



PROPOSED WAREHOUSE, LOGISTICS AND INDUSTRIAL FACILITIES HUB

657-769 MAMRE ROAD, KEMPS CREEK NSW
(LOT 34 DP 1118173, LOT X DP 421633, LOT 1 DP 1018318,
LOT Y DP 421633 & LOT 22 DP 258414)

LANDSCAPE MASTERPLAN REPORT
30.07.2020
ISSUE L







- KEY
- Site Boundary
 - Future Recreation Area

- DESIGN NOTES
- SITE ENTRY FEATURE**
 - Feature tree and shrub planting
 - Entry feature walls and signage
 - Pylon sign
 - MAMRE RD SETBACK**
 - 10m landscaped setback
 - Large canopy tree planting (15m ht +)
 - Screening hedge planting (4m ht +)
 - Perimeter security fence set back into landscaped garden beds
 - BAKER'S LANE**
 - Multiple layers of large canopy trees (15m ht +)
 - Smaller trees (8m ht +) to turf verge edges to reduce heavy vehicle conflicts
 - Regional cycleway link from Mamre rd to the South creek corridor (for extent shown)
 - SITE BOUNDARY SETBACKS**
 - Minimum 5m boundary setbacks (landscaped)
 - Plant with screening trees (10m-15m height)
 - FUTURE FREIGHT CORRIDOR**
 - ALTIS FIRST ESTATE DISTRIBUTION HUB**
 - WATER QUALITY BASIN**
 - FUTURE SOUTHERN LINK ROAD CORRIDOR**
 - INTERNAL ACCESS ROAD**
 - Minimum 4m landscape setback
 - Large canopy tree planting (10m ht+)
 - Small trees to turf verge edges


RE-VEGETATION STATISTICS



1,250 NEW TREES PLANTED




141,250 m² OF NEW TREE CANOPY




91,700 m² OF NEW SOFT LANDSCAPE


GREENER PLACES PRINCIPLES



PRINCIPLE 1.
Integration
combine green infrastructure with urban development and grey infrastructure



PRINCIPLE 2.
Connectivity
create an interconnected network of open space



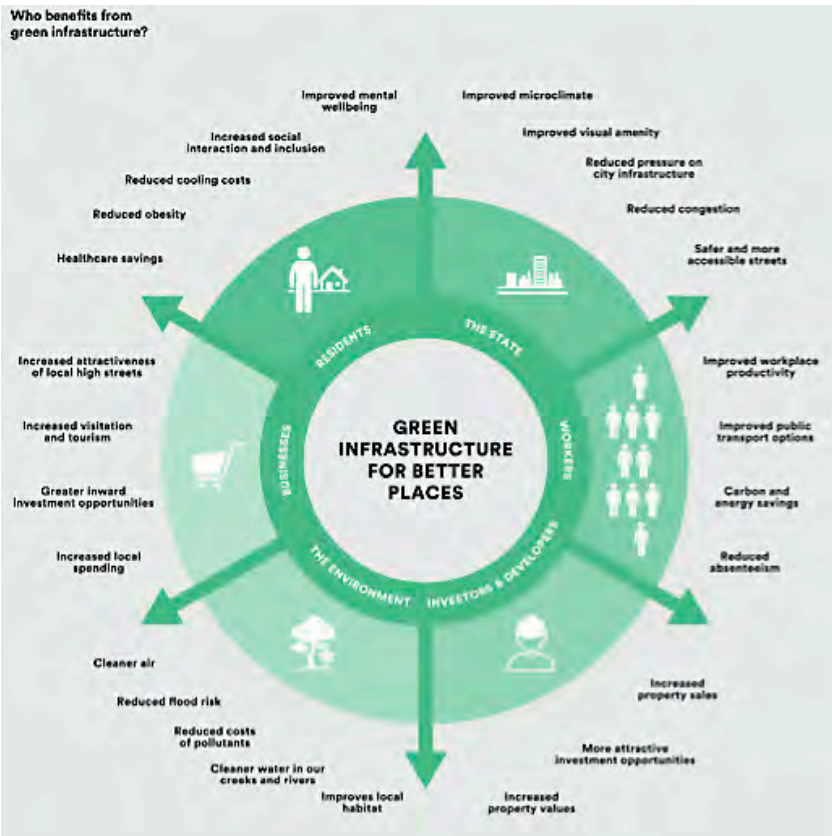
PRINCIPLE 3.
Multifunctionality
deliver multiple ecosystem services simultaneously

NSW DRAFT GREENER PLACES POLICY (GAO 2020)

LANDSCAPE DESIGN PHILOSOPHY

Green Infrastructure is the network of green spaces, natural systems and semi-natural systems including parks, rivers, bushland and private gardens that are strategically planned, designed and managed to support a good quality of life in an urban environment.

Green Infrastructure should be envisioned as a three-dimensional envelope that surrounds and connects buildings, streets and utilities. The concept of landscape as Green Infrastructure provides a framework for integrating the work of designers, planners, developers and policy makers, and leveraging this collaboration to achieve larger local or state goals.



NSW GAO - Draft Greener Places Policy 2020

Green Infrastructure is as crucial to the city as transport, cultural and communications infrastructure. It delivers a range of benefits including:

- Healthy living
- Mitigating flooding
- Improving air and water quality
- Cooling the urban environment
- Encouraging walking and cycling
- Enhancing biodiversity and ecological resilience
- Absorbing and transforming waste.

The landscape design principles for the landscape masterplan (Issue K- 23.07.20) are consistent with the previous exhibited application. These four main principles associated with the draft NSW Draft Greener Places Policy prepared by the Government Architect NSW (2017) are:

a) **Principle 1: Integration:** We propose a multi-purpose infrastructure strategy that mimics nature, provides critical ecosystem services and promotes healthy and active living. We propose to combine green space with urban development and WSD infrastructure.

b) **Principle 2: Connectivity:** We aim to create a network of high quality open streetscape and spaces that connect with each warehouse and office, public transport hubs, South creek corridor. The network includes physical and functional connections that benefit people, wildlife and the logistics nature of the estate.

c) **Principle 3: Multifunctionality:** Our proposed green space infrastructure is designed to be high quality and high performing, producing ecological, social, environmental and economic benefits. The multifunctionality of our design proposal allows the sites green infrastructure to deliver multiple ecosystem, environmental and other services simultaneously.

d) **Principle 4: Participation:** We have followed a planning process that has been open to all, transparent and incorporates the knowledge and needs of all interested and diverse parties. The process has involved stakeholders in development, NSW Government Penrith Council and the industrial open market through tenants and the companies they represent. The process has incorporated local and state Green Infrastructure policies and actions.

The following design features reflect the project outcomes:

PROJECT OUTCOMES:

1. **Conservation of the natural environment.**
 - This project will lead to the future protection and enhancement of the South Creek natural resources and local habitat by improving the quality of watercourse, creating a green habitat corridor and protecting any endangered ecological communities
 - promotion of social, cultural, recreational, and educational opportunities within natural landscapes.
2. **Increased access to open space**
 - improved connections to local destinations such as the South Creek corridor
 - quantity, quality, distribution, and accessibility of Industrial office green spaces enables the delivery of multifunctional spaces that promote healthy work environments
 - future provision in the South Creek corridor for a diverse range of outdoor space for cultural, educational, and community activities
 - future provision in the South Creek Corridor of high-performing open spaces which foster synergies between recreation, climate change adaptation, and local habitat conservation.
3. **Improved connectivity to promote active living**
 - improvements to the office communal areas and frontages that promote exercise and alternative modes of transport such as walking and cycling.
4. **Increase urban greening to ameliorate climate extremes**
 - design of green cover strategies including street trees, front setback canopy trees, cooler pavement materials and WSUD.
 - Provide benefits such as improved amenity, comfort, health, reduced stormwater run-off, improved air and water quality, and energy and resource efficiency

a) RE-VEGETATION STRATEGY

The strategy for re-vegetating the site focuses on canopy tree planting to reduce the “urban heat island effect”. We have proposed a mix of local endemic, native and exotic trees to strengthen the urban design principles and to comply with current sustainability guidelines. Street verges, buffer tree planting to boundaries and all road setbacks are densely planted with canopy trees ranging from 6m to 15m+ in height and canopy spread. Car parks hard surfaces are shaded by tree planting between car parking spaces. Cycleways and path systems are also shaded by canopy tree planting. WSUD principles including soft engineering through bio-swales, detention basins and grey water re-use (co-ordinated with the civil engineer) shall help in maintaining and managing the re-vegetation areas.

Our re-vegetation numbers are as follows:

New vegetation area:	91,700 m ²
No. new trees planted:	1250
Approximate canopy cover (average):	141,250 m ²
Building Floor area:	164,755 m ²

Greener Places policy principles: Integration, Connectivity, Multifunctionality.

b) COMPLETE STREETS

All streets have been designed to be multifunctional and provide connectivity throughout the Estate for vehicles, pedestrians and cyclists. The streets form the main “green spines” throughout development and link the South Creek Corridor with the built form. The street has been designed in accordance with Penrith City Council’s Public Domain policy. The main features of the public domain street design are to:

1. provide tree canopy cover and reduce the “urban heat island effect”;
2. provide safe and comfortable transit for pedestrians and cyclists;
3. strengthen canopy connectivity through the Estate;
4. visually link the South Creek Corridor to the Estate and Blue Mountains beyond;
5. allow multi-functionality through the revisions of various transit lanes such as heavy vehicle, cars, pedestrian footpaths and cycleways;
6. soften and screen the bulk of the warehouses;
7. help create a cooler microclimate around buildings and along pedestrian routes;
8. provide multiple opportunities to create an address for each warehouse project;
9. integrate lighting for safety;
10. allow safe passage for visitors and workers to experience the South Creek Corridor interface;
11. strengthen the connection from Mamre Road through the estate to the South Creek Corridor environment;
12. Incorporate WSUD principles into the streetscape including water quality bio-swales and vegetated detention basins.

Greener Places policy principles: Integration, Connectivity, Multifunctionality, Participation



KEY	
<div></div>	Main Avenue Tree Planting <ul style="list-style-type: none"><i>Corymbia maculata</i><i>Flindersia australis</i><i>Tristanopsis "luscious"</i><i>Angophora costata</i>
<div></div>	Street Tree Planting <ul style="list-style-type: none"><i>Waterhousea floribunda</i><i>Tristanopsis "luscious"</i><i>Angophora costata</i><i>Corymbia maculata</i>
<div></div>	Boundary & Setback Tree Planting <ul style="list-style-type: none"><i>Elaeocarpus reticulatus</i><i>Tristanopsis "luscious"</i><i>Waterhousea floribunda</i>
<div></div>	Carpark & Office Tree Planting <ul style="list-style-type: none"><i>Cupaniopsis anacardioides</i><i>Tristanopsis "luscious"</i><i>Waterhousea floribunda</i><i>Corymbia "baby nitro"</i><i>Westringia fruticosa</i><i>Eucalyptus amplifolia</i>
<div></div>	Water Quality Basin Planting <ul style="list-style-type: none"><i>Eucalyptus moluccana</i><i>Eucalyptus amplifolia</i><i>Tristanopsis "luscious"</i><i>Melaleuca styphelioides</i><i>Acacia longifolia</i>
<div></div>	Mamre Rd Setback Planting <ul style="list-style-type: none"><i>Waterhousea floribunda</i><i>Tristanopsis "luscious"</i><i>Corymbia "baby nitro"</i><i>Acmena smithii</i><i>Elaeocarpus reticulatus</i>
<div></div>	Future Recreation Corridor Planting <ul style="list-style-type: none">Refer to WSPT Guidelines

NOTE:
REFER TO PLANTING LIST ON DWG L010 FOR DETAILED SCHEDULES

PRECEDENT IMAGES - BUILDING FRONTAGES

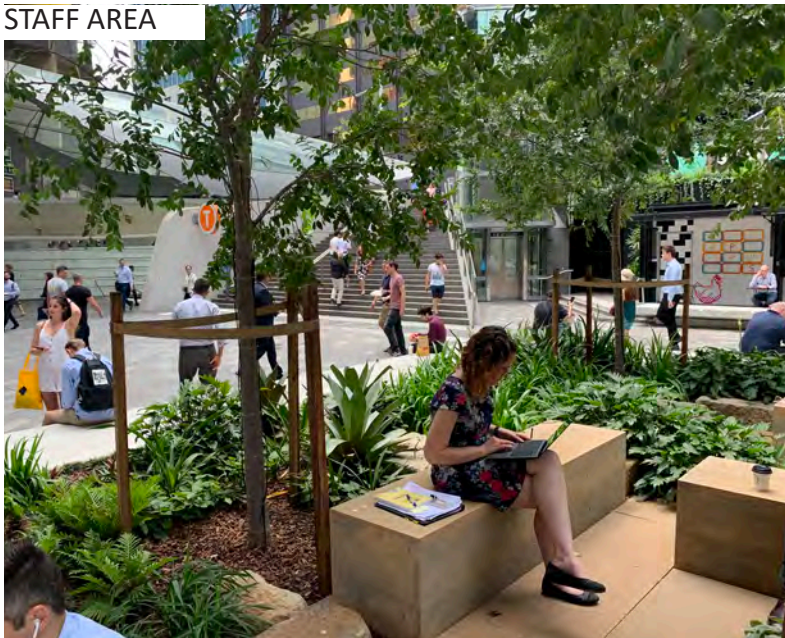
FRONT SETBACK



BIKE PARKING AND LANDSCAPE BUFFER



STAFF AREA

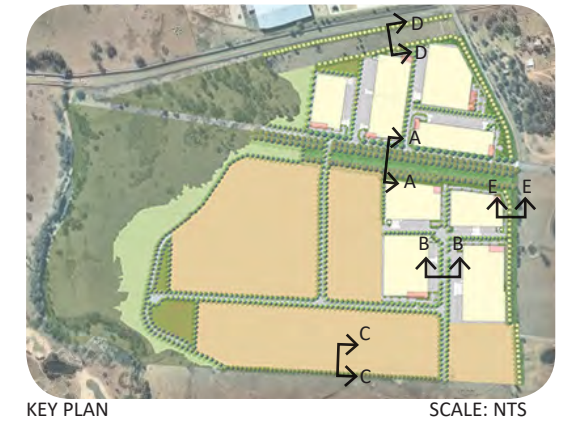
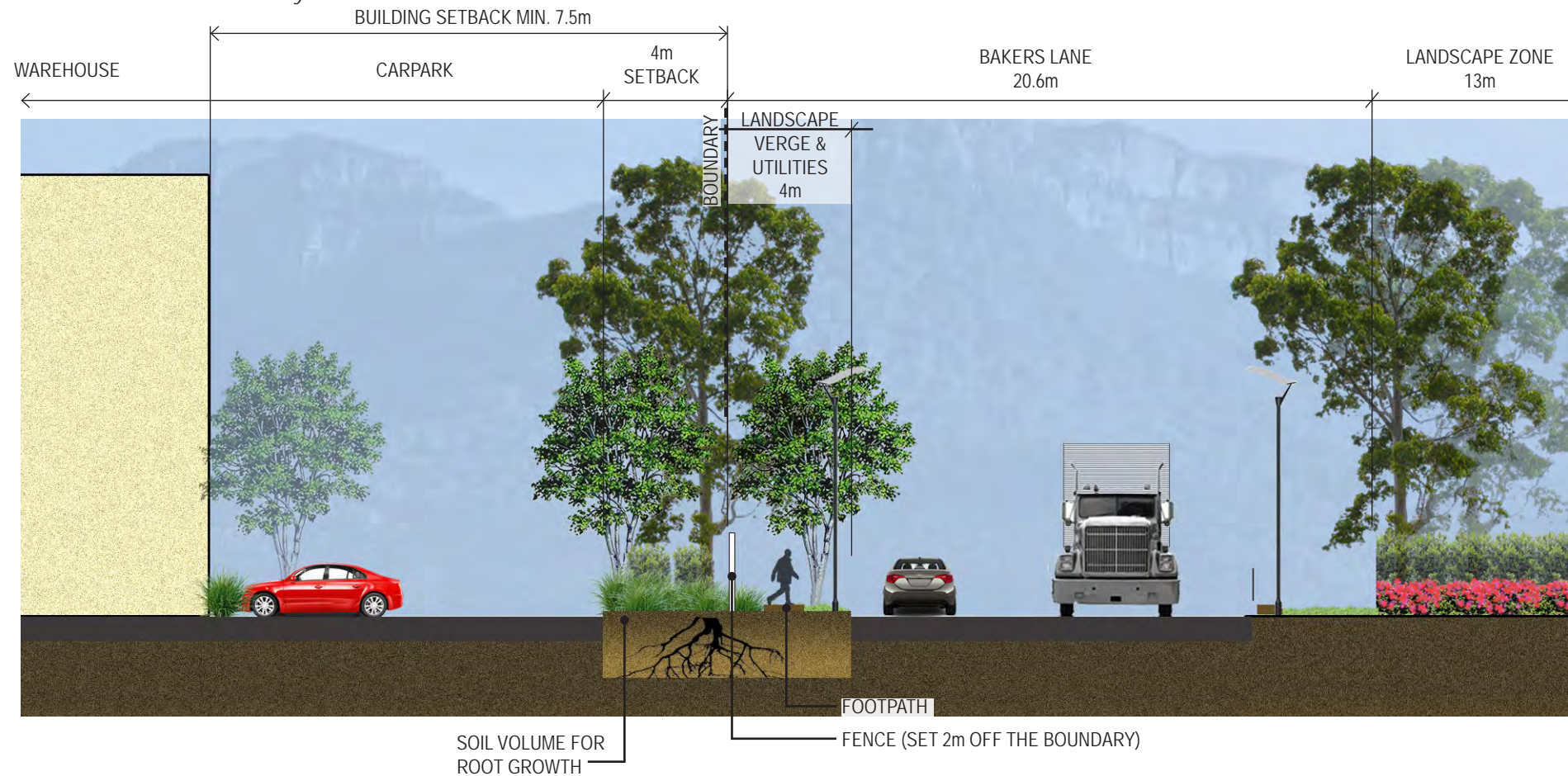


PARKING AREA



LANDSCAPE SECTIONS

Note: landscape sections are indicative only



GREENER PLACES PRINCIPLES



PRINCIPLE 1.
Integration

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PRINCIPLE 2.
Connectivity

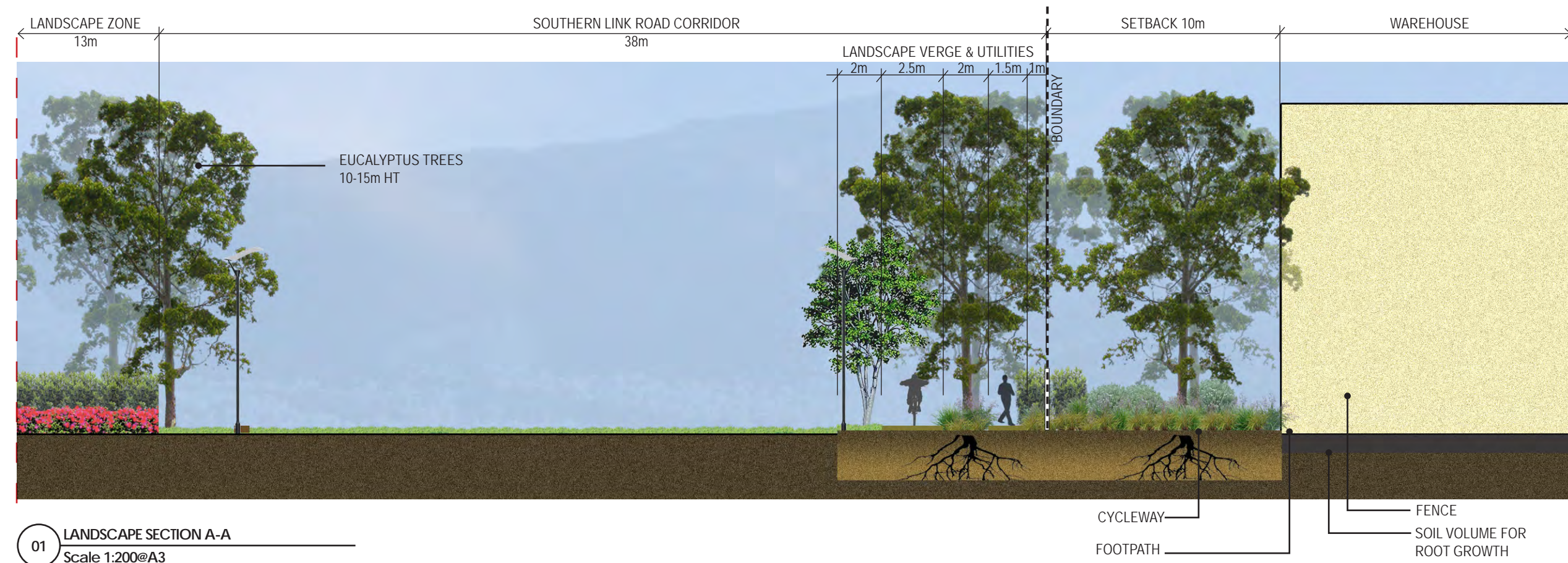
create an interconnected network of open space



PRINCIPLE 3.
Multifunctionality

deliver multiple ecosystem services simultaneously

NSW DRAFT GREENER PLACES POLICY (GAO 2020)




01 LANDSCAPE SECTION A-A
Scale 1:200@A3


LANDSCAPE SECTIONS

Note: landscape sections are indicative only


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PRINCIPLE 1.
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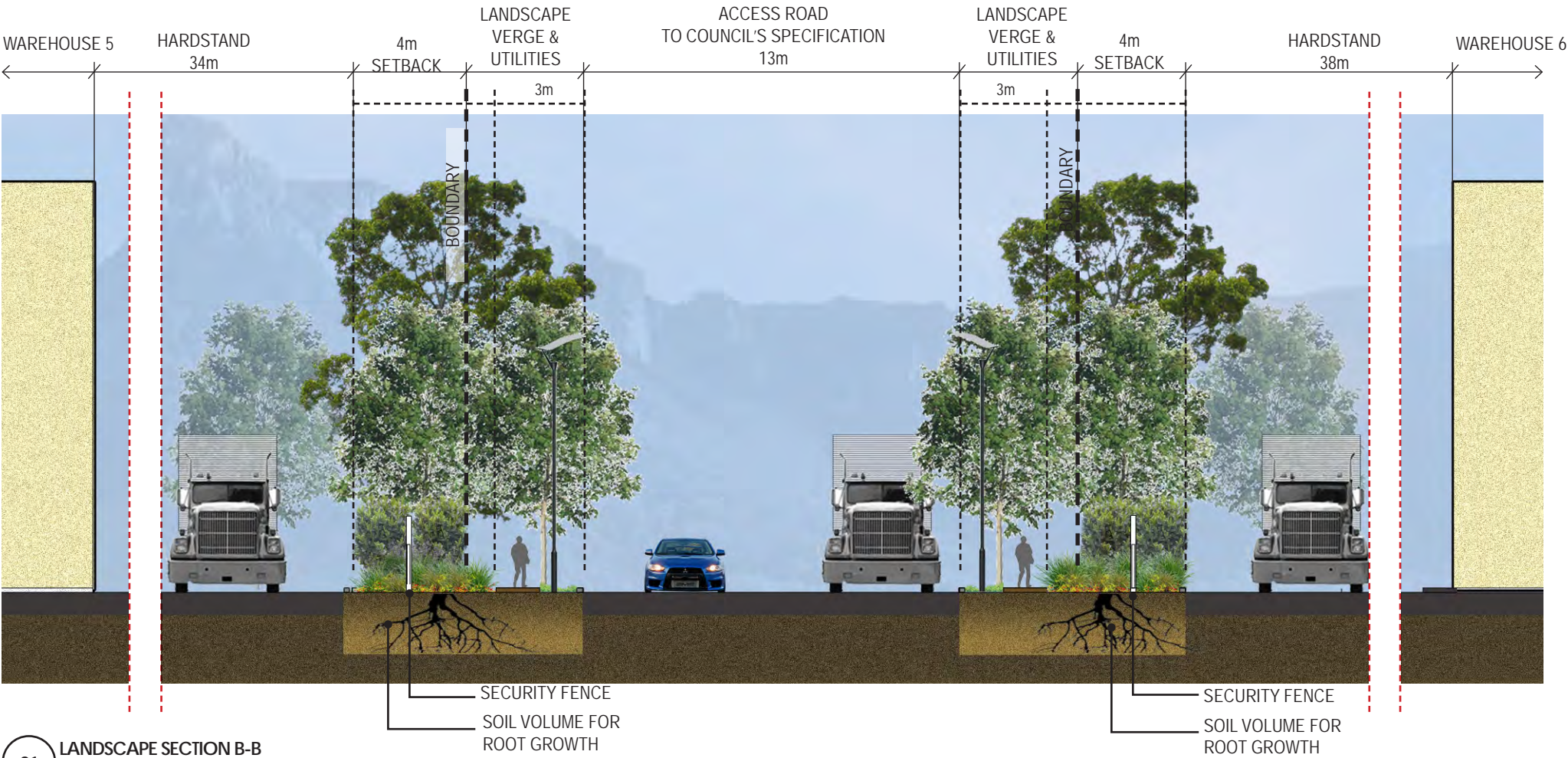
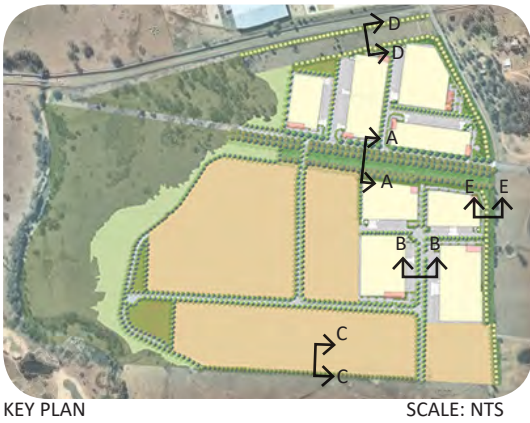


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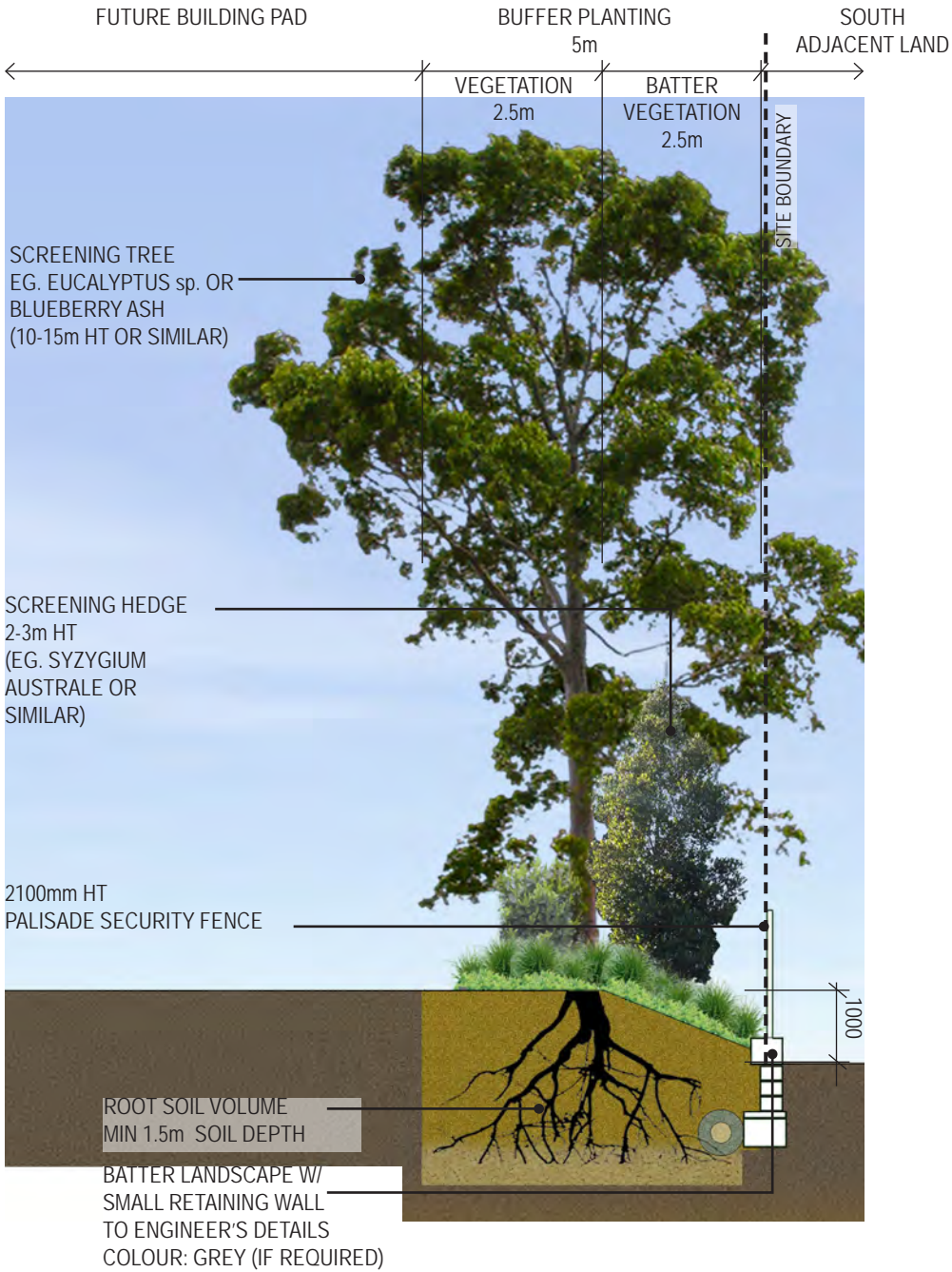
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NSW DRAFT GREENER PLACES POLICY (GAO 2020)



HEALTHY TREE GROWTH

THE TREE ROOT VOLUME IS SUFFICIENT FOR OPTIMAL GROWTH AS THE VOLUME OF SOIL IS A LINEAR EXCAVATED CONTINUOUS TRENCH WITH 1500mm DEPTH OF IMPORTED SOIL THAT RUNS ALONG THE BOUNDARY.



LANDSCAPE SECTIONS

Note: landscape sections are indicative only

GREENER PLACES PRINCIPLES



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PRINCIPLE 3.

Multifunctionality

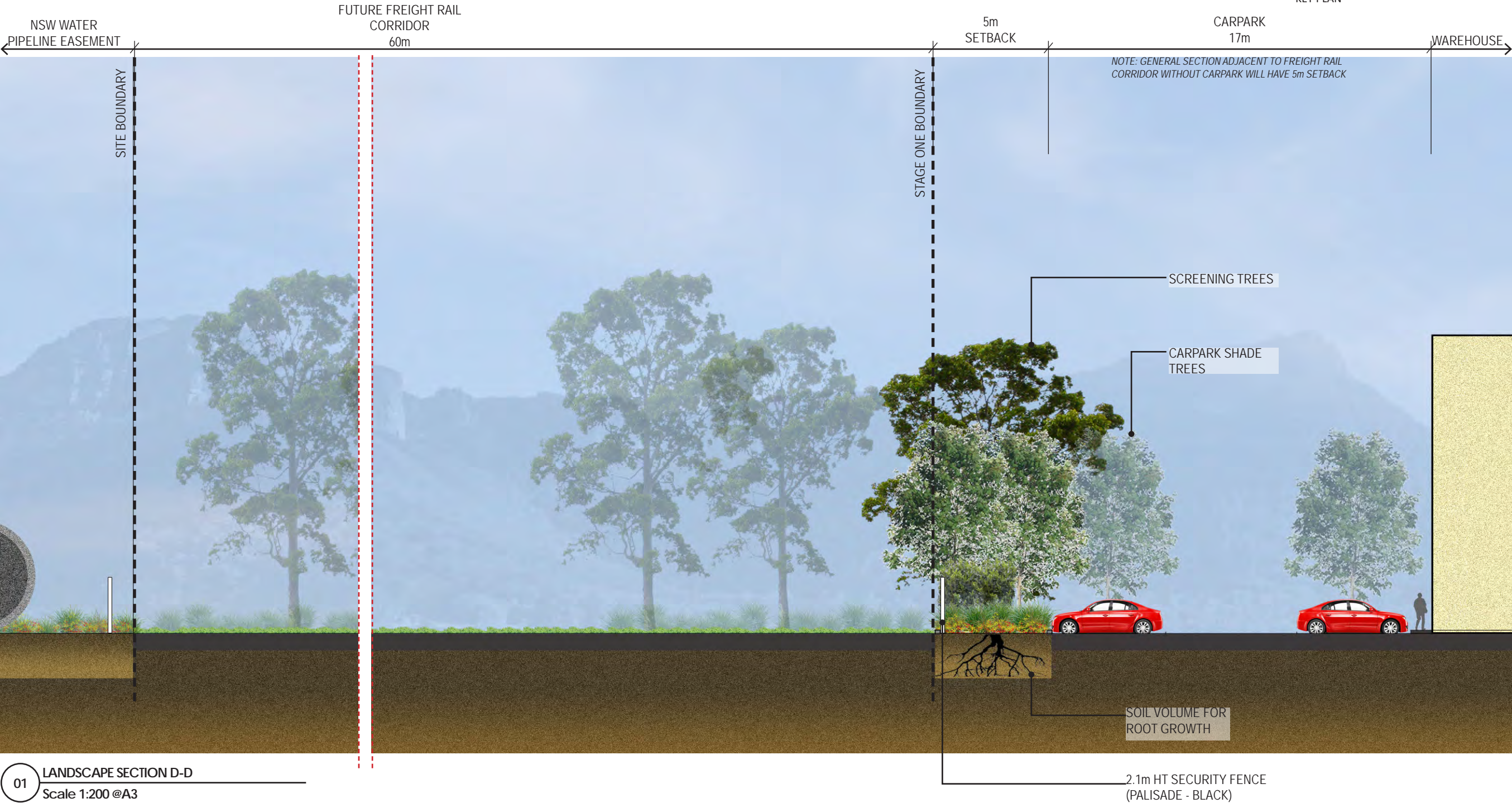
deliver multiple ecosystem services simultaneously

NSW DRAFT GREENER PLACES POLICY (GAO 2020)



KEY PLAN

SCALE: NTS




01 LANDSCAPE SECTION D-D
Scale 1:200 @A3




LANDSCAPE SECTIONS

Note: landscape sections are indicative only


GREENER PLACES PRINCIPLES



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Integration
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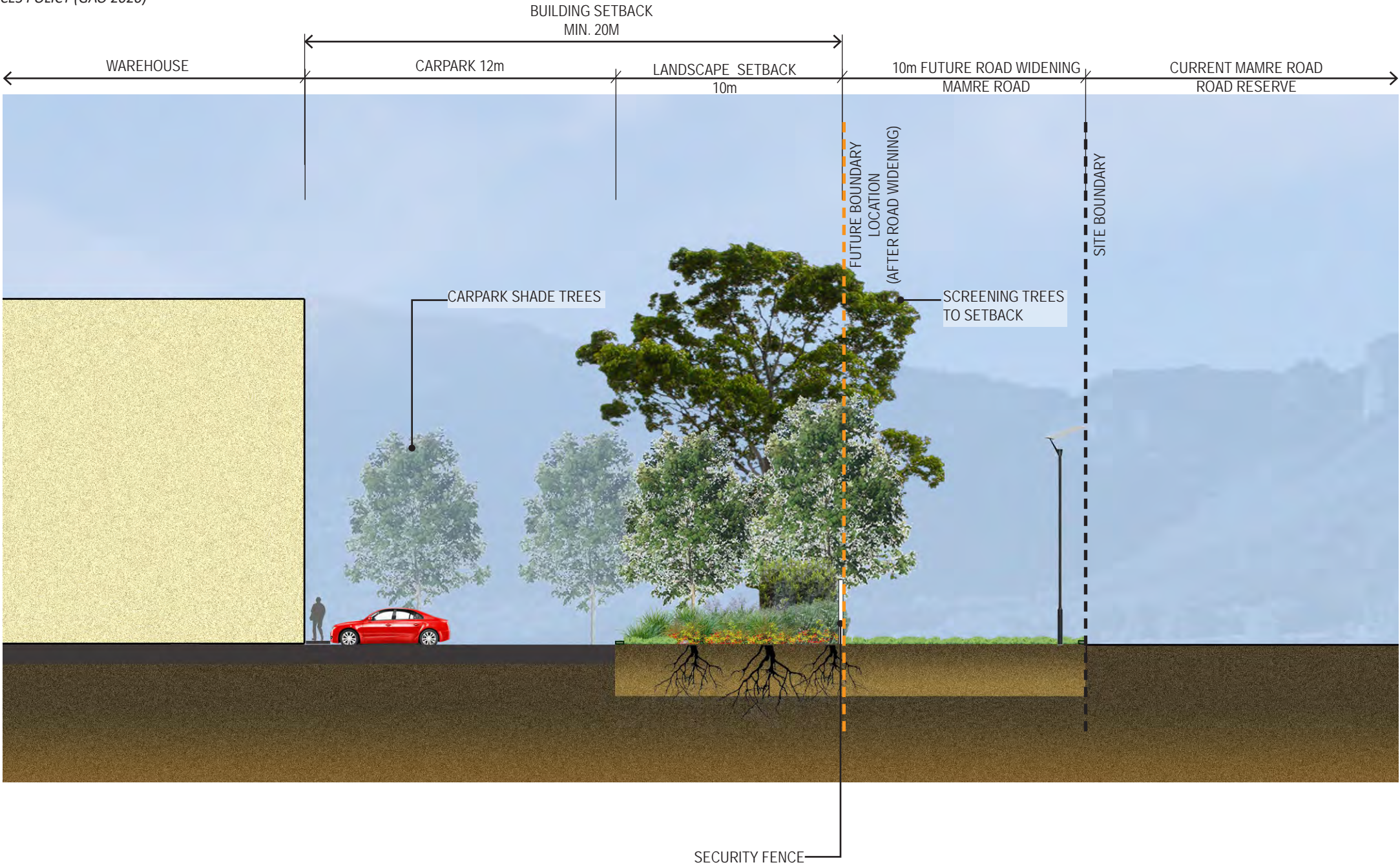
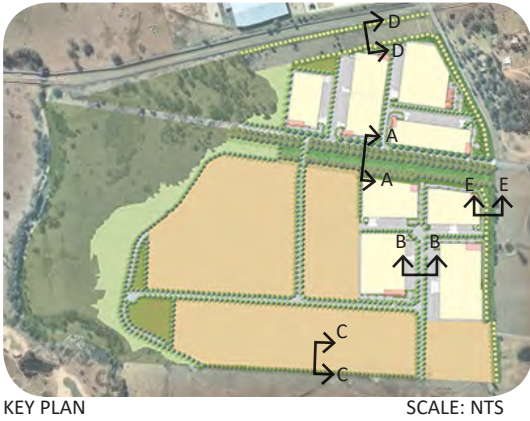


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NSW DRAFT GREENER PLACES POLICY (GAO 2020)



01 LANDSCAPE SECTION E-E
Scale 1:200@A3

PROJECT	PROJECT NO.	PURPOSE	SCALE	REVISION	DATE	DRAWN	CHECKED	PAGE
PROPOSED WAREHOUSE, LOGISTICS AND INDUSTRIAL FACILITIES HUB 657-769 MAMRE ROAD, KEMPS CREEK NSW	H8-18018	SSD APPLICATION	1:200 @A3	L	30.07.2020	KM	DV	L09



PROPOSED PLANTING LIST

Plant list sourced from "Penrith City Council DCP

SMALL TREE SPECIES		SMALL TREE SPECIES		NATIVE PLANT SPECIES	
BOTANICAL NAME	COMMON NAME	BOTANICAL NAME	COMMON NAME	BOTANICAL NAME	COMMON NAME
Acer buergeranum	Trident Maple	Auranticarpa rhombifolia)		TREES	
Acer freemannii ‘Autumn Blaze’	Autumn Blaze Freeman Maple	Pyrus calleryana 'Aristocrat'	Ornamental Pear	Acacia decurrens	Green Wattle
Acer negundo ‘Sensation’	Sensation Maple	Pyrus calleryana 'Bradford'	Pear	Acacia elata	Cedar Wattle
Acmena smithii	Lilly Pilly	Pyrus calleryana 'Capital'	Pear	Acacia falcata	Sickle Wattle
Angophora hispida	Dwarf Apple	Pyrus calleryana ‘Glens Form’	Pear	Acacia floribunda	White Sally
Arbutus andrachnoides	Grecian Strawberry Tree	Pyrus ussuriensis	Manchurian Pear	Acacia implexa	Hickory Wattle
Arbutus unedo	Irish Strawberry Tree	Quercus palustris 'Pringreen' green Pillar	Pin Oak	Acacia longifolia	Sydney Golden wattle
Backhousia citriodora	Lemon Scented Myrtle	Tristaniopsis laurina	Water Gum	Acacia parramattensis	Parramatta Wattle
Backhousia myrtifolia	Grey Myrtle	Waterhousea floribunda and cultivars	Weeping Lilly Pilly	Acmena smithii	Lilly Pilly
Banksia integrifolia	Coast Banksia	Syzygium leuhmannii	Riberry, Small leafed lilly pilly	Allocasuarina littoralis	Black She oak
Bauhinia variegata	Butterfly Tree	Ulmus parvifolia (cult)	Chinese elm	Alphitonia excelsa	Red Ash
Brachychiton populneus	Kurrajong	Zelkova serrata 'Green Vase'	Japanese Zelkova	Angophora bakeri	Narrow Leaved Apple
Buckinghamia celsissima	Ivory Curl Flower			Angophora floribunda	Rough Barked Apple
Callistemon salignus	Willow Bottlebrush			Angophora subvelutina	Broad Leaved Apple
Callistemon viminalis ‘Kings Park Special’	Weeping Bottlebrush			Backhousia myrtifolia	Grey Myrtle
Calodendrum capense	Cape chestnut			Brachychiton populneus	Kurrajong-
Ceratonia siliqua	Carob bean			Callicoma serratifolia	Black Wattle
Corymbia eximia	Yellow bloodwood			Casuarina cunninghamiana	River She Oak
Cupaniopsis anacaroides	Tuckeroo			Casuarina glauca	Swamp Oak
Fraxinus griffithii	Evergreen Ash			Commersonia fraseri	Brush Kurrajong
Fraxinus pennsylvanica ‘Cimmzam Cimmaron’	Ash			Corymbia eximia	Yellow Bloodwood
Fraxinus pennsylvanica ‘Urbdel Urbanite’	Ash			Eucalyptus agglomerata	Blue-leaved Stringybark
Fraxinus pennsylvanica ‘Wasky Skyward’	Ash			Eucalyptus amplifolia	Cabbage Gum
Geijera parviflora	Wilga			Eucalyptus benthami	Camden White Gum
Ginkgo biloba ‘Princeton Sentry’	Ginkgo			Eucalyptus crebra	Narrow Leaved Ironbark
Gleditsia triacanthos ‘Shademaster’	Honey Locust			Eucalyptus deanei	Mountain Blue Gum
Gleditsia triacanthos ‘Sunburst’	Honey Locust			Eucalyptus elata	River Peppermint
Harpullia pendula	Tulipwood			Eucalyptus eugenoides	Thin Leaved Stringbark
Koelreuteria paniculata	Golden Rain Tree			Eucalyptus fibrosa	Broad Leaved Ironbark
Lagerstroemia hybrids ‘Indian Summer Range’	Crepe Myrtle Lipan, Biloxi			Eucalyptus longifolia	Woolybutt
Lophostemon confertus	Brush Box			Eucalyptus moluccana	Grey Box
Magnolia grandiflora ‘Exmouth’	Bull Bay Magnolia			Eucalyptus parramattensis	Parramatta Red Gum
Malus floribunda	Japanese Crabapple			Eucalyptus punctata	Grey Gum
Malus ionensis ‘Plena’	Bechtel Crabapple			Eucalyptus saligna	Sydney Blue Gum
Melaleuca bracteata	Black Tea tree			Eucalyptus sclerophylla	Scribbly Gum
Melaleuca linariifolia	Snow in Summer			Eucalyptus tereticornis	Forest Red Gum
Melaleuca styphelioides	Prickly Paperback			Exocarpus cuppressiformis	Cherry Ballart
Pistachia chinensis	Chinese Pistachio			Ficus coronata	Creek Sandpaper Fig
Pittosporum rhombifolium	Queensland Pittosporum				

LARGER TREE SPECIES	
BOTANICAL NAME	COMMON NAME
Acacia melanoxylon	Blackwood
Alphitonia excelsa	Red Ash
Araucaria columnaris & A. heterophylla	Cook Pine/ Norfolk Island Pine
Angophora floribunda	Rough-barked Apple
Angophora subvelutina	Broad-leaved Apple
Castanospermum australe	Blackbean
Casuarina glauca and C. cunninghamiana	She-oak
Cedrus deodara	Deodar Cedar
Corymbia maculata	Spotted Gum
Eucalyptus species.	Eucalypts/ Gum tree
Ficus microphylla. F.microcarpa var. hillii	Fig
Jacaranda mimosifolia	Jacaranda
Liquidambar styraciflua	Liquidambar, Sweetgum
Liriodendron tulipifera	Tulip Tree
Melaleuca quinqueneMa	Broad-leaved Paperbark
Quercus ilex	Holm Oak
Pinus canariensis. P. atula. P. inea.	Pine
Phoenix canariensis	Canary Island Date Palm
Plantanus species	Plane tree
Schinus molle (var. areira)	Peppercorn tree
Taxodium distichum	Bald Cypress
Tipuana tipu	Pride of Bolivia
Washingtonia filifera & W. robusta	Fan palm

PROPOSED PLANTING LIST

Plant list sourced from "Penrith City Council DCP

NATIVE PLANT SPECIES	
BOTANICAL NAME	COMMON NAME
TREES	
Glochidion ferdinandi	Cheese Tree
Leptospermum polygalifolium	Yellow Tea-tree
Melaleuca decora	White Feather Honeymyrtle
Melaleuca linariifolia	Snow-in-Summer
Melaleuca styphelioides	Prickly-leaved Paperbark
Melia azedarach	White Cedar
Pittosporum revolutum	Rough Fruit Pittosporum
Syncarpia glomulifera	Turpentine
Toona ciliata	Red Cedar
Tristaniopsis laurina	Water Gum
SHRUBS	
Acacia binervia	Coast Myall
Acacia implexa	Hickory
Acacia ulicifolia	
Banksia serrata	Old Man Banksia
Breynia oblongifolia	Common Breynia
Bursaria spinosa	Blackthorn
Callistemon salignus	Willow Bottlebrush
Callistemon sp	
Clerodendrum tomentosum	Hairy Clerodendrum
Croton verreauxii	Native Cascarilla
Daviesia genistifolia	
Daviesia ulicifolia	
Dillwynia juniperina	Prickly Parrot-pea
Dodonaea triquetra	
Dodonaea viscosa	Wedge-leaf Hop Bush
Duboisia myoporoides	Corkwood
Gonocarpus longifolius	
Goodenia hederacea	
Goodenia ovata	
Grevillea juniperina	
Hakea sericea	
Hibbertia diffusa	
Hibiscus heterophyllus	Native Rosella
Hymenanthera dentata	Tree Violet
Leptospermum trinervium	Paperbark Tea Tree

NATIVE PLANT SPECIES	
BOTANICAL NAME	COMMON NAME
GROUNDCOVERS, FERNS, HEDGES, GRASSES & CLIMBERS	
Adiantum aethiopicum	Maidenhair Fern
Adiantum formosum	Giant Maidenhair Fern
Agrostis avenacea	Blown Grass
Agrostis parviflora	
Alisma plantago-aquatica	
Alternanthera denticulata	Lesser Joyweed
Aristida vagans	Three-awned Spear Grass
Arthropodium milleflorum	
Austrostipa ramosissima	Bamboo Grass
Asperula conferta	Common Woodruff
Asterolasia correifolia	Star-bush
Azolla pinnata	
Baumea articulata	Bare Twig-rush
Bolboschienus fluviatilis	March Club-rush
Bothriochloa decipiens	
Bothriochloa macra	Red-leg Grass
Brunoniella australis	Blue Trumpet
Calochlaenia dubia	False Bracken Fern
Capillipedium spicigerum	Scented-top Grass
Carex appressa	Tall sedge
Carex inversa	
Cayratia clematidea	Slender Grape
Centella asiatica	Swamp Pennywork
Centipeda minima	
Cheilanthes sieberi	Mulga Fern
Chloris truncata	Windmill Grass
Chloris ventricosa	Tall Chloris
Cissus antarctica	Native Grape
Clematis aristata	Old Man's Beard
Clematis glycinoides	Old Man's Beard
Commelina cyanea	Scurvy Weed
Convolvulus erubescens	Australian Bindweed
Cotula coronopifolia	
Cyclosorus interruptus	
Cymbopogon refractus	Barbed Wire Grass
Cyperus difformis	

NATIVE PLANT SPECIES	
BOTANICAL NAME	COMMON NAME
GROUNDCOVERS, FERNS, HEDGES, GRASSES & CLIMBERS	
Cyperus exaltatus	
Cyperus laevis	
Danthonia racemosa	Wallaby Grass
Danthonia tenuior	Wallaby Grass
Desmodium varians	Slender Tick-trefoil
Dichelachne micrantha	Plume Grass
Dichelachne rara	
Dianella longifolia	Flax Lily
Dianella revoluta	
Dichondra repens	Kidney Weed
Doodia aspera	Rasp Fern
Echinopogon caespitosus	Tufted Hedgehog Grass
Echinopogon ovatus	Forest Hedgehog Grass
Einadia hastata	Berry Saltbush
Eleocharis sphacelata	Tall Spike Rush
Elymus scaber	
Entolasia stricta	Wiry Panic
Eragrostis brownii	Brown's Lovegrass
Eragrostis leptostachya	Paddock Lovegrass
Eremophila debilis	Amulla
Eriochloa pseudoacrotricha	
Eustrephus latifolius	Wombat Berry
Fimbristylis dichotoma	Common Fringe-rush
Fimbristylis velata	
Geitonoplesium cymosum	Scrambling Lily
Geranium homeanum	
Geranium solanderi	
Glyceria australis	
Glycine clandestina	Twining Glycine
Glycine tabacina	
Goodenia hederacea	Violet Leaved Goodenia
Hardenbergia violacea	Purple Twining-pea
Helichrysum scorpioides	Button Everlasting
Hydrocotyle geraniifolia	Pennywort
Hydrocotyle peduncularis	Pennywort
Hypolepis muelleri	Harsh Ground Fern

NATIVE PLANT SPECIES	
BOTANICAL NAME	COMMON NAME
GROUNDCOVERS, FERNS, HEDGES, GRASSES & CLIMBERS	
Imperata cylindrica	Blady Grass
Juncus planifolius	
Juncus usitatus	Common Rush
Kennedia rubicunda	Dusky Coral Pea
Lomandra filiformis	
Lomandra fluviatilis	
Lomandra gracilis	
Lomandra longifolia	Spiny Mat Rush
Lomandra multiflora	
Ludwigia peploides	Water Primrose
Lycopus australis	
Microlaena stipoides	Weeping Grass
Murdannia graminea	Murdannia
Najas tenuifolia	
Nicotiana suaveolens	
Opercularia aspera	Common Stinkweed
Oplismenus aemulus	Basket Grass
Oxalis chnoodes	
Oxalis pes-caprae	Soursob
Pandorea pandorana	Wonga Vine
Parsonsia straminea	Common Silkpod
Paspalidium distans	
Paspalidium distans	
Paspalidium radiatum	
Paspalum distichum	Water Couch
Persicaria decipiens	Slender Knotweed
Persicaria hydropiper	Water Pepper
Persicaria lapathifolia	
Persicaria orientalis	
Phragmites australis	
Phyllanthus virgatus	
Plantago debilis	Native Plantain
Plectranthus parviflorus	White Root
Poa labillardieri	Tussock Grass
Polymeria calycina	Polymeria

PROPOSED PLANTING LIST

Plant list sourced from "Penrith City Council DCP

PLANT IMAGES



EUCALYPTUS CREBRA



MAGNOLIA "COOLWYN GLOSS"



ELAEOCARPUS RETICULATUS



CUPANIOPSIS ANACARDIOIDES



EUCALYPTUS AMPLIFOLIA



WATERHOUSEA FLORIBUNDA



GLOCHIDION FERDINANDI



MELALEUCA LINARIIFOLIA



SYNCARPIA GLOMULIFERA



MELALEUCA STYPHELIOIDES



TRISTANIOPSIS LAURINA



BANKSIA SERRATA



CALLISTEMON SP

NATIVE PLANT SPECIES	
BOTANICAL NAME	COMMON NAME
GROUNDCOVERS, FERNS, HEDGES, GRASSES & CLIMBERS	
Pomax umbillata	
Poranthera microphylla	Small Poranthera
Potamogeton tricarinatus	
Pratia concolor	
Pratia purpurascens	Pratia
Pseudognaphalium luteoalbum	Jersey Cudweed
Pteridium esculentum	Hard Bracken Fern
Pteris tremula	Tender Brake
Rubus parvifolius	Native Raspberry
Rumex brownei	Dock
Sarcopetalum harveyanum	Pearl Vine
Scaevola aemula	Fan Flower
Schoenoplectus mucronatus	
Schoenoplectus validus	River Club-rush
Scutellaria humilis	
Sigesbeckia orientalis	Indian Weed
Smilax australis	Austral Sarsaparilla
Solanum prinophyllum	Forest Nightshade
Spirodela sp	Small Duckweed
Sporobolus creber	
Stellaria flaccida	Forest Stanuork
Stephania japonica	
Stipa ramosissima	
Stipa verticillata	
Tetragonia tetragonioides	Warrigal Spinach
Themeda australis	Kangaroo Grass
Tylophora paniculata	
Typha orientalis	Broad-leaved Cumbungi
Veronica sp	
Viola hederacea	Ivy-leaved Violet
Vittadinia cuneata	Fuzzweed
Wahlenbergia communis	Tufted Bluebell
Wahlenbergia gracilis	Australian Bluebell
Zornia dyctiocarpa	Zornia

GREENER PLACES PRINCIPLES



PRINCIPLE 1.

Integration

combine green infrastructure with urban development and grey infrastructure



PRINCIPLE 2.

Connectivity

create an interconnected network of open space



PRINCIPLE 3.

Multifunctionality

deliver multiple ecosystem services simultaneously

NSW DRAFT GREENER PLACES POLICY (GAO 2020)

PLANTING STRATEGY (REFER TO DRAWING NO. L02)

INTEGRATION:

STREET TREE PLANTING, SETBACK PLANTING AND BUFFER PLANTING SHALL BE INTEGRATED WITH SOFT ENGINEERING SWALES AND SHALL LINK WITH THE RE-VEGETATED CREEK CORRIDOR

CONNECTIVITY:

THE STREETScape USES PEDESTRIAN AND BIKE PATHS TO CONNECT ALL BUILDINGS WITHIN THE DEVELOPMENT WITH PUBLIC SPACE AND THE CREEK CORRIDOR WHILE LINKING IN WITH THE REGIONAL BIKE NETWORK.

MULTIFUNCTIONALITY:

THE PLANTING STRATEGY ALLOWS FOR THE VARIOUS MICRO-CLIMATE ECOSYSTEMS CREATED BY BUILT FORM AND ROADS. ALL PLANTING LINKS BACK TO THE LOCAL ENDEMIC PLANTING AND CREEK CORRIDOR ENVIRONMENT.

TYPICAL SPECIFICATION + MAINTENANCE NOTES



SERVICES
Before landscape work is commenced the Landscape Contractor is to establish the position of all service lines and ensure tree planting is carried out at least 3 metres away from these services. Service lids, vents and hydrants shall be left exposed and not covered by any landscape finishes (turfing, paving, garden beds etc.)
Finish adjoining surfaces flush with pit lids.

PLANTING MIXTURE - (300mm DEPTH)
Imported Garden Mix.
Type: Premium
Available: Australian Native Landscapes (ANL)

TURF SOIL MIX (150mm DEPTH)
Type: Turf underlay
Available: Australian Native Landscapes (ANL)

MULCH
APPLICATION: Place mulch to the required depth, (refer to drawings) clear of plant stems, and rake to an even surface finishing 25mm below adjoining levels. Ensure mulch is watered in and tamped down during installation.
MULCH TYPE: (75mm DEPTH)
Type 1 (Base of Trees):
Pine bark: From mature trees, graded in size from 15mm to 30mm, free from wood slivers. Dark brown in colour and texture.
Type 2:
Batters and Edges Re-vegetation Mulch

COMPOST
Shall be “GO Compost” as available from Soilco or approved equal.

PLANT MATERIAL
All plants supplied are to conform with those species listed in the Plant Schedule on the drawings. Generally plants shall be vigorous, well established, hardened off, of good form consistent with species or variety, not soft or forced, free from disease or insect pests with large healthy root systems and no evidence of having been restricted or damaged. Trees shall have a leading shoot. Immediately reject dried out, damaged or unhealthy plant material before planting. All stock is to be container grown for a minimum of six (6) months prior to delivery to site.

FERTILISER
MASS PLANTING AREAS: Fertiliser shall be ‘Nutricote’ or approved equivalent in granule form intended for slow release of plant nutrients over a period of approximately nine months. Thoroughly mix fertiliser with planting mixture at the recommended rate, prior to installing plants.
TURF: Shall be Shirleys No. 17 or approved equal thoroughly mixed into the topsoil prior to placing turf.
TREES IN GRASS AND SUPER ADVANCED TREES: Pellets shall be in the form intended to uniformly release plant food elements for a period of approximately nine months equal to Shirleys Kokei pellets, analysis 6.3:1.8:2.9. Kokei pellets shall be placed at the time of planting to the base of the plant, 50mm minimum from the root ball at a rate of two pellets per 300mm of top growth to a maximum of 8 pellets per tree.

STAKING AND TYING
Stakes shall be straight hardwood, free from knots and twists, pointed at one end and sized according to size of plants to be staked.
a. 100-greater than 200litre 3x(1800x50x50mm)
Ties shall be 50mm wide hessian webbing or approved equivalent nailed or stapled to stake. Drive stakes a minimum one third of their length, avoiding damage to the root system, on the windward side of the plant.

TURF
Obtain turf from a specialist grower of cultivated turf. turf shall be of even thickness, free from weeds and other foreign matter; lay in stretcher pattern with joints staggered and close butted, perpendicular to gradient of FSL. Water immediately after laying.
TURF TYPE: Couch (Confirm with council prior to construction)

LANDSCAPE MAINTENANCE PROGRAM

Maintenance shall mean the care and maintenance of the landscape works by accepted horticultural practice as rectifying any defects that become apparent in the landscape works under normal use. This shall include, but shall not be limited to, watering, mowing, fertilising, re-seeding, returfing, weeding, pest and disease control, staking and tying, replanting, cultivation, pruning, aerating, renovating, top dressing, maintaining the site in a neat and tidy condition as follows:-

GENERAL
The landscape contractor shall maintain the landscape works for the term of the maintenance (or Plant establishment) period to the satisfaction of the council. The landscape contractor shall attend to the site on a weekly basis. Landlord to maintain all landscape areas in perpetuity (life of the development).

WATERING
Grass, trees and garden areas shall be watered regularly so as to ensure continuous healthy growth.

RUBBISH REMOVAL
During the term of the maintenance period the landscape contractor shall remove rubbish that may occur and reoccur throughout the maintenance period. This work shall be carried out regularly so that at weekly intervals the area may be observed in a completely clean and tidy condition.

REPLACEMENTS
The landscape contractor shall replace all plants that are missing, unhealthy or dead at the Landscape Contractor’s cost. Replacements shall be of the same size, quality and species as the plant that has failed unless otherwise directed by the Landscape Architect. Replacements shall be made on a continuing basis after the plant has died or is seen to be missing.

STAKES AND TIES
The landscape contractor shall replace or adjust plant stakes, and tree guards as necessary or as directed by the Landscape Architect. Remove stakes and ties at the end of the maintenance period if so directed.

PRUNING
General: Prune to reflect the natural growth flowering and regrowth habit of the individual species. Shrubs: Prune after flowering - Spring and Summer and on a spot basis as required.
Hedge trimming: Schedule trimming at times which will maintain the character and design of hedges. Allow up to three times per season.
Tip pruning: To encourage development of new shoots during the active growing season. Do not remove buds before the flowering season in those plants that have terminal flowers.
Radical pruning: To maintain a hedge or formal shape or when a particular problem, growth habit, damage, or disease requires branch removal.
Trees: Prune to eliminate diseased or damaged growth, avoid inter-branch contact and thin out crowns in a natural manner, maintain sight lines to signs and lights, or maintain visibility for personal security. Tree branch removal to AS 4373. Give notice and engage a suitably qualified ‘arborist’.

MULCHED SURFACES
All mulched surfaces shall be maintained in a clean and tidy condition and be reinstated if necessary to ensure that a depth of 75mm is maintained. Ensure mulch is kept clear of plant stems at all times. Remove all mulching materials off lawn or paved areas and maintain a clean and tidy appearance when viewed on a weekly basis.

PEST AND DISEASE CONTROL
The landscape contractor shall spray against insect and fungus infestation with all spraying to be carried out in accordance with the manufacturer’s directions. Report all instances of pests and diseases (immediately that they are detected) to the Landscape Architect.

GRASS AND TURF AREAS
The landscape contractor shall maintain all grass and turf areas by watering, weeding, re-seeding, rolling, mowing, trimming or other operations as necessary. Seed and turf species shall be the same as the original specified mixture. Grass and turf areas shall be sprayed with approved selective herbicide against broad leafed weeds as required by the Landscape Architect and in accordance with the manufacturer’s directions. Grass and turf areas shall be fertilised once a year in autumn with “Dynamic Lifter” for lawns at a rate of 20kg per 100m2. Fertiliser shall be watered in immediately after application. Irregularities in the grass and turf shall be watered in immediately after application.
Grass and turf areas shall be kept mown to maintain a healthy and vigorous sward. Mowing height: 30-50mm.

WEED ERADICATION
Eradicate weeds by environmentally acceptable methods using a non-residual glyphosate herbicide (eg. ‘Round-up’) in any of its registered formulae, at the recommended maximum rate. Regularly remove by hand, weed growth that may occur or recur throughout grassed, planted and mulched areas. Remove weed growth from an area 750mm diameter around the base of trees in grassed areas. Continue eradication throughout the course of the works and during the maintenance period.

SOIL SUBSIDENCE
Any soil subsidence or erosion which may occur after the soil filling and preparation operations shall be made good by the landscape contractor at no cost to the client.

MAINTENANCE PERIOD: (26 Weeks) - Confirm with Project Manager

IRRIGATION PERFORMANCE SPECIFICATION NOTES

IRRIGATION OVERVIEW - Confirm with Project Manager at tender stage

EXTENT (Setback and Carpark Landscape Areas)
All mass planting landscape areas and trees are to have full coverage by a fully automatic irrigation system. The design, materials and installation are to be in accordance with Sydney Water Codes and all relevant Australian Standards.

1. An automatic irrigation system is to be installed to all turf and garden bed areas.
2. The irrigation system shall be designed and installed by a licensed contractor to relevant Australian standards and Sydney water guidelines.
3. The irrigation system shall be connected into the rainwater tank system and pump

DRIPLINE
Provide 13mm dripline to all garden bed areas with appropriate 13mm joiners. Dripline to be Toro drip or similar with 400mm centre drippers.
Install line at 500mm spacings with the first line to be 150mm in from edge. Install dripline after planting and prior to mulching to allow for an adequate mulch cover. Anchor at 1.5m maximum intervals with u-shaped stakes. Dripline pattern to suit planting.

CONTROL VALVES
24v solenoid actuated hydraulic valve with flow control. Control valves to be Toro ezflow series solenoids 25mm or approved equal. Provide a gate valve of the same size immediately upstream of each valve. House both valves in a high impact plastic valve box with a high impact plastic cover at finished ground level. Support the box with bricks on each side. Controller to be Toro greenkeeper or approved equal with a rain switch.
Install a master valve/pressure regulating valve equal to Toro p220 with exreg pressure regulation valve. Filter to be installed equal to Toro y filter 75mm screen filter.

CONTROL WIRES
Connect the control valves and soil moisture sensor to the controller with double insulated underground cables laid alongside piping where possible. Lay intertwined for their full length without joints except at the valves and branches off common wires. Provide waterproof connectors.

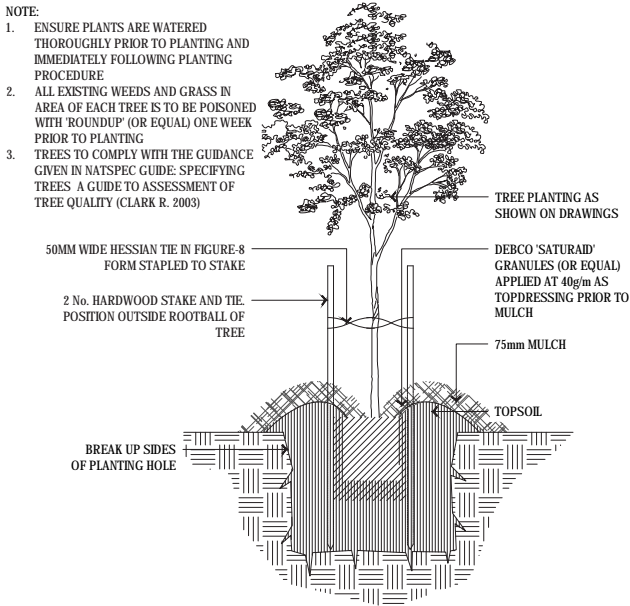
Provide a backflow prevention device to Sydney water standards AS 3500.

RELEVANT AUSTRALIAN STANDARDS

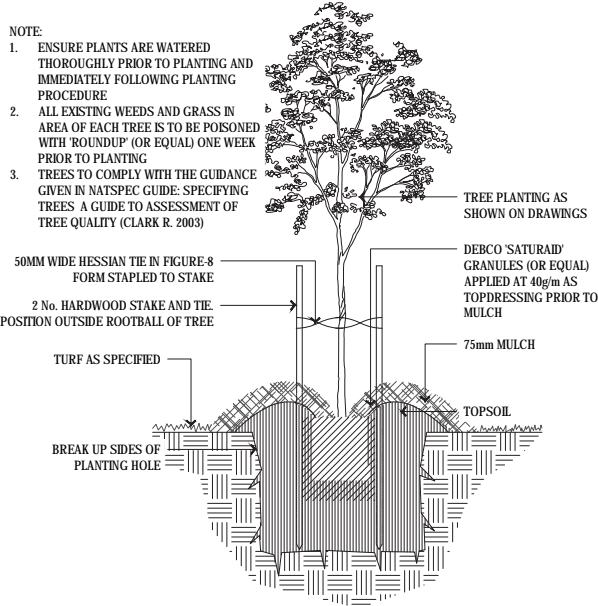
Soil: AS4419, AS3743, AS4454.
Mulch: AS4454.
Tree Stock: AS2303.
Pruning: AS4373.
Tree Protection: AS4970.
Contractors to comply with the above Australian Standards.

PROJECT	PROJECT NO.	PURPOSE	SCALE	REVISION	DATE	DRAWN	CHECKED	PAGE
PROPOSED WAREHOUSE, LOGISTICS AND INDUSTRIAL FACILITIES HUB 657-769 MAMRE ROAD, KEMPS CREEK NSW	H8-18018	SSD APPLICATION	NTS	L	30.07.2020	KM	DV	L013

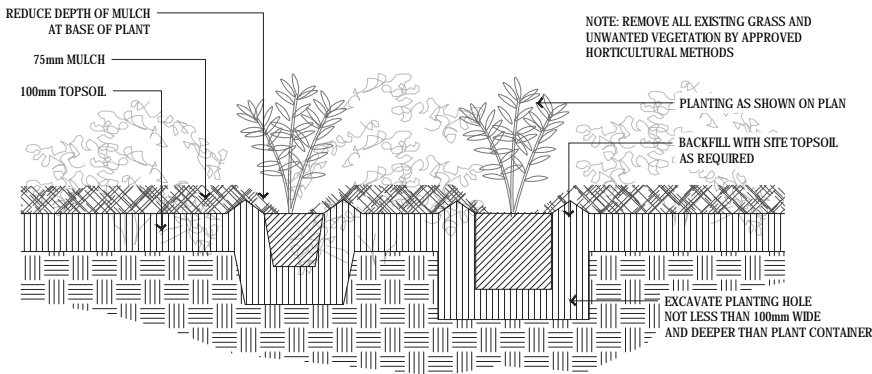
TYPICAL LANDSCAPE DETAILS



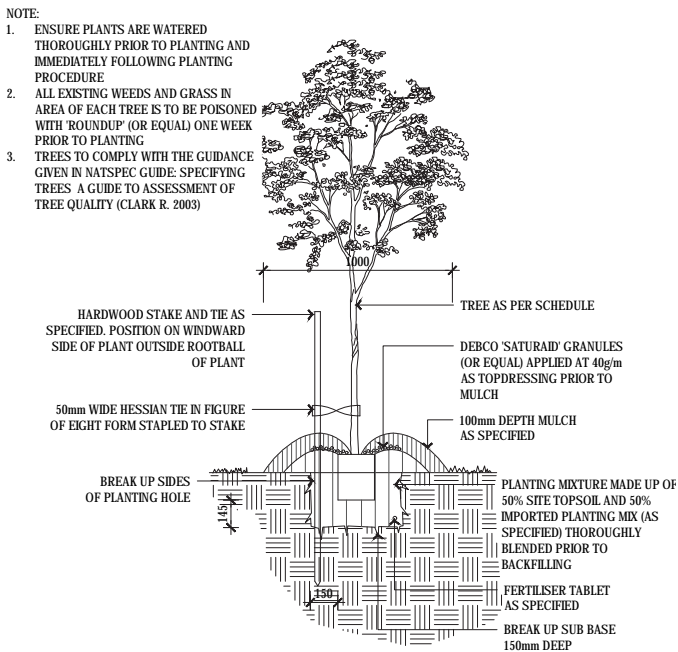
A TYPICAL TREE PLANTING DETAIL UNDER 100L (IN GARDEN BED)
SCALE 1 : 20 @A1



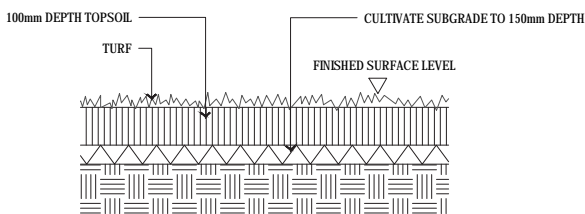
B TYPICAL TREE PLANTING DETAIL (IN TURF)
SCALE 1 : 20 @A1



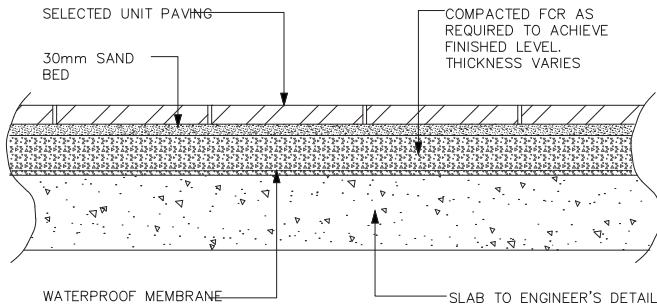
C MASS PLANTING DETAIL
SCALE 1 : 10 @A1



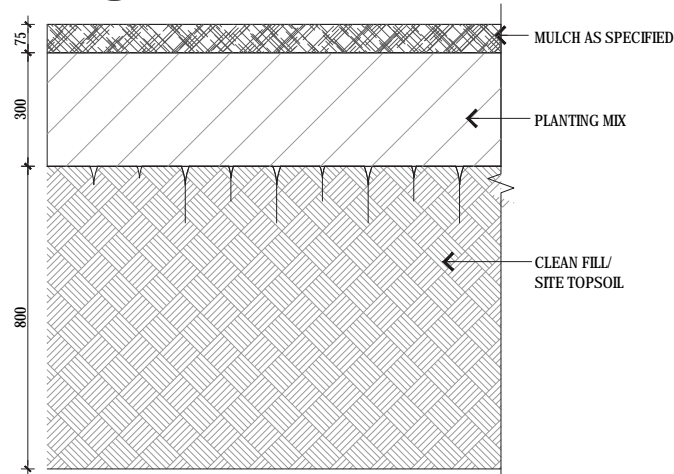
D TYPICAL TREE PLANTING DETAIL OVER 100L
SCALE 1 : 20 @A1



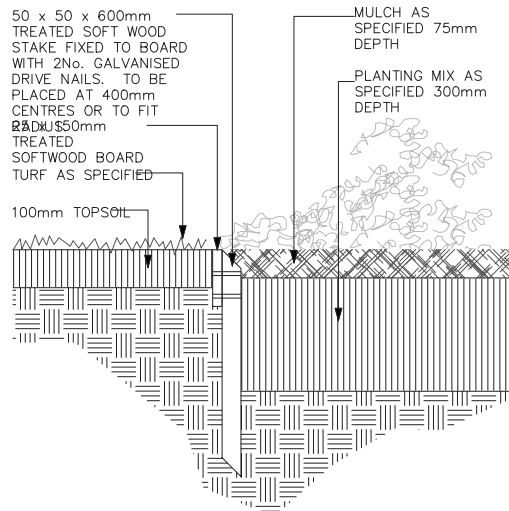
G TURF DETAIL
SCALE 1 : 10 @A1



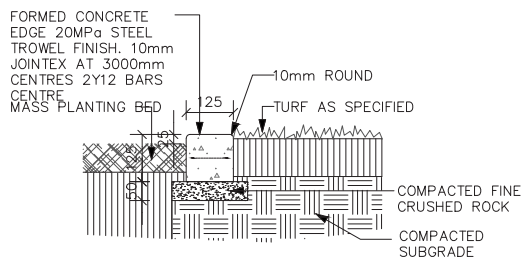
E UNIT PAVING ON SLAB DETAIL
SCALE 1 : 10 @A1



H TYPICAL SOIL PROFILE
SCALE 1 : 10 @A1



F TIMBER EDGE DETAIL
SCALE 1 : 10 @A1



I CONCRETE EDGE DETAIL
SCALE 1 : 10 @A1