

GENERAL LEGEND

- Existing Street Tree to be Retained and Protected
- Existing Tree Removed
- Lawn Area / Managed Grassland
- Large Clipped Hedge (1.5m)
- Low Clipped Hedge (0.6m)
- Garden - Shrubs & ground covers
- Feature Groundcovers
- Private Path/Patio
- Mulch (maintenance access path)
- Private Driveway
- Softfall Play Area
- Concrete Path
- Free-standing Letterbox
- Fence and Secure gate
- Landscape Retaining Wall
- Residential Water Tank / Clothes Line / Bins

TREE SPECIES LEGEND

- HarPen *Harpullia pendula* (Tulipwood)
- CorMac *Corymbia maculata* (Spotted Gum)
- EucM-T *Eucalyptus moluccana* or *Eucalyptus tereticornis* (Grey Box / Forest Red Gum)
- CedDeo *Cedrus deodara* (Himalayan Cedar)
- KoePan *Koelreuteria bipinnata* (Golden Rain Tree)
- ZelSer *Zelkova serrata* 'Green Vase' (Japanese Zelkova)
- LopCon *Lophostemon confertus* (Brush Box)
- LagCS *Lagerstroemia indica x fauriei* 'Tuscarora' (Pink Crepe Myrtle)
- CalVim *Callistemon viminalis* 'Kings Park Special' (Bottlebrush)
- MagGra *Magnolia grandiflora* 'Emouth' (Bull Bay Magnolia)
- PruCe *Prunus cerasifera* 'Nigra' (Purple-leaved Flowering Cherry)
- TriLai *Tristanopsis laurina* 'Luscious' (Water Gum)
- CupSer *Cupressus sempervirens* cv. (Italian Pencil Pine Cultivar)

Refer L-SD-03



Deciduous trees planted in the wider front gardens along with a lawn, where space permits.

Terraced planter beds planted with shrubs and low hedges to soften level change and screen lower courtyard from the street and neighbouring ILUs.

Low retaining wall with privacy fence, between adjoining units

Potential electrical kiosk location (if one is required for the RCF development)

Typically front gardens facing the public streets to be planted with low maintenance shrubs and groundcovers, and enclosed with a low trimmed hedge to delineate public space from private space and create a consistent visual treatment. Low ground cover planting is proposed between footpath and boundary. A small feature deciduous tree is to be planted within each front garden to soften the house from the street and delineate the entries.

Privacy fences delineates rear gardens. Access gates are provided to allow maintenance access to rear yards.

Consistent letterboxes to be positioned at the front of each property, alongside the low clipped box hedge.

A communal garden planted with colourful shrubs and groundcovers, and enclosed with a low box hedge. Feature deciduous trees provides summer shade winter sun and seasonal variation and screen and soften views to and from adjoining units.

Generous paved courtyards to rear of units allow use of outdoor space and access to garden and clothes lines. Evergreen hedges provide privacy from the communal areas or streets.

0 10 20 50m

REFER L-SD-02 FOR
SCHEDULE OF
PROPOSED PLANTS

B	Bin Storage	DSO	22/05/18
A	For Development Application	RWS	28/09/17
REVISION DESCRIPTION		CHD	DATE

PROJECT & CLIENT

Oran Park - Anglicare
Community Services

Anglicare Community Services

DRAWING TITLE

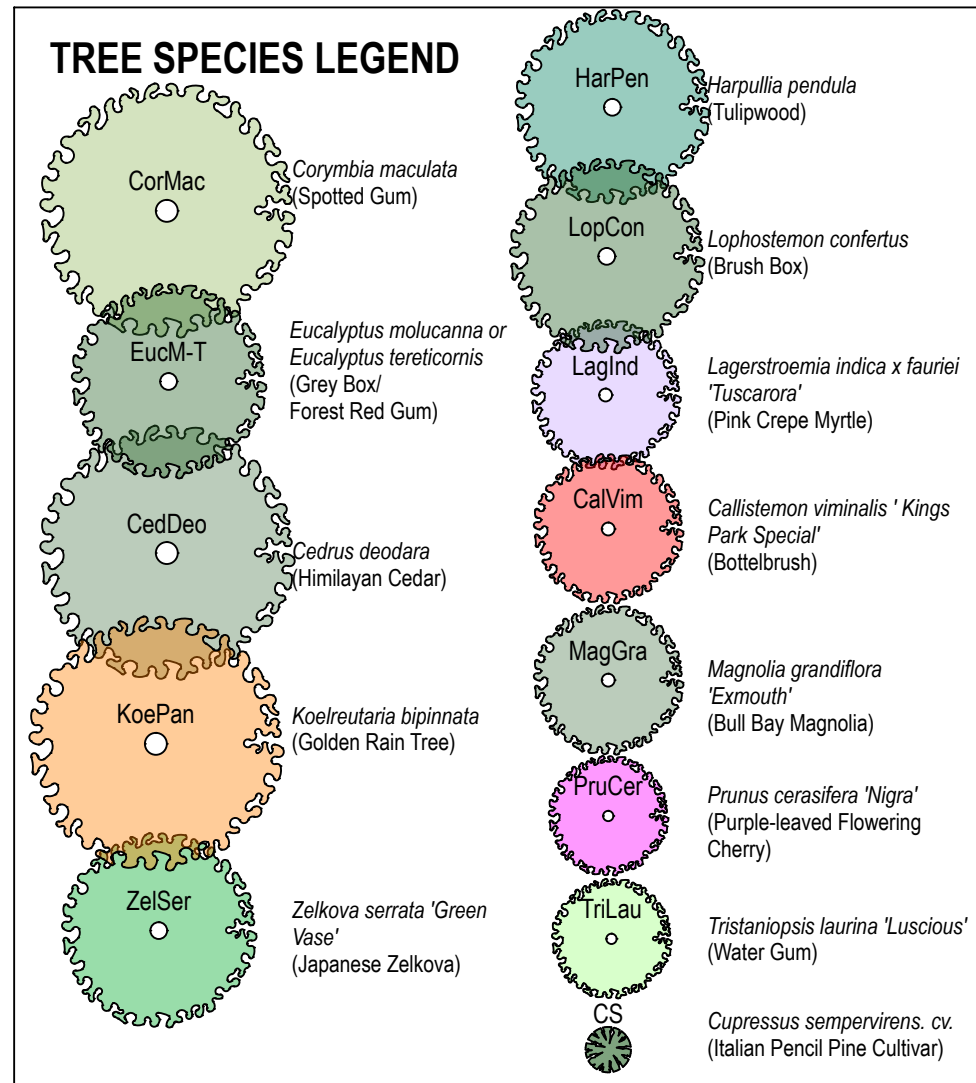
Landscape Masterplan -
West

Project No : 17.10
Designed : RWS
Drawn : RWS
Scale : 1:500@A1, 1:1000@A3

DRAWING NUMBER
L-SD-01

REVISION
B

TREE SPECIES LEGEND



PROPOSED PLANT SPECIES LISTING

Botanical Name	Common Name	Potential Height Reached	Proposed Container Size
TREES			
<i>Callistemon citrinus</i> 'Kings Park Special'	Bottlebrush	6-8m	45L
<i>Cedrus deodara</i>	Himalayan Cedar	12-15m	100L
<i>Corymbia maculata</i>	Spotted Gum	15-25m	75L
<i>Cupressus sempervirens</i> 'Stricta'	Italian Pencil Pine	10-20m	100L
<i>Cupressus sempervirens</i> 'Swanes Golden'	Swanes Golden Pencil Pine	10-20m	100L
<i>Eucalyptus moluccana</i>	Grey Box	10-20m	45L
<i>Eucalyptus tereticornis</i>	Forest Red Gum	10-20m	45L
<i>Harpullia pendula</i>	Tulipwood	10-12m	200L
<i>Koeleraria bipinnata</i>	Golden Rain Tree	8-12m	45L
<i>Lagerstroemia indica</i> x <i>L. fauriei</i> 'Tuscarora'	Hot Pink Crepe Myrtle	8-12m	100L
<i>Lophostemon confertus</i>	Brush Box	18-20m	200L
<i>Magnolia grandiflora</i> 'Exmouth'	Bull Bay Magnolia	10-15m	100L
<i>Prunus cerasifera</i> 'Nigra'	Purple-leaved Cherry Plum	6-8m	45L
<i>Tristanopsis laurina</i> 'Luscious'	Luscious Water Gum	5-8m	100L
<i>Zelkova serrata</i> 'Green Vase'	Japanese Zelkova	10-15m	100L
SHRUBS			
<i>Acacia fimbriata</i> 'Dwarf'	Dwarf Fringed Wattle	1.5-3m	200mm
<i>Adenanthos sericeus</i> 'Mallee Legend'	Coastal Woollybush	1-2m	200mm
<i>Agave attenuata</i>	Century Plant	0.5m	25L
<i>Azalea indica</i> 'Happy Days'	Purple Azalea (Medium)	0.5-1.0m	200mm
<i>Azalea indica</i> 'Red Wings'	Red Azalea (Medium)	0.5-1.0m	200mm
<i>Azalea indica</i> 'Alphonse Anderson'	Pink Azalea (tall)	2-3m	200mm
<i>Brunfelsia pauciflora</i> 'Eximia'	Yesterday, Today & Tomorrow	2m	200mm
<i>Buxus microphylla</i> var. <i>japonica</i>	Japanese Box	1m	200mm
<i>Callistemon citrinus</i> 'White Anzac'	White Bottlebrush	0.5-1.0m	200mm
<i>Camellia hiemalis</i> 'Hiryu'	Hiryu Camellia	2-3m	200mm
<i>Camellia x vernalis</i> 'Yuletide'	Yuletide Camellia	1-1.5m	200mm
<i>Choisya ternata</i>	Mexican Orange Blossom	1.5-2m	200mm
<i>Crassula ovata</i>	Money Tree	0.8m	200mm
<i>Cycas revoluta</i>	Dwarf Sago Palm	1-2m	25L
<i>Doryanthus excelsa</i>	Gymal Lily	2-3m	25L
<i>Duranta</i> 'Sheenas Gold'	Golden Duranta	1-2m	200mm
<i>Echium fastuosum</i>	Pride of Madeira	2-3m	200mm
<i>Elettaria cardamomum</i>	Malabar Cardamom	0.5-1.5m	200mm
<i>Euonymus japonicus</i>	Japanese Spindle Bush	1-2m	200mm
<i>Gardenia augusta</i> 'Professor Puccii'	Gardenia	1-2m	200mm
<i>Grevillea speciosa</i> 'Lady O'	Red Grevillea	1-2m	200mm
<i>Grevillea</i> 'Superb'	Red Grevillea	1-2m	200mm
<i>Hydrangea macrophylla</i>	Hydrangea	1-2m	200mm
<i>Juniperus chinensis</i> 'Spartan'	Spartan Juniper	2-3m	45L
<i>Lavandula stoechas</i> 'Avonview'	French Lavender	1-2m	200mm
<i>Loropetalum chinensis</i> 'Plum Delight'	Chinese Fringe Flower	2-3m	200mm
<i>Molineria capitata</i>	Palm Grass	1-1.5m	200mm
<i>Murraya paniculata</i>	Orange Jessamine	2-3m	25L
<i>Nandina domestica</i> 'Gulf Stream'	Compact Heavenly Bamboo	0.5m	200mm
<i>Nerium oleander</i> 'Dwarf Apricot'	Dwarf Oleander	1-2m	200mm
<i>Philodendron</i> 'Xanadu'	Dwarf Philodendron	1m	25L
<i>Phormium tenax</i> 'Bronze Warrior'	Dwarf New Zealand Flax (red foliage)	1m	200mm
<i>Photinia x fraseri</i> 'Red Robin'	Photinia / Red Photinia	2-3m	200mm
<i>Rhapis excelsa</i>	Lady Palm	2-4m	200mm
<i>Raphiolepis indica</i> 'Orientalis Pearl'	Indian Hawthorn	1.0-1.5m	200mm
<i>Rosmarinus officinalis</i> 'Blue lagoon'	Prostrate Rosemary	0.5-1.0m	200mm
<i>Strelitzia reginae</i>	Bird of Paradise	1.0-1.5m	200mm
<i>Syzygium australe</i> 'Southern Form'	Dwarf Lillypilly Cultivar	2-3m	25L
<i>Syzygium leuhmannii</i> 'Cascade'	Cascade Riberry	2-4m	200mm
<i>Syzygium australe</i> 'Pinnacle'	Pinnacle Lillypilly Cultivar	2-4m	200mm
<i>Teucrium fruticos</i>	Bush Germander	1-2m	200mm
<i>Viburnum odoratissimum</i> 'Emerald Lustre'	Sweet Viburnum	3-4m	25L
<i>Zamia furfuracea</i>	Jamaican Sago Tree	1m	25L

GROUNDCOVERS			
<i>Agapanthus orientalis</i> (White flower)	African Lily	<1m	200mm
<i>Bergenia cordifolia</i>	Pink Elephants Ears	0.3m	150mm
<i>Casuarina glauca</i> 'Cousin It'	Casuarina 'Cousin It'	0.3m	200mm
<i>Clivia miniata</i>	Kaffir Lily	0.5m	200mm
<i>Convolvulus cneorum</i>	Convolvulus	0.5m	200mm
<i>Dianella caerulea</i> 'King Alfred'	King Alfred Flax Lily	0.5m	150mm
<i>Dichondra argentea</i> 'Silver Falls'	Dichondra 'Silver Falls'	0.15m	150mm
<i>Gardenia augusta</i> 'Radicans'	Prostrate Gardenia	0.3m	150mm
<i>Gazania tomentosa</i>	Gazania / Yellow Gazania	0.3m	150mm
<i>Grevillea 'Gaudichaud'</i>	Prostrate Grevillea	0.3m	150mm
<i>Juniperus conferta</i>	Shore Juniper	0.5m	150mm
<i>Liriope muscari</i> 'Evergreen Giant'	Turf Lily	0.5m	150mm
<i>Liriope muscari</i> 'Variegata'	Turf Lily Variegated	0.3m	150mm
<i>Lomandra longifolia</i>	Spiny-Headed Mat Rush	1.0m	150mm
<i>Nepeta x faassenii</i> 'Walkers Blue'	Faassen's Catmint	0.6m	150mm
<i>Santolina chamaecyparissus</i>	Lavender Cotton	0.6m	150mm
<i>Trachelospermum asiaticum</i> 'Tricolour'	Tricolour Jasmine	0.3m	150mm
<i>Tulbaghia violacea</i> 'Variegata'	Variegated Society Garlic	0.3m	150mm
<i>Viola hederacea</i>	Native Violet	0.15m	150mm

SHRUBS AND GROUNDCOVERS FOR APZ/ DRAINAGE EASEMENT ONLY			
<i>Atriplex semibaccata</i>	Half-berried Salt Bush	0.5m	Tube @ 6/m2
<i>Chloris truncata</i>	Windmill Grass	0.5m	Tube @ 6/m2
<i>Commelina cynea</i>	Creeping Christian	0.1m	Tube @ 6/m2
<i>Dianella longifolia</i>	Mauve Flax Lily	0.3m	Tube @ 6/m2
<i>Dillwynia juniperina</i>	Prickly Parrot-Pea	1.0m	Tube @ 2/m2
<i>Dodonaea viscosa</i>	Sticky Hop Bush	2.0m	Tube @ 2/m2
<i>Enardia trigonis</i>	Salt Bush	0.3m	Tube @ 6/m2
<i>Goodenia hederacea</i>	Violet-leaved Goodenia	0.3m	Tube @ 6/m2
<i>Hardenbergia violacea</i>	False Sarapilla	0.3m	Tube @ 6/m2
<i>Indigofera australis</i>	Native Indigo	1.5m	Tube @ 2/m2
<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass	0.3m	Tube @ 6/m2
<i>Pultanea microphylla</i>	Spreading Bush-pea	0.5m	Tube @ 2/m2

Area to the west of the proposed ILU's to be maintained as a native APZ area. Existing native grasses to be slashed and maintained a maximum height of 100mm. A concrete pedestrian pathway provides for maintenance and fire fighting access and delineates between the managed area and the naturally revegetated creek zone. Pockets of low native shrubs and ground covers flank the pathway and the base of the retaining wall that typically marks the edge of the riparian corridor.

A 1.2m high palisade fencing atop a varying height retaining wall located along the riparian boundary edge.

Pedestrian access to the site via an elevated boardwalk through riparian and creek area.

Typically front gardens facing the public streets to be planted with low maintenance shrubs and groundcovers, and enclosed with a low trimmed hedge to delineate public space from private space and create a consistent visual treatment. Low ground cover planting is proposed between footpath and boundary. A small feature deciduous tree is to be planted within each front garden to soften the house from the street and delineate the entries.

Consistent letterboxes to be positioned at the front of each property, alongside the low clipped box hedge.

Vehicular bridge to access Camellia Drive West.



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- TriLau *Tristanopsis laurina* 'Luscious' (Water Gum)
- CS *Cupressus sempervirens* cv. (Italian Pencil Pine Cultivar)
- CorMac *Corymbia maculata* (Spotted Gum)
- EucM-T *Eucalyptus maculana* or *Eucalyptus tetricornis* (Grey Box / Forest Red Gum)
- CedDeo *Cedrus deodara* (Himalayan Cedar)
- KoePan *Koelerutaria bipinnata* (Golden Rain Tree)
- ZelSer *Zelkova serrata* 'Green Vase' (Japanese Zelkova)

Clustered Pencil Pines and ground cover planting with feature precast concrete fence panel detailing to screen and pronounce corners of site.

Replacement street tree planting along street where previous street trees have been removed or failed.

Screen fencing with timber look aluminium slat fencing defines and separates the courtyard from the street. Fence is set back from the boundary allowing generous planting and feature shrub and groundcovers to be planted along the frontage and soften the fencing when viewed from the street and public areas. (Typical height 1.8m, setback varies). Proposed hedge species include *Muraya paniculata*, *Buxus microphylla* and *Syzygium australe*.

Play equipment as specified, on softfall surfacing. Play areas bordered by low shrubs and feature trees.

Stepped retaining wall to match grade of street with generous planting area between existing footpath and fencing.

Maintenance access ramp (1:14 grades) to RACF internal courtyard bordered by low shrub planting. Pathway also provides fire egress for the eastern wings of the RACF.

Aluminium slat and palisade fencing atop retaining wall for privacy and safety at change in ground level.

A variety of play equipment on low maintenance softfall surfacing, with informal arrangement of stone blocks to cater for informal play and seating. The play area is bordered by low shrubs and shaded by larger deciduous and evergreen trees. Picnic tables are located beneath steel and timber pergolas to provide a variety of seating options for casual outdoor dining. Refer to L-SD-06 for character imagery.

A generous and open 'Village green' overlooking the existing bowling green and in easy view and reach of the nearby Residential Care facility. The maintained lawn is to be bordered by low manicured hedges and other low shrubs as specified.

Screen fencing with timber look aluminium slat fencing defines and separates the courtyard from the street. Fence is set back from the boundary allowing generous planting and feature shrub and groundcovers to be planted along the frontage and soften the fencing when viewed from the street and public areas. (Typical height 1.8m, setback varies). Proposed hedge species include *Muraya paniculata*, *Buxus microphylla* and *Syzygium australe*.

Clustered Pencil Pines and ground cover planting with feature precast concrete fence panel detailing to screen and pronounce corners of site.

Main RACF courtyard, featuring a generous lawn, surrounded by low shrub planting, and multiple outdoor seating options. Steel and timber pergolas provide shade and privacy for outdoor benches in the corners of the courtyard. Decorative precast concrete fence panels and detailing adds interest, while a sculptural centrepiece terminates view from within the building and immediately catches attention upon entering the courtyard.

Lawn bordered by low clipped hedge to create an attractive garden outlook and space beside RACF building. Outdoor seating is provided beneath a steel and timber pergolas that add interest and a focus to the areas

Fire egress stair from internal courtyards.

Western courtyard, with lawns and a raised garden bed providing for feature trees and shrubs. A dividing fence obscures views and maintains a secure area for the dementia specific areas. Pathways facilitate a walking circuit and also provide fire egress via the rear of the pergola area.

Potential electrical kiosk location [if one is required for the RCF development]

Maintenance access and fire egress stair internal courtyard from lower level outdoor carpark.

Emergency fire egress from basement carpark.

0 5 10 25m

PROJECT & CLIENT

Oran Park - Anglicare Community Services

Anglicare Community Services

DRAWING TITLE

Landscape Plan - Residential Care Facility

Project No : 17.10

Designed : RWS

Drawn : RWS

Scale : 1:250@A1, 1:500@A3

DRAWING NUMBER

L-SD-03

REVISION

B

Plotted at : 6:26 pm 14/2/18

GENERAL LEGEND

- Existing Street Tree to be Retained and Protected
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- LagInd *Lagerstroemia indica* x *fauriei* 'Tuscarora' (Pink Crepe Myrtle)
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- TriLau *Tristanopsis laurina* 'Luscious' (Water Gum)
- CS *Cupressus sempervirens* cv. (Italian Pencil Pine Cultivar)

Managed vegetation (APZ) within drainage corridor for 10m from boundary of riparian corridor

Low and stepping retaining wall and with open palisade fence to define boundary between drainage corridor and private units. Residents can tailor level of privacy by adding screening shrubs to their individual garden areas

Consistent street tree planting along access road to define the street and screen and soften units. Trees are typically positioned between unit blocks where space is more generous.

Consistent low hedge defining the street and public vs private areas and planting. Residents may personalise planting behind hedge.

Consistent letter box treatment terminating the entry pathway and allowing residents to check mail boxes from rear. Defines entry to units and unit no. Border planting and footpath keep letter box from being directly next to access road and allow some manoeuvring space at corners of driveways.

Small flowering feature tree typically in front of each unit to help define entries and screen and soften views to and from the street.

Consistent low ground cover border defying the street edge and keeping the hedge from being located too close to road edge and obscuring views to on coming traffic etc.



C	Bin pickup	DSO	25/05/18
B	Bin Storage	DSO	22/05/18
A	For Development Application	RWS	28/09/17
REVISION DESCRIPTION		CHD	DATE

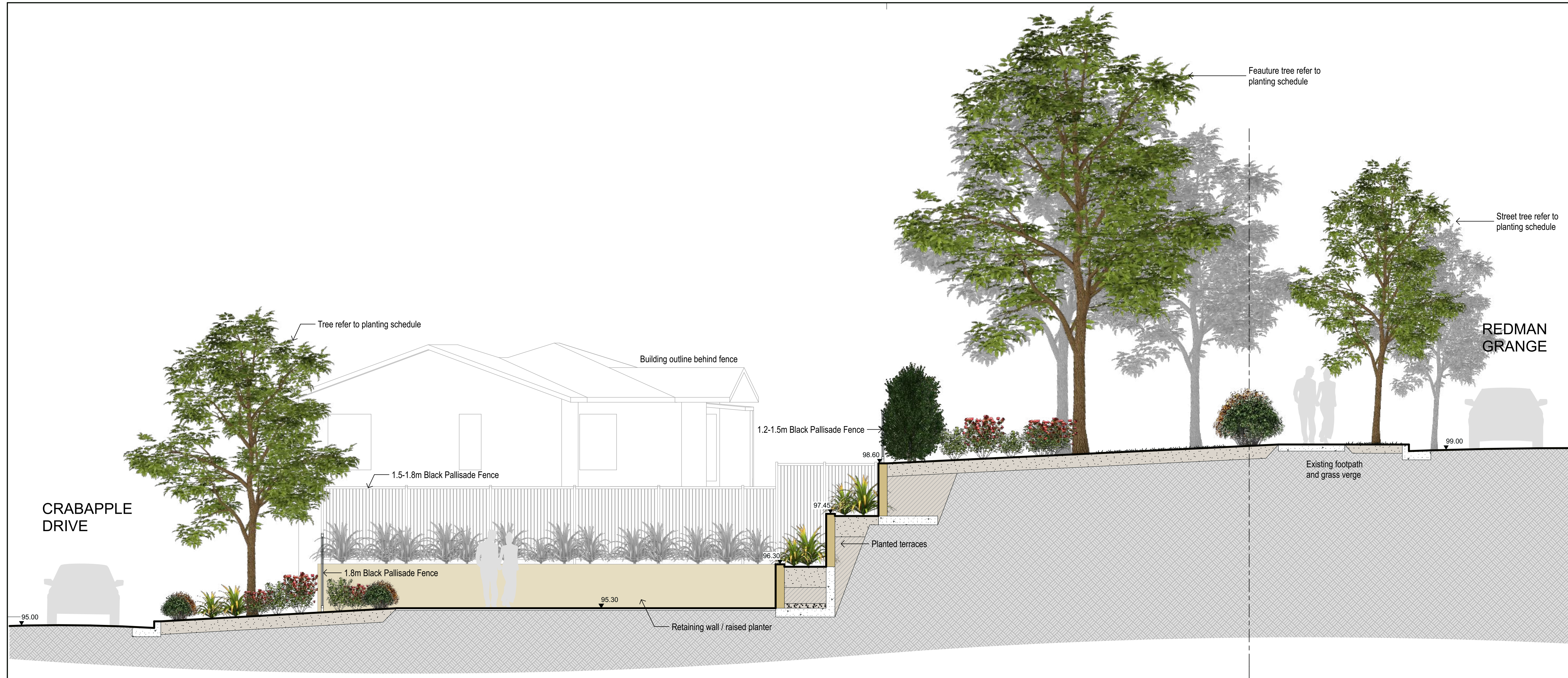
PROJECT & CLIENT
Oran Park - Anglicare Community Services

Anglicare Community Services
DRAWING TITLE
Landscape Plan -Typical ILU Arrangement

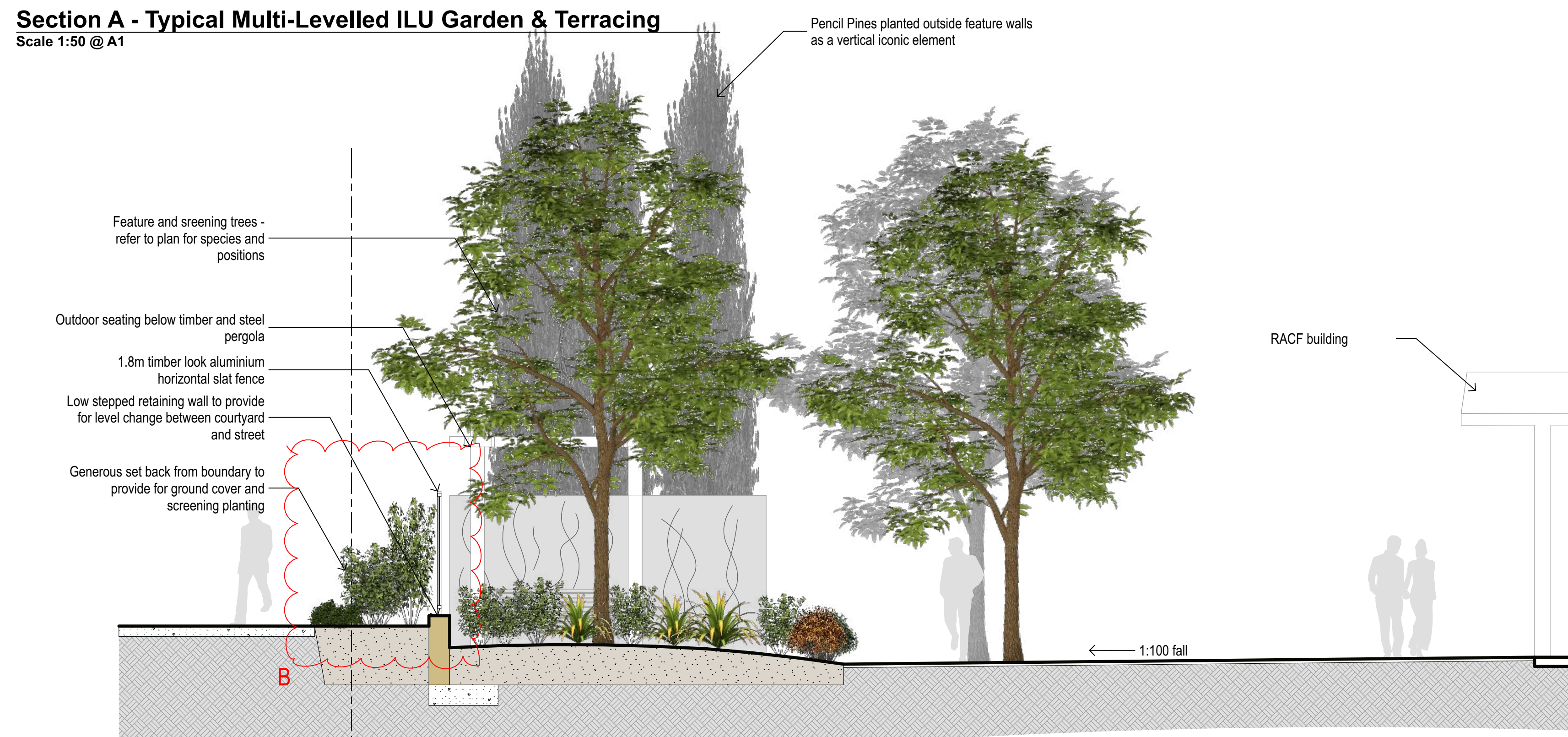
Project No : 17.10
Designed : RWS
Drawn : RWS
Scale : 1:100@A1, 1:200@A3

DRAWING NUMBER
L-SD-04

REVISION
C

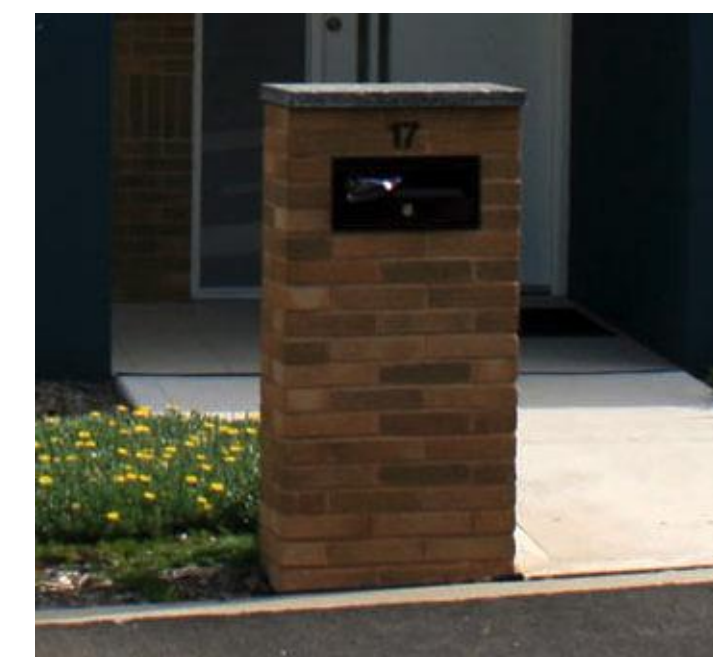


Section A - Typical Multi-Levelled ILU Garden & Terracing
Scale 1:50 @ A1



Section B - Typical RCF Dementia Courtyard to Street
Scale 1:50 @ A1

GENERAL CHARACTER IMAGERY



Consistent Letterbox Treatment - to provide unity to development



Low Blockwork Walls with Black Palisade Fence



Courtyard Paving - low glare, robust unit paving capable of also being placed on pedestals



Traditional Timber Bench Seating - timber with arm rests for comfort of aged users

B	Section amended to illustrate hedge planting along boundary fence.	RWS	02/02/18
A	For Development Application	RWS	28/09/17
REVISION	DESCRIPTION	CHKD	DATE

PROJECT & CLIENT

Oran Park - Anglicare Community Services

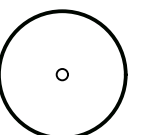
Anglicare Community Services



DRAWING TITLE

Landscape Sections & Imagery

Project No : 17.10
Designed : RWS
Drawn : RWS
Scale : 1:50@A1, 1:100@A3



DRAWING NUMBER
L-SD-05

REVISION
B

INDICATIVE PERSPECTIVE VIEWS



Birds-eye view of New village green area adjacent to existing bowling green



Residential Care Facility - Entry and Cafe Spillout Space and Connection across Crabapple Drive from Village Green



New village green area adjacent to existing bowling green



Illustrative image of pedestrian crossing over drainage easement - proposed as 1.8m wide timber [or timber composite] deck supported and edged with a galvanised steel structure and handrails where drop exceeds 0.5m (maximum height above natural ground 1.2-1.5m)

INDICATIVE SHRUB PLANTING PALETTE



Murraya paniculata



Buxus microphylla var. japonica



Santolinia chamaecyparissus



Convolvulus cneorum



Rosmarinus officinalis 'Blue Lagoon'



Strelitzia reginae



Liriope muscari 'variegata'



Azalea indica cultivars



Clivia miniata



Loropetalum 'Plum Delight'



Philodendron 'Xanadu'



ARTERRA DESIGN PTY LTD ABN 40 069 552 610
SUITE 602 / 51 RAWSON STREET, EPPING, NSW 2121
P 02 9957 2466 F 02 9957 3977 W ARTERRA.COM.AU



A	For Development Application	RWS	28/09/17
REVISION	DESCRIPTION	CHKD	DATE

PROJECT & CLIENT



Project No	: 17.10
Designed	: RWS
Drawn	: RWS
Scale	:

Oran Park - Anglicare
Community Services

Anglicare Community Services

DRAWING TITLE

Landscape Character &
Perspectives

Project No	: 17.10
Designed	: RWS
Drawn	: RWS
Scale	:

DRAWING NUMBER	REVISION
L-SD-06	A

INDICATIVE TREE PALETTE



Zelkova serrata 'Green Vase'
Japanese Zelkova



Magnolia grandiflora 'Exmouth'
Bull-Bay Magnolia



Harpullia pendula
Tulipwood



Lagerstromia indica
Crepe Myrtle



Koelreuteria bipinnata
Golden Rain Tree



Cupressus sempervirens 'Pencil Pine'
Italian Pencil Pine Cultivar



Birds-eye overview of Residential Care Facility viewed from North



Eye-level view from Redman Grange

CHARACTER IMAGERY



Steel and Timber Pergola to add interest and sheltered seating opportunities outdoors



Indicative sculpture to Residential Care Facility Dementia Courtyard




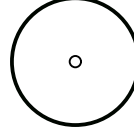
Feature patterned pre-cast concrete fence panels are proposed at the key corners around Residential Care Facility



View within the northern Residential Care Facility dementia courtyard



ARTERRA DESIGN PTY LTD ABN 40 069 552 610
SUITE 602 / 51 RAWSON STREET, EPPING, NSW 2121
P 02 9957 2466 F 02 9957 3977 W ARTERRA.COM.AU

A	For Development Application	RWS	28/09/17
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PROJECT & CLIENT			
Oran Park - Anglicare Community Services			
Anglicare Community Services			
DRAWING TITLE			
Landscape Character & Perspectives			
Project No : 17.10			
Designed : RWS			
Drawn : RWS			
Scale :			
DRAWING NUMBER		REVISION	
L-SD-07		A	

TREE PROTECTION SPECIFICATIONS

1. Tree Protection Measures and Protocols.

All work around existing trees to be retained shall be in accordance with AS 4970-2009 Protection of trees on development sites with the clear establishment of the required Tree Protection Zones (TPZ's). If the scope of work allowed within or the extent of the Tree Protection Zones of existing trees is not clear, please refer to the Contract Manager or Project Consulting Arborist for clarification.

Before any site works commence tree protection zones and other measures must be established and conveyed to those all working on the site. The Contractor shall ensure all subcontractors are inducted prior to working on the site. All inductions shall include description and identification of the Tree Protection Zones and the restriction on work and activities with regard to trees.

Damage to roots or degradation of the soil through compaction and/or excavation within TPZ's is likely to cause serious damage to the tree. Any work operations required within TPZ's must be carried out with extreme care. All trees, palms and other shrubs within TPZ's are to be retained unless shown otherwise on the Tree Protection Plan(s). Trees marked for retention shall not be used to display signage, or as fence or cable supports for any reason. No materials stockpiling, chemicals or washout areas are permitted immediately upslope of or within the Tree Protection Zone. The washing down of wheel barrows, paint cans/brushes, acids and the like shall not to be done near existing trees as the runoff is very harmful to tree roots.

No fuel powered pumps or generators or air compressors are to be placed within TPZ's. No fuel or chemicals shall be stored and no equipment or vehicles shall be serviced or re-fuelled within a TPZ.

2. Controlled Construction Access

Construction access points, stockpiling and storage areas shall be clearly identified on site and fenced off where appropriate. Uncontrolled access and parking of vehicles inside TPZ's shall be avoided. If access is required through a tree protection zone, the access way shall be treated with ground protection.

3. Tree Protection Fencing & Signage

The Tree Protection Plan(s) shows the extent of areas to be fenced and protected. Protection measures shall be certified as adequate by the Project Consulting Arborist. This fencing may form part of the general construction site fencing, where practical. It shall remain in place as long as possible and typically not be removed until the final landscape installation in those areas begins.

All tree protection fencing shall be 1800mm high galvanised chain wire or welded steel mesh. Fencing must be bolted together and secured with the necessary back stays and bracing.

Star pickets with bunting or danger tape shall not constitute acceptable tree protection fencing.

Suitable signage as defined by AS 4970-2009 Appendix C shall be affixed to the external side of the fencing at a spacing of not less than 1 sign per 20 lineal metres of fence.

If fence locations conflict with the proposed works, contact the Project Consulting Arborist and Contract Manager for resolution. No new services (unless under-bored) shall be located within or through the Tree Protection Zone.

4. Trunk and Lower Branch Protection

A trunk barrier is to be erected around the circumference of the tree trunk and root buttress where shown. This barrier will consist of a double layer of used carpet or carpet underfelt placed around the trunk. A layer of battens is to be placed over the underfelt. The battens are to have a maximum spacing of 50mm. The height of the battens is to be 2 metres or to the height of the first branches. Lower large branches may require the same protection if likely to be damaged by passing vehicles or equipment. Secure in place with galvanised steel bracing straps. Do not nail into or otherwise injury the trunk or bark. Battens may be made from any suitable waste timber of similar sizes and depths. All sharp or protruding edges are to be properly covered with tape or similar padding.

5. Works within the TPZ

All work within the root zone of existing trees shall be undertaken with the utmost care. If by necessity a tree requires removal of branches for building or access, pruning shall be done in strict accordance with accepted arboriculture techniques and AS 4373-2007. No rubbish, spoil or new materials shall be placed on the root zone of any existing tree or against their trunks.

6. Ground Protection

If it is proposed to create any access route, or similar, within the TPZ of a retained tree, the Contractor shall install rumble boards over the TPZ ground surface. No excavation shall be allowed. Contractor shall first place a suitable permeable geotextile to the extent required and then a 100mm thick layer of wood chip mulch or coarse no-fines gravel over the extent to be covered. Then place hardwood boards (minimum 3600 x 200 x 75mm) on their flat edge, side by side, with a 30 - 50mm gap to form a rumble strip. These boards are to be held together with three galvanised metal bracing straps nailed to each board. The two outer straps are to be approximately 200mm in from the ends of the boards. The third strap is to be along the centre line of the boards.

7. Structural Demolition Within TPZ's

Project Consulting Arborist shall be on site during all demolition work within the TPZ's to monitor and advise on tree protection. Secateurs and a handsaw shall be available to deal with and cleanly cut any exposed roots that have to be cut. Machines with a long reach may be used if they can work from outside TPZ's or from protected areas within TPZ's. They shall not encroach onto unprotected soil in TPZ's.

Debris to be removed from TPZ's must be moved across existing hard surfacing or temporary ground protection in a way that prevents compaction and disturbance of soil. Alternatively, it can be lifted out by machines provided this does not disturb TPZ's or damage the canopy. If appropriate, leave below ground structures such as footings and disused pipes in place if their removal will cause excessive root disturbance.

When pulling up existing paving the Contractor shall work backwards, lifting demolished paving back onto the existing paving. Roots may be found growing under the pavement and should not be trafficked. Roots growing into existing sub-base should be left and new surface finishes placed over the top without disturbance.

8. Excavations or Trenching within TPZ's

Excavation within TPZ's shall not be allowed using mechanical equipment such as excavators or backhoes. Excavation within TPZ's shall only be carried out carefully by hand taking care not to damage the bark and wood of any roots. Specialist tools for removing soil around roots using compressed air (air spade), or water vacuum extraction shall be an appropriate alternative to hand digging and is the preferred method.

Exposed roots to be removed shall be cut cleanly with a sharp saw or secateurs at the face of the excavation. Roots temporarily exposed must be protected by appropriate covering with damp hessian or sand. Roots greater than 50mm in diameter are to be retained and shall only be cut in exceptional circumstances and only after consultation with the Project Consulting Arborist. Roots greater than 100mm in diameter shall typically not be allowed to be cut and must be worked around.

9. Soft Landscaping Installation

Final trimming and planting shall be judiciously undertaken around trees. All soft landscaping within the tree protection zones will be installed with care to avoid root disturbance from irrigation trenching, lighting installation and the planting of larger plants. Permanent irrigation (if used) shall be installed as spray heads located outside of TPZ's and spraying inwards. All other services such as small-scale electrical services shall also be designed and installed to avoid any excavation or trenching around the trees.

No significant excavation or cultivation, especially by rotary hoes or excavators, shall occur within TPZs. Where new designs require the levels to be increased, good quality and permeable top soil shall be used. It should be firmed into place but not over compacted. All areas close to tree trunks shall be kept at the original ground level. Where turf is to be installed tree trunks shall have mulched rings applied rather than grass laid up to the trunk.

The size of the installed plants shall typically be less than 5L pots so that the maximum depth of the new root balls is less than 200mm. Any planting proposed that is larger than this shall be only installed outside of the SRZ and with care to not injure roots while digging planting holes.

10. Canopy Pruning

The Contractor shall prune branches of protected trees only as directed by the Project Consulting Arborist. Pruning is only to be undertaken by a qualified arborist (under the supervision of a person with AQF Level 4 or above). The Project Consulting Arborist is to be at present at all times during the pruning work. Work is to be in strict accordance with to AS4373 Pruning of Amenity Trees. Do not treat wounds.

11. Root Pruning

Pruning of roots of protected trees shall only be as directed the Project Consulting Arborist. The Tree Contractor shall use only a qualified arborist (AQF Level 4 or above). The Project Consulting Arborist is to be present at all times during the root pruning.

Roots are not to be cut using normal excavation machinery of any sort. This usually results in splitting and massive disturbance well past the intended line of cut. When required to cut roots, use hand methods and sharp hand tools (e.g. secateurs, hand saw) such that the remaining root systems are preserved intact and undamaged. Roots are to be cut back by hand square to the direction of the root travel (or edge of the excavation). Do not cut any tree roots exceeding 40mm diameter unless permitted. Excavations within root zones should be kept open for as short a period as possible. Any excavated face containing roots is to be temporarily supported, where necessary, to prevent soil loss from around the other retained roots.

12. Accidental Tree Damage

Should a tree be accidentally damaged, the Contractor shall immediately notify the Project Consulting Arborist. Timing can be of the essence, particularly with bark injuries, trunk damage or chemical contaminations.

If a branch has been broken, it shall be removed and the damaged end pruned to a suitable branch collar. If the branch has been torn out of the trunk, assessment shall be made and the damage cleaned up by as much as possible without further damage to the tree.

If roots are accidentally disturbed or excavated, any broken, crushed and torn sections shall be exposed and pruned leaving clean cuts to minimise risk of infection by fungal pathogens and promote good conditions for new root growth.

3 x Existing trees to be removed due to conflict with proposed car park. [Waterhousea floribunda (Weeping Lilly pilli)]

4 x Existing trees to be removed due to conflict with ILU'S. [Tristaniopsis laurina (Water Gum)]

1 x Existing young street tree to be removed due to conflict with driveway. [Cupaniopsis anacardioides (Tuckeroo)]

1 x Existing tree to be removed due to conflict with ILU'S. [Tristaniopsis laurina (Water Gum)]

1 x Existing young street tree to be removed due to conflict with driveway. [Tristaniopsis laurina (Water Gum)]

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1 x Existing tree to be removed due to conflict with ILU'S. [Tristaniopsis laurina (Water Gum)]

4 x Existing trees to be removed due to conflict with ILU'S. [Tristaniopsis laurina (Water Gum)]

2 x Existing young street trees to be removed due to conflict with driveway. [Lophostemon confertus (Brush Box)]

1 x Existing young street tree to be removed due to conflict with driveway. [Liriodendron tulipifera (Tulip Tree)]

1 x Existing young in-road street tree to be removed due to conflict with driveway. [Cupaniopsis anacardioides (Tuckeroo)]

1 x Existing young tree to be removed due to conflict with proposed regrading for new landscape works. [Tristaniopsis laurina (Water Gum)]



ARTERRA DESIGN PTY LTD ABN 40 069 552 610
SUITE 602 / 51 RAWSON STREET, EPPING, NSW 2121
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Tree Impact and Protection Plan Legend

- Existing Tree Retained
- Existing Tree Removed
- Construction Period Tree Protection Zone - consolidated area
- Tree Protection Zone temporary fencing
- Trunk Protection Battens to be installed
- Ground Protection-Rumble Boards to be installed

REFER L-SD-09 FOR SUMMARY SCHEDULE OF TREES REMOVED



www.dialbeforeyoudig.com.au

A For Development Application RWS 28/09/17
REVISION DESCRIPTION CHD DATE

PROJECT & CLIENT

Oran Park - Anglicare Community Services

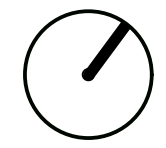
Anglicare Community Services



DRAWING TITLE

Tree Protection & Removal Plan -West

Project No : 17.10
Designed : RWS
Drawn : RWS
Scale : 1:500@A1, 1:1000@A3



DRAWING NUMBER L-SD-08 REVISION A

Example image of acceptable ground protection rumble boards



Example image of acceptable trunk protection batten

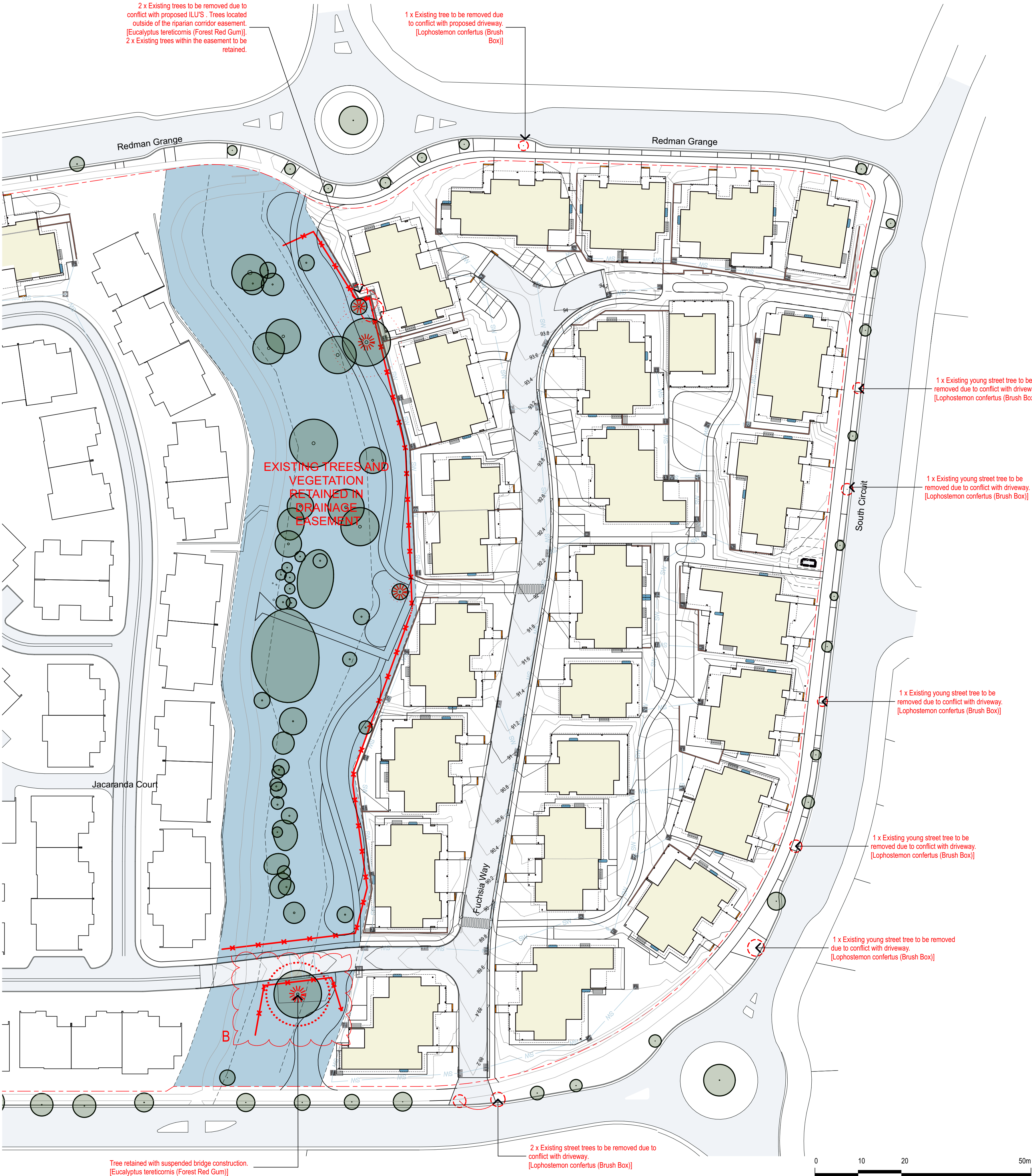


Example image of acceptable tree protection fencing measures to be applied. (1.8m high rigid metal fencing with appropriate lateral bracing)



Tree Removal Schedule

Botanical Name	Common Name	Quantity
STREET TREES TO BE REMOVED		
Cupaniopsis anacardioides	Tuckeroo	2
Liriodendron tulipifera	Tulip Tree	1
Lophostemon confertus	Brush Box	10
Tristania laurina	Water Gum	2
PRIVATE PROPERTY TREES TO BE REMOVED		
Eucalyptus tereticornis	Forest Red Gum	2
Tristania laurina	Water Gum	12
Waterhousea floribunda	Weeping Lilly pilly	3
TOTAL		32



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Tree Impact and Protection Plan Legend

- Existing Tree Retained
- Existing Tree Removed
- Construction Period Tree Protection Zone - consolidated area
- Tree Protection Zone temporary fencing
- Trunk Protection Batten to be installed
- Ground Protection-Rumble Boards to be installed



B	Tree [T34] near road retained with use of suspended pavement For Development Application	RWS	14/02/18
A	REVISION DESCRIPTION	RWS	28/09/17

PROJECT & CLIENT
Oran Park - Anglicare Community Services

Anglicare Community Services
DRAWING TITLE
Tree Protection & Removal Plan -East

Project No : 17.10
Designed : RWS
Drawn : RWS
Scale : 1:500@A1, 1:1000@A3

DRAWING NUMBER
L-SD-09

FENCING LEGEND



1.2m high black palisade fence



1.8m high horizontal aluminium slat fence



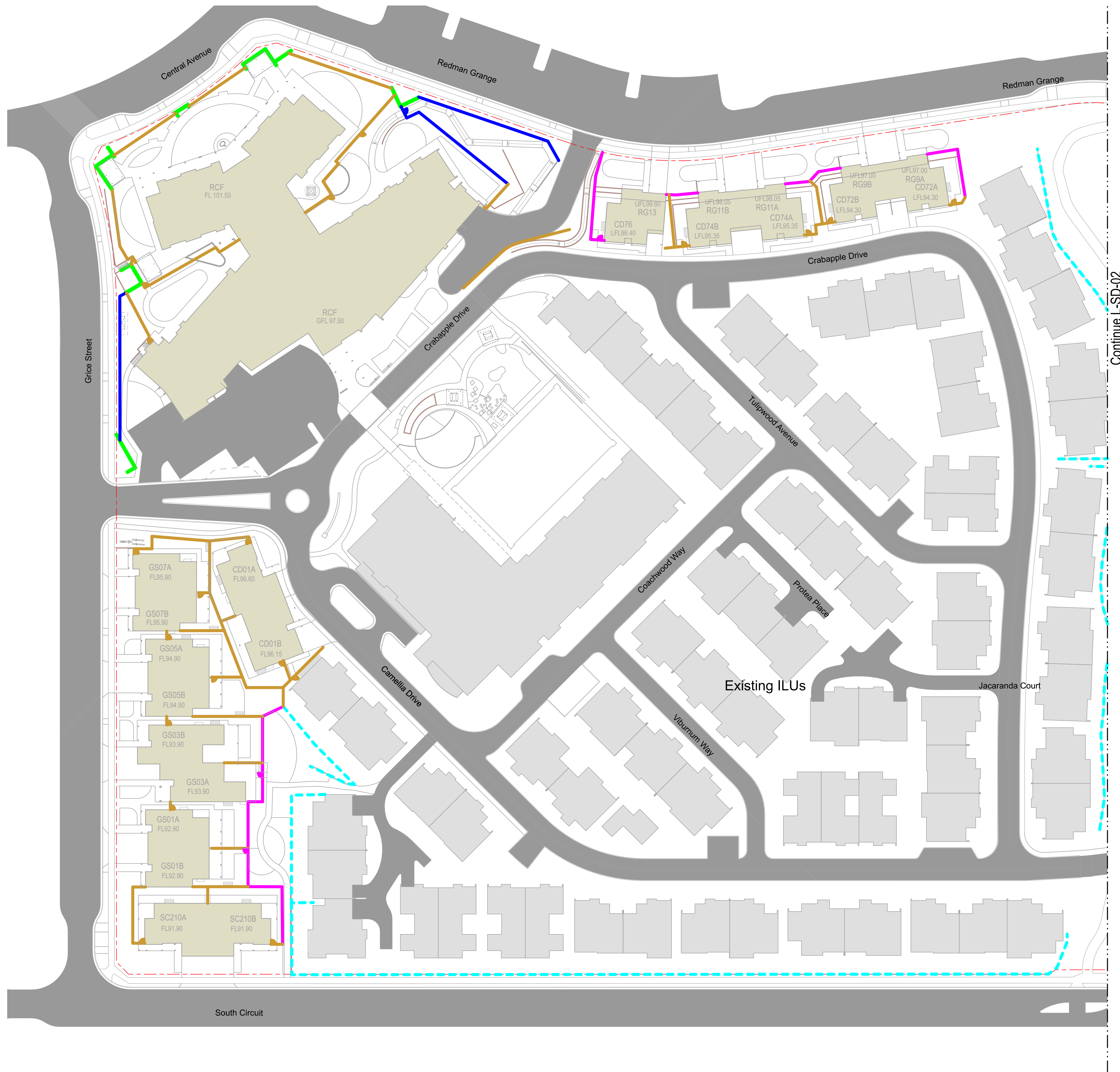
1.8m high black security palisade fence



Pre-cast concrete feature wall



Typically 1.2m high black palisade fence, sometimes interspersed with 1.8m high Colourbond fence when screen required. (Existing)



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A	For Development Application	RWS	06/02/18
REVISION	DESCRIPTION	CHKD	DATE

PROJECT & CLIENT

Oran Park - Anglicare
Community Services

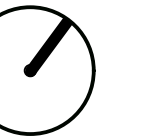
Anglicare Community Services



DRAWING TITLE

Landscape Fencing Plan -
West

Project No : 17.10
Designed : RWS
Drawn : RWS
Scale : 1:500@A1, 1:1000@A3



DRAWING NUMBER
L-SD-10

REVISION
A

Plotted at : 6:26 pm 14/2/18

FENCING LEGEND



1.2m high black palisade fence



1.8m high horizontal aluminium slat fence



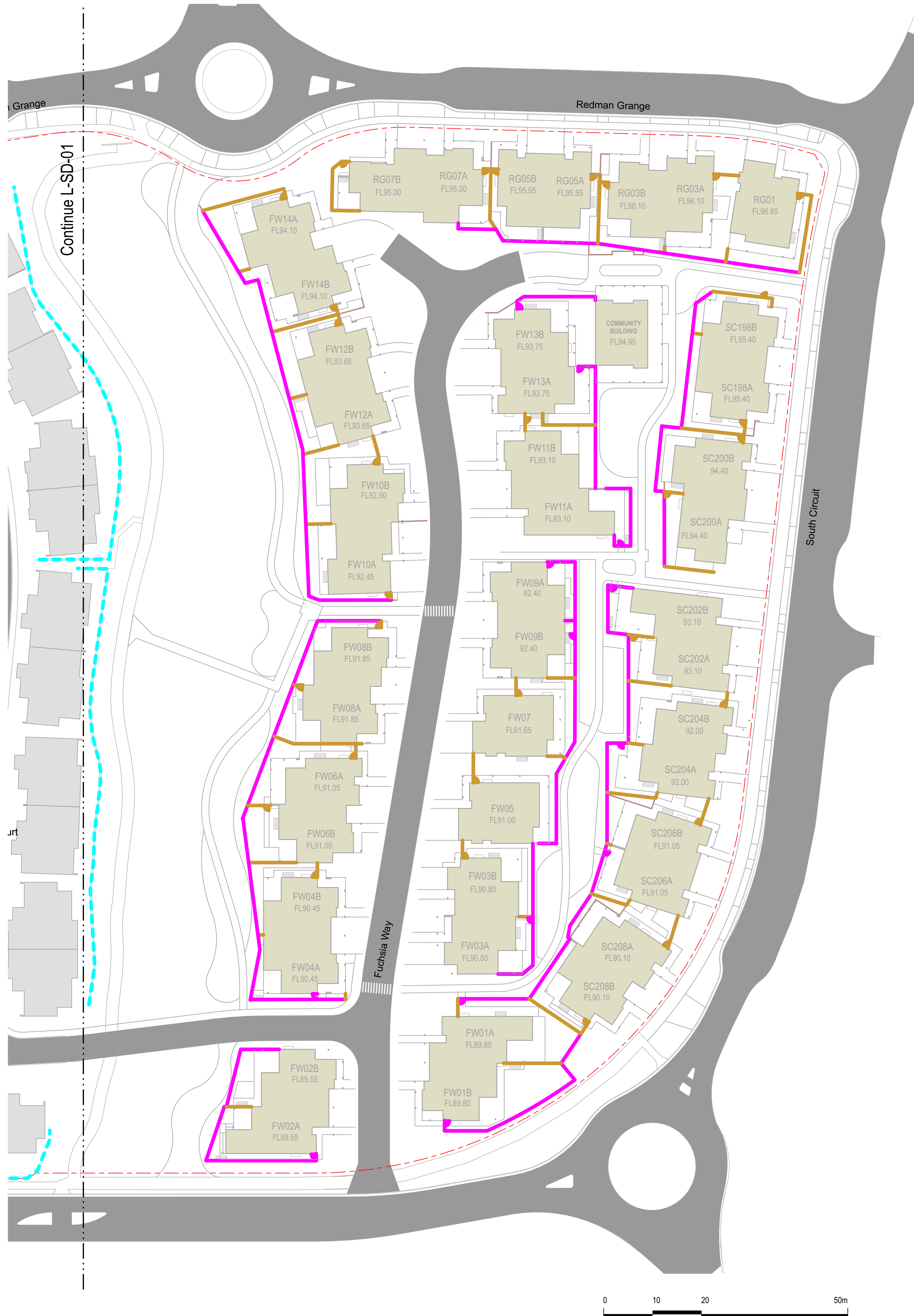
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A	For Development Application	RWS	06/02/18
REVISION	DESCRIPTION	CHKD	DATE

PROJECT & CLIENT

Oran Park - Anglicare
Community Services

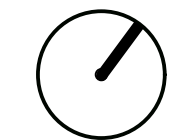
Anglicare Community Services



DRAWING TITLE

Landscape Fencing Plan -
East

Project No : 17.10
Designed : RWS
Drawn : RWS
Scale : 1:500@A1, 1:1000@A3



DRAWING NUMBER
L-SD-11

REVISION
A