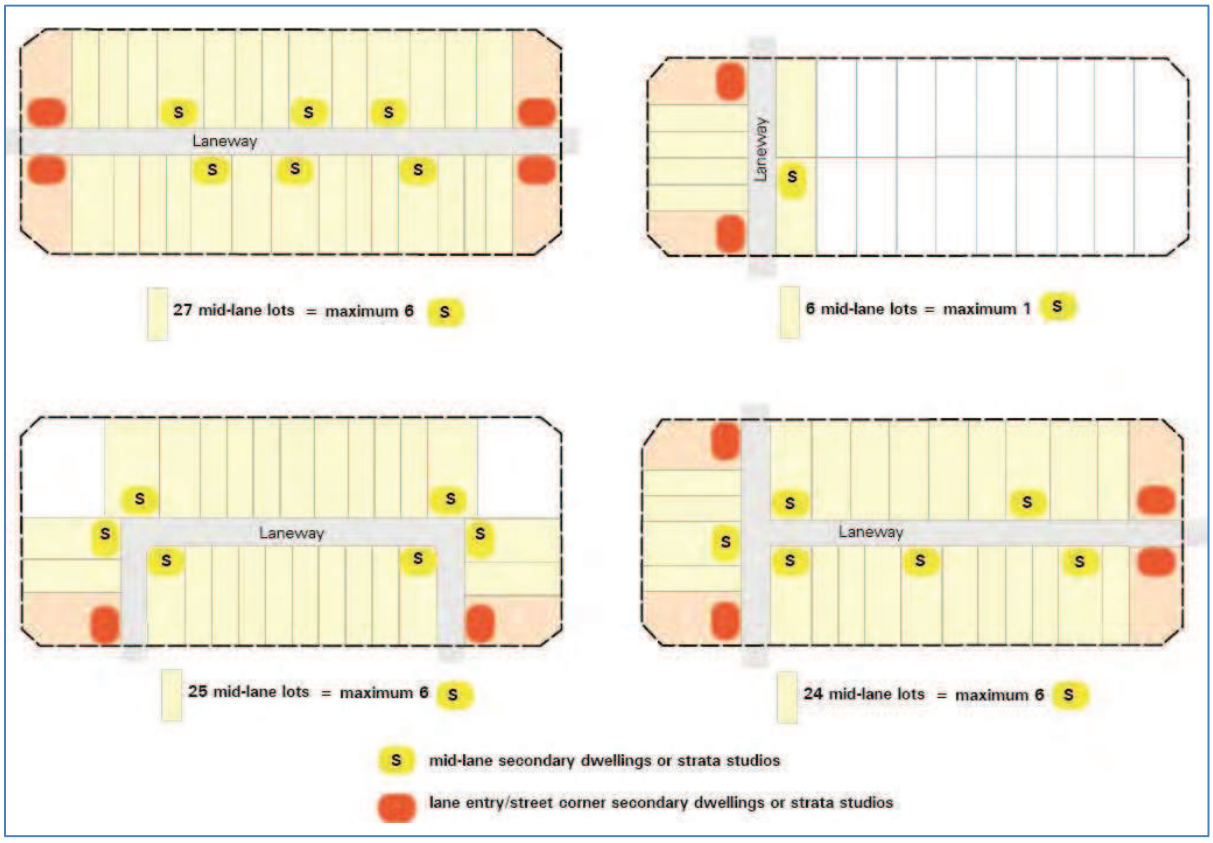


Figure 28 Sample laneways showing maximum number of secondary dwellings or strata studios

3.3.3 Shared Driveways

Shared driveways are privately owned and maintained driveways that serve two or more dwellings through a titling arrangement such as a reciprocal right of way or community title. Shared driveways are usually of minimal dimensions for vehicle access to lots with only a single access to the street network. Garbage collection is usually not a function. Shared driveways are a useful subdivision device for a small number of dwellings with otherwise difficult access or unavoidable block configurations, but are not a substitute in blocks designed with significant numbers of dwellings requiring rear access by laneways.

OBJECTIVES

a. To minimise the impact of vehicle access points on the quality of the public domain and pedestrian safety.

b. To provide safe and convenient access to garages, carports and parking areas.

c. To clearly define public and private spaces, such that driveways are for the sole use of residents.

d. To permit casual surveillance of private driveways from dwellings and from the street.

CONTROLS

1. Shared driveways are to be constructed as one of three general types, depending on block geometry and garages to be accessed. Refer to examples in **Figure 29**.
2. Shared driveways are to have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
3. The driveway crossing the verge between the property boundary and the kerb is to have a maximum width of 5.4 metres.
4. The location of driveways is to be determined with regard to dwelling design and orientation, street gully pits and tree bays and is to maximise the available on-street parking.
5. The maximum travelling distance from a public road to a garbage collection area within a shared driveway is 70m. Where garbage collection is required to occur within the shared driveway (i.e. when an alternative collection point is not available), the layout is to be designed such that no reversing movements are required to be undertaken to enable a garage truck to enter and leave in a forward direction. A minimum pavement width of 5m and a turning circle with sweep turning paths overlaid into the design plan shall be submitted to demonstrate compliance with this requirement.
6. Access to allotments in the vicinity of roundabouts and associated splinter islands shall not be provided within 10m of the roundabout.
7. Driveways are not to be within 0.5m of any drainage facilities on the kerb and gutter.
8. Shared driveways are to have soft landscaped areas on either side, suitable for infiltration.
9. Shared driveways must be in accordance with the shareway principles and vehicle manoeuvring requirements of the **Department of Planning and Environment Delivery Note: Laneways**.

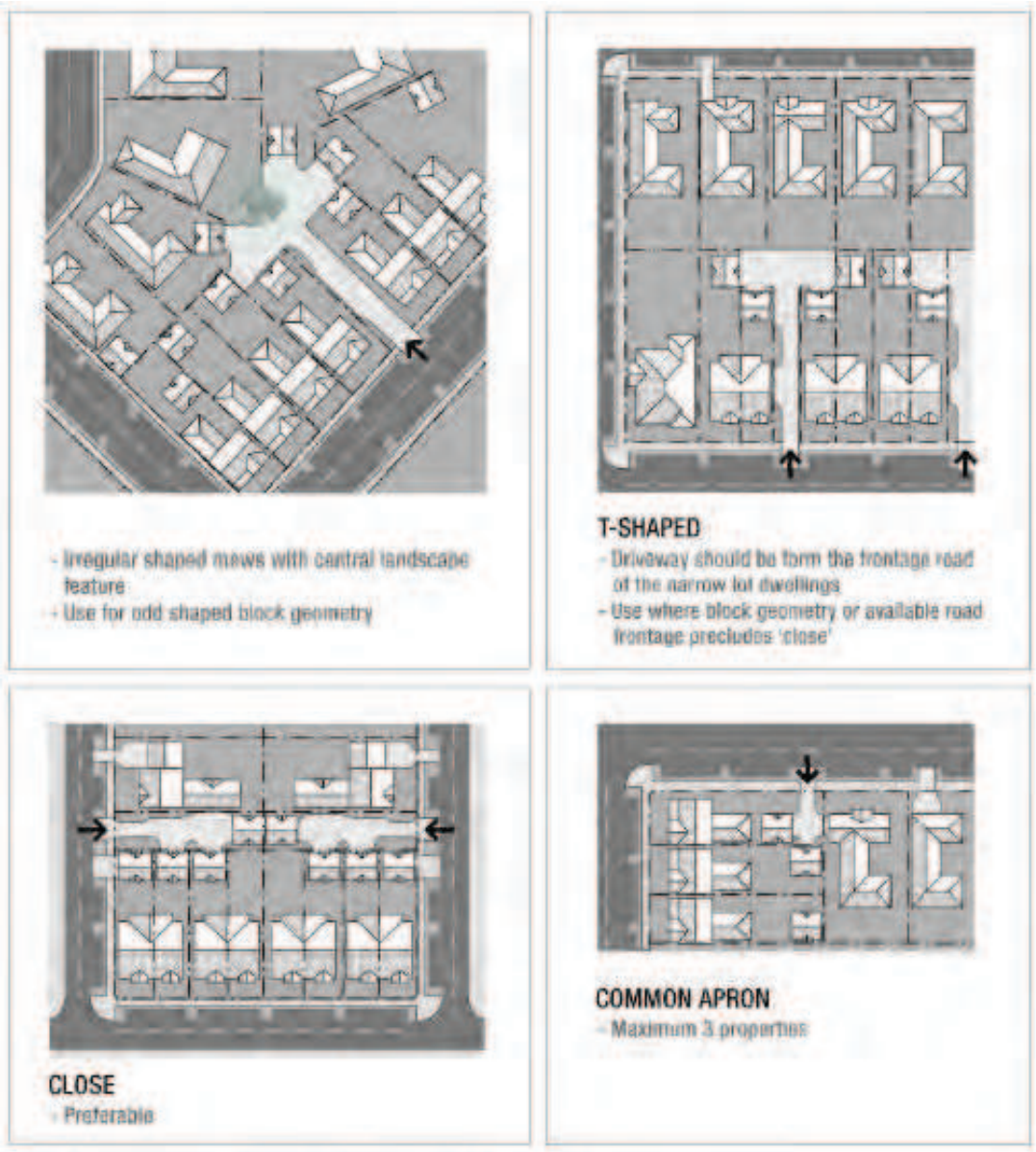


Figure 29 Indicative examples of shared driveways

3.3.4 Public Transport

OBJECTIVES

a. Encourage the use of public transport through the provision of integrated bus, pedestrian and cycle routes.

b. To encourage the provision and use of public transport within Box Hill and Box Hill Industrial Precincts.

c. To ensure clear, safe pedestrian links to public transport stops.

d. To ensure that the majority of residential lots are within 400 metres distance from an existing or proposed bus stop.

CONTROLS

1. Bus stops should be provided generally in accordance with **Figure 30** and be indicated on the subdivision DA drawings where the bus route is known. The final location of bus stops will be determined by Council's Local Traffic Committee.

2. Bus stops should be provided on-street and not within indented bays. Bus shelters are to be provided at key stops and installed at the subdivision construction stage by the developer.

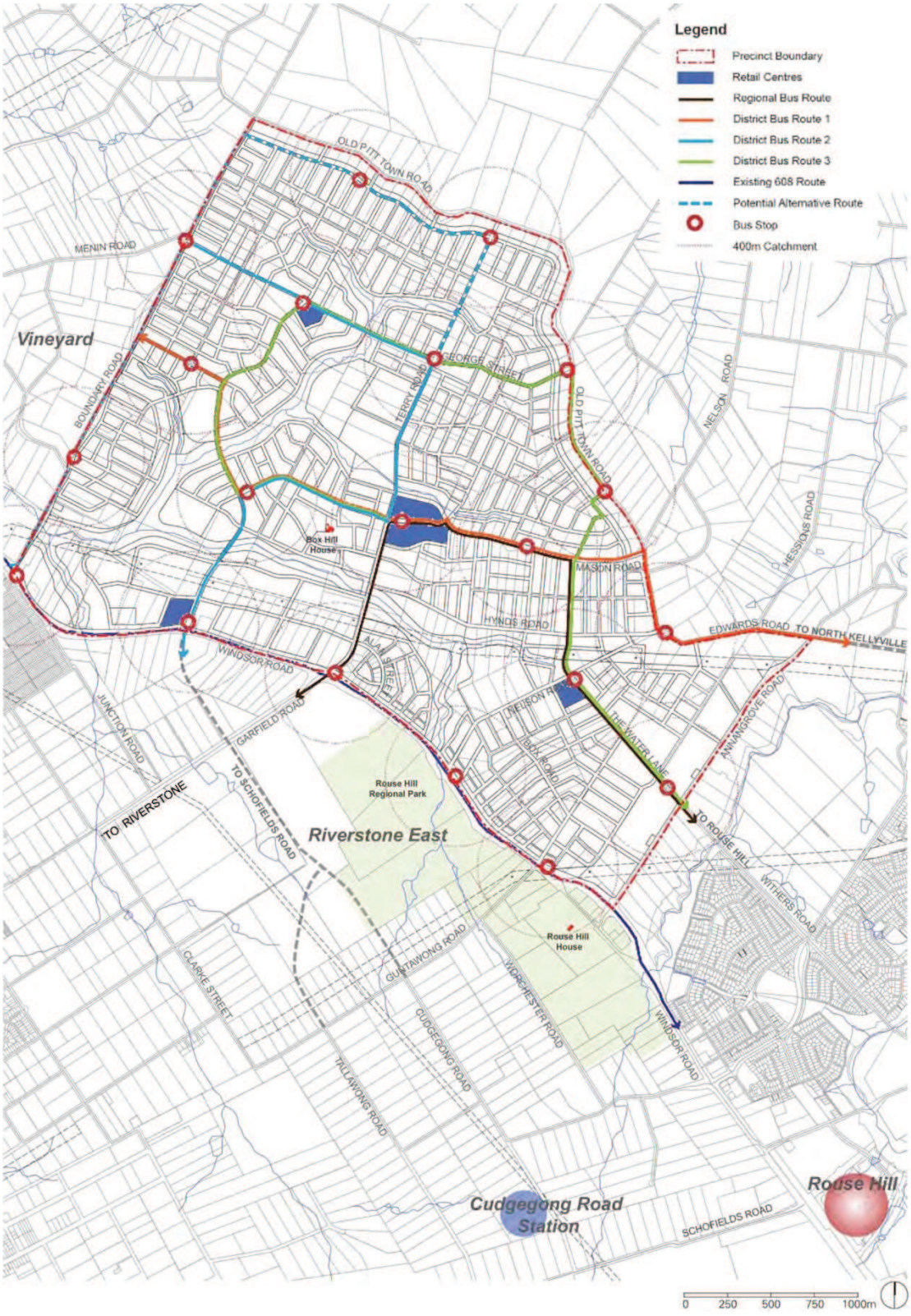


Figure 30 Public transport

3.3.5 Pedestrian and Cycle Network

OBJECTIVES

1. To provide a convenient, efficient and safe network of pedestrian and cycleway paths for the use of the community, within and beyond the site.
2. To encourage residents to walk or cycle, in preference to using motor vehicles, as a way of gaining access to the schools, shops, and local community and recreation facilities.
3. To avoid duplication by allowing pedestrian pathways and cycleways to be located within parks and corridors wherever practical.

CONTROLS

1. Footpaths and cycle paths are to be provided in accordance with street sections provided in **Section 3.3.1** Street Network and Design
2. All pedestrian and cycle routes are to be consistent with the Planning Guidelines for Walking and Cycling (DIPNR & RTA 2004), Austroads guides, Australian Standards, RTA supplements and Council's Pedestrian Access and Mobility Plan 2003.
3. Pedestrian paths, cycle routes and facilities in public spaces are to be safe, well lit, clearly defined, functional and accessible to all.
4. Pedestrian paths, cycle paths and pedestrian refuge islands are to be designed to be fully accessible by all in terms of access points and gradients, generally in accordance with Australian Standard 1428:1-4.
5. Pedestrian and cycle pathways are to be constructed as part of the infrastructure works for each residential stage with detailed designs to be submitted with the construction certificate application. Concept approval will be required at DA stage.
6. Pedestrian and cycle routes shall be in accordance with **Figure 31**.
7. Minimum footpath width is to be 1.2m for local streets, 1.5 m for other street types (sub-arterial, collector and town centre main street) and a shared cycle/pedestrian path is to be 2.5 m.

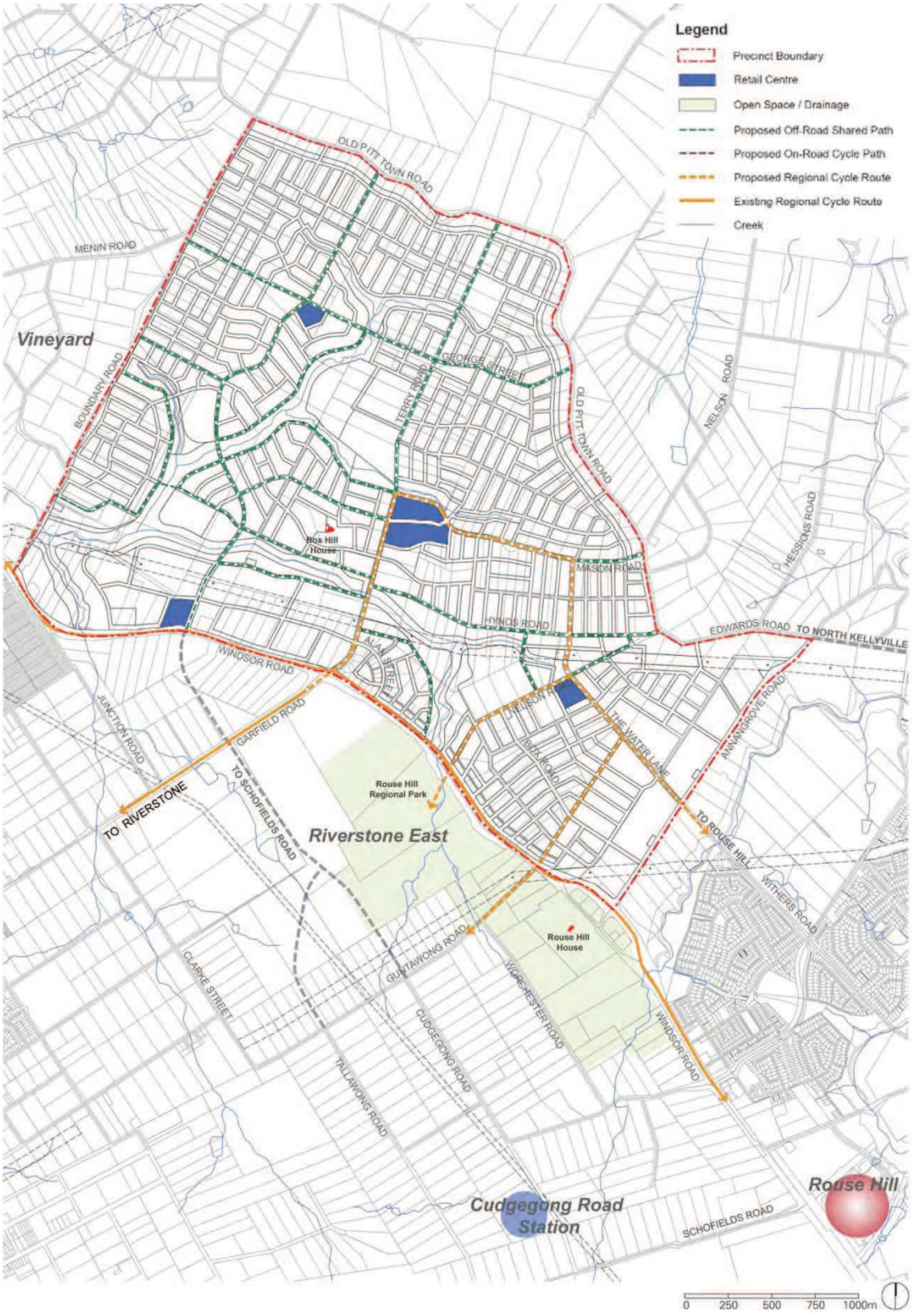


Figure 31 Pedestrian and cycle network

3.4 Public Domain Works

OBJECTIVES

a. To meet the public open space and recreational needs of residents.

b. To provide an equitable distribution of public open space and recreation opportunities.

c. To ensure a high quality of design and embellishment of all public open space.

d. To ensure environmentally and visually sensitive land contributes to the landscape character of the Precincts.

e. To ensure that all the public domain elements like street trees, paving, street furniture, lighting, and signage contribute to a consistent street character.

f. To ensure that adequate provision is made for utilities.

g. To ensure that all utilities are integrated into the development and are unobtrusive.

h. To ensure that all parks are managed to the extent required to provide acceptable asset protection to adjoining dwellings.

CONTROLS

PUBLIC PARKS AND LANDSCAPE

1. Parks should be located and designed to accommodate remnant vegetation and where appropriate, should be linked to and integrated with riparian corridors. Refer to **Figure 32.**

2. Parks should be generally bordered by streets on all sides with houses oriented towards them for surveillance. Smaller lot housing is encouraged around parks.

3. Riparian corridors and conservation areas are to provide opportunities for pedestrian and cycle ways, fitness trails and additional open space in a manner that maintains the environmental significance of these areas. A range of themed elements such as boardwalks, eco-pathways, and educational tracks should be utilised in appropriate locations (i.e. within the riparian corridor buffer).

4. A Landscape Plan is required to accompany a subdivision DA creating any park and is to provide details on elements such as:

    - asset protection zones
    - earthworks
    - furniture
    - plant species and sizes (with consideration for bush fire risks)
    - play equipment
    - utilities and services
    - public art
    - hard and soft landscaping treatments
    - signage
    - any entry statements
    - waste facilities
    - any other embellishment.

STREET PLANTING

5. Street trees are required for all streets. Street planting is to:
    - Be consistently used to distinguish between public and private spaces and between different classes of street within the street hierarchy;
    - Minimise risk to utilities and services;
    - Be durable and suited to the street environment and, wherever appropriate, include endemic species;
    - Maintain adequate lines of sight for vehicles and pedestrians, especially around driveways and street corners;
    - Provide appropriate shade; and
    - Provide an attractive and interesting landscape character and clearly define public and private areas, without blocking the potential for street surveillance.
6. Street trees will be required to be planted at the time of subdivision construction. Street trees will be protected with tree guards and a 12-month bond will be imposed to ensure the preservation of each tree.
7. Street tree planting is to be provided to all streets with a spacing of between 7 and 10 metres, with a minimum of one tree per lot frontage. Corner lots will have a minimum of two street trees and normally three trees. The location of street trees must complement proposed driveway locations and have regard to surrounding infrastructure.
8. Street tree species must be in accordance with Council's list of preferred street tree planting species in Appendix B – Table B2.
9. Landscape works in roundabout islands may include low-maintenance groundcover planting and native grasses with a mature height of up to 0.5 metres as well as clear-stemmed tree planting. A metered water supply point and subsurface drainage is required in all small island planter beds.
10. Access streets located adjacent to arterial roads are to include landscape treatment of the verge adjoining the arterial road. Road verges provide opportunities for unifying the appearance and landscape character of the area and should be provided as a continuous design feature along the length of the arterial road.

SIGNAGE, STREET FURNITURE, LIGHTING AND PUBLIC ART

11. Signage, street furniture and lighting is to be:
    - Consistent with The Hills DCP 2012 Part C Section 3 - Landscaping;
    - Designed to reinforce the distinct identity of the development;
    - Coordinated in design and style;
    - Located so as to minimise visual clutter and obstruction of the public domain; and
    - Of a colour and construction agreed by Council.
12. The integration of artworks into the design of public spaces is encouraged.
13. Artworks should, where possible, serve a dual role, e.g. as play equipment for children, informal seating or a marker for a meeting place.
14. Locating entry signage and the like within a public road reserve is subject to Council agreement.

15. The location and design of signage and street furniture is to be indicated on engineering construction drawings.
16. All lighting proposed is to be identified with the engineering plans accompanying an application for a Construction Certificate. The level of street lighting is to be designed to meet the current Australian Standards AS/NZS 1158 series.

UTILITIES

17. Gas and water services may be located in a shared trench on one side of the street and electricity power and telephone located in a shared trench on the other side of the street.
18. All development shall incorporate underground electricity reticulation and telecommunications.
19. Any existing aboveground electricity reticulation services shall be relocated underground with the exception of main transmission lines.
20. Where agreement to develop shared trench practices cannot be met, or location of services are unable to be limited to one side of the road, the alignment of services shall be to a standard acceptable to Council.
21. Utilities and services are to be supplied and constructed in accordance with the requirements of the relevant authority.
22. Details of the location of all sewer reticulation mains are to be supplied to Council for assessment of environmental and property considerations.
23. Pipes and conduits through bushland areas and areas with significant vegetation cover are to be avoided. Where it cannot be avoided, pipes are to be or under-bored with the aid of small machinery, causing minimal disturbance to vegetation and exposed rock outcrops.
24. Development is to have a water supply for fire-fighting purposes in accordance with the NSW Rural Fire Service’s Planning for Bushfire Protection 2006 (as amended).

Figure 32 Open space

3.5 Residue Lots

OBJECTIVES

a. To ensure that any residue lot created as part of the subdivision can meet the requirements of the DCP.

CONTROLS

Any development proposal including creation of residue lots for future subdivision must:

1. Include documentation demonstrating how the minimum density can be achieved across each residue lot through future subdivision.
2. Demonstrate how the future development of each residue lot can be consistent with the character statement for the local area in terms of the built form, dwelling types, bulk and scale, height and other public domain considerations.
3. Demonstrate that the residue lot can be serviced and accessed in accordance with **Figure 2**.
4. Demonstrate that development of the residue lot can be undertaken without compromising the other objectives and controls of this DCP.
5. Demonstrate that the residue lot shall be connected to the reticulated public sewer.

Any tank or vessel that was used for on-site sewage management shall be destroyed removed or reused in accordance with NSW Health Advisory Note 3 - Destruction, Removal or Reuse Of Septic Tanks, Collection Wells, Aerated Wastewater Treatment Systems and other Sewage Management Facility Vessels.