



LANDSCAPE PLAN

LANDSCAPE CORRIDOR D IN ACCORDANCE WITH AS580574 (VPA 2022) & ANCILLARY PLANTING ZONES

80, 90, 100, 110 PACIFIC HIGHWAY, & 49-65 WENTWORTH AVENUE, DOYALSON N.S.W 2262
(ENGLOBO SUBDIVISION DA/1295/2023)



LIMITATIONS STATEMENT

This report has been prepared in accordance with and for the purposes outlined in the scope of services agreed between ADW Johnson Pty Ltd and the Client. It has been prepared based on the information supplied by the Client, as well as investigation undertaken by ADW Johnson and the sub-consultants engaged by the Client for the project.

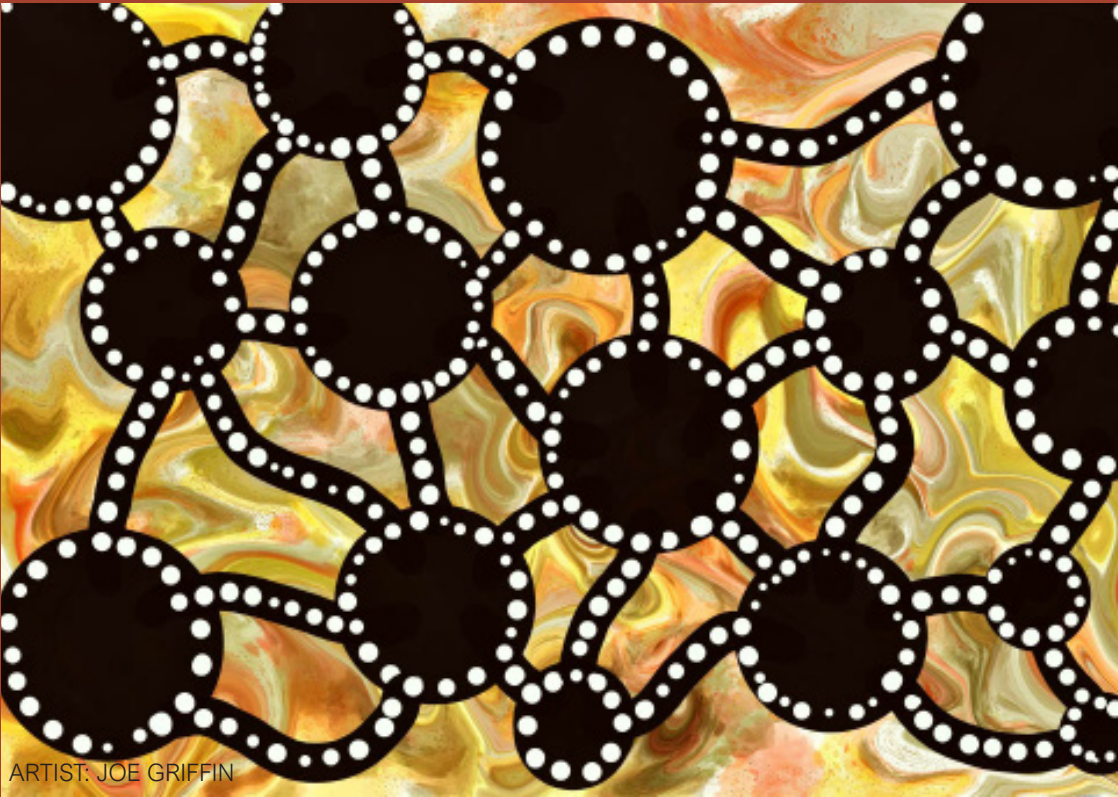
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ACKNOWLEDGEMENT OF COUNTRY

ADW Johnson acknowledges the Awabakal, Darkinjung and Eora People as the Traditional Owners and Custodians of the Country on which our offices are located, we also extend the same acknowledgement to all First Nation’s Country on which we operate. We recognise Aboriginal and Torres Strait Islander people’s cultures, guardianship & continuous connection to this land and would like to pay respect to the Elders Past, Present and Emerging.



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DOCUMENT HISTORY

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A	Initial draft issue	March 2025	Mark Ashmead	Mark Ashmead
B	Initial draft issue	April 2025	Mark Ashmead	Mark Ashmead
C	Revised draft issue	April 2025	Mark Ashmead	Mark Ashmead
D	Revised draft issue	April 2025	Mark Ashmead	Mark Ashmead
E	Final issue	May 2025	Mark Ashmead	Mark Ashmead
F	Final issue	August 2025	Mark Ashmead	Mark Ashmead
G	Revised draft issue	August 2025	Mark Ashmead	Mark Ashmead
H	Revised draft issue	September 2025	Mark Ashmead	Mark Ashmead
I	Revised draft issue	October 2025	Mark Ashmead	Mark Ashmead
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EXECUTIVE SUMMARY

INTRODUCTION

ADW Johnson has prepared this Landscape Concept Plan on behalf of the proponent, Doyalson Wyee RSL Club Ltd t/a Doyalson Lifestyle Group (**DLG**), to establish the strategic direction for the landscape design and treatment of **Landscape Corridor D**. This plan has been developed in accordance with VPA Dealing AS580574 (**VPA 2022**) and now also includes three Ancillary Planting Zones: Gateway Signage Planting Zone, Landscape Buffer Planting Zone, and Landscape Corridor D Lot 1 Road Reserve Planting Zone (**Landscape Plan**).

PURPOSE OF THE LANDSCAPE PLAN

As part of the process outlined in Planning Proposal (PP-2021-4334) (**Planning Proposal**), which balanced the principles of "Avoid and Minimise" with bushfire control obligations, the biodiversity corridors were rezoned to **Conservation Zones C2 and C3** and incorporate offset strategies such as biodiversity credit co-purchase to mitigate vegetation removal within the development footprint.

The east–west landscape corridors, including Corridor D, were developed in consultation with Council (Dr Chris McLean) to ensure functional wildlife movement pathways. Special focus was given to maintaining connectivity for key species such as the **Squirrel Glider** and **Glossy Black-Cockatoo**, facilitating movement between vegetated areas from the western side of the Pacific Highway to Colongra Lake.

This **Landscape Plan** has been prepared at the request of Council to inform the proposed Englobo Subdivision DA/1295/2023 (**Englobo Subdivision**), which encompasses approximately 34.18 hectares at 49 – 65 Wentworth Avenue and 80 – 110 Pacific Highway, Doyalson NSW 2262 (**Englobo DA Site**).

The purpose of this **Landscape Plan** is to present a high-level conceptual framework based on **three key design principles** — ecological integration, bushfire management, and community amenity — that will guide the establishment of a high-quality landscape corridor and Ancillary Planting Zones. This corridor and Ancillary Planting Zones are intended to complement the broader Englobo Subdivision vision of creating an “Australian Resort” environment.

While the Proponent has agreed to prepare this Landscape Plan in response to Council's request, it is noted that the VPA 2022 does not obligate the Proponent to do so. The Landscape Plan has been prepared at the request of Council despite the provisions of Schedule 2, item 2, column 2 (page 21) of the VPA 2022 only requiring landscape plans to be prepared and submitted at the time of lodgement for any development application (other than a development application that seeks to authorise Englobo subdivision and services for Englobo lots, site consolidation, site preparation works and/or subdivision).

Future development applications for the 14 Englobo superlots will be submitted to Council, at which stage site-specific Landscape Plans will be developed in accordance with the context of this initial Landscape Plan and as required by VPA 2022. Therefore, the Applicant does not intend to implement the landscaping outlined in this concept design as part of the current Englobo Subdivision development application.



LANDSCAPE STRATEGIC PRINCIPLES

CONTEXT – THE ENGLOBO DA SITE

Key elements of the Englobo Subdivision include:

- Biodiversity Corridor F
- Landscape Corridors D, E, and G
- Four designated, Ancillary Planting Zones:
 - Corridor D – Lot 1 Road Reserve Planting Zone
 - Gateway Signage Planting Zone
 - Landscape Buffer Planting Zone
 - Corridors F&G – Lot 1 Road Reserve Ancillary Planting Zone
- 14 Englobo superlots development areas supported by road, utility, and subdivision infrastructure within a Community Title format.

The table below summarises the areas for each component of the Englobo DA Site and the associated percentage of each area compared to the entirety of the Englobo Subdivision.

Proposed Areas	Area Footprint (m²)	% of Englobo Site
Landscape Corridor D	10,103	3.0%
Landscape Corridor E	15,450	4.5%
Landscape Corridor G	5,175	1.5%
Biodiversity Corridor F	26,568	7.8%
Corridor D - Lot 1 Road Reserve Planting Zone	4,668	1.4%
Corridors F&G - Lot 1 Road Reserve Planting Zone	4,561	1.3%
Gateway Signage Planting Zone	814	0.2%
Landscape Buffer Planting Zone	1,781	0.5%
Development Areas (roads, utility, subdivision infrastructure)	271,961	79.7%
TOTAL ENGLOBO DA SITE AREA	341,081	100%

THREE LANDSCAPE DESIGN PRINCIPLES

Following approval of the Englobo Subdivision, the Proponent will submit staged development applications to facilitate uses across the 14 Superlots.

Future landscape design for all Corridors and Ancillary Planting Zones, as part of these subsequent applications, will be governed by three core strategic design principles:

1. Biodiversity and Ecological Enhancement

The design will prioritise native and wherever possible endemic plant species to meet VPA 2022 requirements, supporting biodiversity and fostering ecological resilience.

The planting strategy emphasises the enhancement of existing habitat quality and the protection of local flora and fauna, with targeted support for key species such as Squirrel Gliders and Glossy Black-Cockatoos.

A core objective for the Englobo Subdivision is to offset proposed combined clearance of 156 native trees within Landscape Corridor E and G, as identified in Tree Protection Packages 191014 (TREE RETENTION E) Sheets 001-016 and 191014

(TREE RETENTION F&G) Sheets 001-013 respectively.

This approach promotes long-term ecological resilience, connectivity, and biodiversity sustainability throughout the Englobo DA Site.

2. Bushfire Safety and Compliance

All Landscape Corridor and buffer zone treatments are to meet the intent of Planning for Bush Fire Protection 2019 (PBP 2019) guidelines and VPA 2022 obligations. Species selection will favour low flammability/bushfire-resistant/retardant native species and wherever possible endemic vegetation to ensure long-term environmental performance and safety outcomes.

All species selections and planting layouts are to meet the intent of PBP 2019 and address bushfire risk through tailored measures:

- **Trees:**
 - Trees are defined in LA37.
 - Mature tree canopy cover kept below 15% of total planting area.
 - No trees should touch or overhang buildings.
 - Lower limbs pruned up to 2 m above ground level.
 - Minimum spacing of 2 m between individual tree canopies (at maturity).
 - Preference for smooth-barked and evergreen species.
 - Preference to high ecological value tree retention i.e. hollow bearing etc.
- **Shrubs, Grasses and Groundcovers (SGG) ≥ 100 mm Mature Height:**
 - SGG plantings over 100 mm in mature height and which do not attain mature heights or Growth Forms that resemble a “Tree” as defined in LA37.
 - SGG plantings combined mature width coverage kept below 10% of total planting area in addition to mature tree canopy cover.
 - Vegetation gaps introduced to interrupt fire movement.
 - Shrubs positioned away from tree canopies and set back at least twice their mature height from trunks.
 - Massed small shrubs and strappy species planted a minimum of 2 m from tree trunks.
 - Garden beds and plant clumps spaced by at least twice their mature height and distanced from windows and doors by twice their mature height.
- **Turf (Grassed Areas) ≤100 mm Maintained or Mature Height:**
 - Grassed / turfed areas regularly mown and maintained under 100 mm in mature height.
 - Vegetation debris removed routinely.
 - Low-growing, low flammability/bushfire-resistant/retardant groundcover species under 100 mm in height may be considered in future stages as an alternative to turf, provided they are kept at least 1 m clear of tree trunks

3. Landscape Character and Recreational Amenity

The overall landscape design vision will be for an “Australian Resort” character incorporating community recreational, amenity together with the outcomes of Design Principle 1 and Design Principle 2.

All landscape designs are intended to deliver a high-quality, naturalistic environment that enhances visual appeal and enriches the Englobo DA Site with endemic plant diversity wherever possible and varied microhabitats. These designs also ensure accessibility and facilitate ease of ongoing maintenance for long-term sustainability.

The inclusion of informal parkland glades, turf lawns, and layered plantings will create tranquil, versatile spaces ideally suited for relaxation, recreation, and interaction.

Wherever possible, pedestrian pathways will be incorporated to directly link community amenities, fostering active movement and social connection throughout the landscape.

LANDSCAPE ECOLOGICAL OUTCOMES

ECOLOGICAL PLANTING OUTCOMES - ALL LANDSCAPE CORRIDORS WITH ANCILLARY PLANTING ZONES

As an outcome of applying these Three Design Principles, all Landscape Corridors and Ancillary Planting Zones within the Englobo Subdivision, provides **69,120m² or 20.3% of total planting area** within the Englobo DA Site. The combined total planting area enables the establishment of **163 Trees and 11,868 Shrubs, Grasses and Groundcovers (SGG) which are native and wherever possible endemic plantings**. The breakdown can be seen in the below table:

Proposed Planting Count		
Proposed Areas	Tree Additions	SGG Additions
Corridor D	75	2,426
Corridor D - Lot 1 Road Reserve Planting Zone	37	1,400
Corridors F&G - Lot 1 Road Reserve Planting Zone	34	1,364
Corridor E	0	4,630
Corridor G	0	1,550
Landscape Buffer Planting Zone	10	498
Gateway Signage Planting Zone	7	0
TOTAL ADDITIONAL PLANTING	163	11,868

ECOLOGICAL PLANTING OUTCOMES - LANDSCAPE CORRIDOR D WITH ANCILLARY PLANTING ZONES

Landscape Corridor D, together with its Ancillary Planting Zones, serves as a key contributor to the overall design strategies set out in this Landscape Plan.

Centrally positioned within the proposed Englobo DA Site, Landscape Corridor D incorporates the Pipeline Easement Dealing AE445647 (2009) (Easement Dealing), which is held by SGSP (Australia) Assets Pty Ltd (SGSPAA) trading as Jemena (Easement). The 1 m-wide gas pipeline within this easement is accommodated by a 4 m-wide turfed Service Access Track to provide suitable maintenance access and visibility, consistent with the access rights outlined in Clause 2(d) of the Easement Dealing.

Collectively, Landscape Corridor D and its Ancillary Planting Zones **provide a total of 17,366 m², accounting for 5.1% of the Englobo DA Site area**. This total planting area supports **the establishment of 129 endemic and native Trees and 4,320 Shrubs, Grasses and Groundcovers (SGG)**, as detailed in the table below:

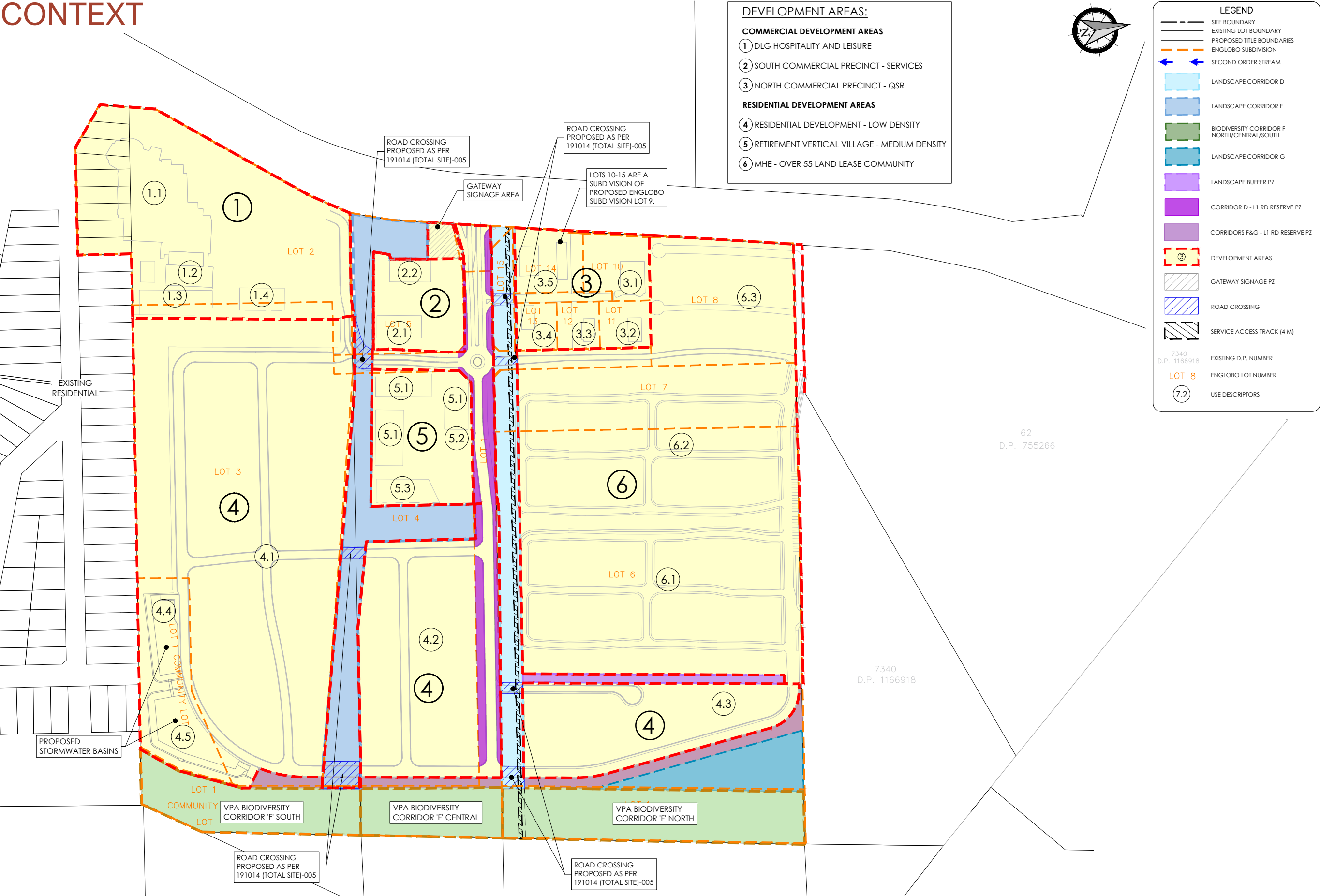
Proposed Area	Tree Additions	SGG Additions
Corridor D	75	2,422
Corridor D - Lot 1 Road Reserve Planting Zone	37	1,400
Landscape Buffer Planting Zone	10	498
Gateway Signage Planting Zone	7	0
TOTAL ADDITIONAL PLANTING	129	4,320

The concepts for the Landscape Corridor D and each Ancillary Planting Zone are shown in the following sections of the Landscape Plan.



ENGLOBO DA SITE MASTERPLAN

CONTEXT



LANDSCAPE MASTERPLAN

CONTEXT



-  LANDSCAPE CORRIDOR E
(15,450 m²)
-  GATEWAY SIGNAGE PLANTING ZONE (PZ)
(912.5 m²)
-  CORRIDOR D - L1 ROAD RESERVE
PLANTING ZONE (PZ)
(4,668 m²)
-  CORRIDORS F&G - L1 ROAD RESERVE
ANCILLARY PLANTING ZONE (PZ)
(4,561 m²)
-  LANDSCAPE CORRIDOR D
(10,103 m²)
-  LANDSCAPE BUFFER PLANTING ZONE (PZ)
(1,781 m²)
-  LANDSCAPE CORRIDOR G
(5,175 m²)
-  ROAD CROSSING



LANDSCAPE MASTERPLAN



LANDSCAPE CORRIDOR D

CONCEPT MASTERPLAN

LANDSCAPE CORRIDOR D

Landscape Corridor D comprises three Planting ZONES A, B, and C and a Service Access Track - based on managing proximity to the gas pipeline, the details of which can be referred to in pages LA09,10 & 11. Corridor D is planted throughout with native species and, wherever possible, endemic species. This planting approach enhances local biodiversity, strengthens ecological connectivity, and reinforces the natural character of the landscape.

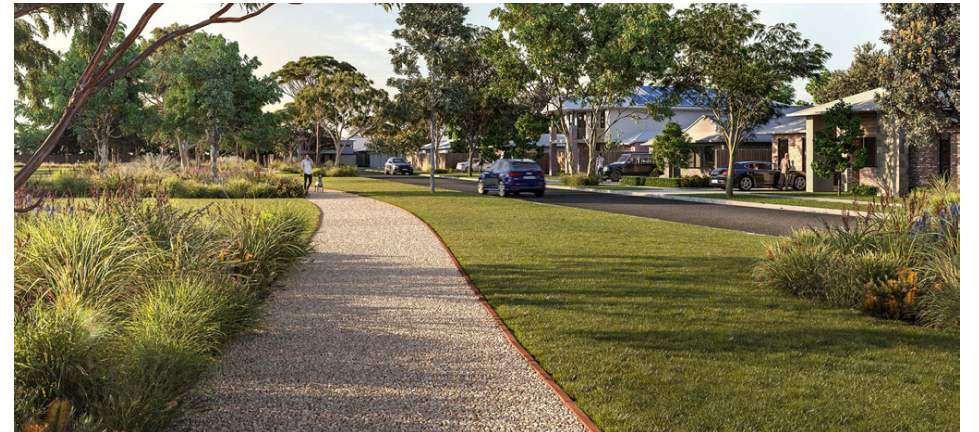
1. Main entry from A42 Pacific Highway
2. Feature entry statement including planting and signage
3. Large informal specimen trees and SGG planting to ZONE C, towards Primary Road entering the site
4. Entry statement / seating area to intersection of pedestrian footpath
5. Meandering pedestrian footpath providing linear connection from west to east
6. Informal small recreational area , including seating and informal play equipment
7. Informal enclosed seating pods
8. Alternate pedestrian path link to north
9. 4 m wide proposed Service Access Track with bushfire-resistant turf, located directly above the centre of the pipeline



Landscape Corridor D - Concept Masterplan

CHARACTER IMAGERY

LANDSCAPE CORRIDOR D



EASEMENT PLANTING ZONES

LANDSCAPE CORRIDOR D

The gas pipeline (as per LA10), with a width of 1 m, is located within a **4 m Service Access Track** as identified in section image: 'Planting Zones and Plant Heights' included on diagram to the right. Landscape Corridor D has a planting strategy of native and endemic species and is structured into three specific zones based on proximity to the gas pipeline, as outlined below:

Service Access Track: A **4 m wide strip** directly above the centre of the pipeline, which must only include maintained turf to allow service access, visibility of signage, and act as a buffer from deep-rooted trees.

ZONE A (1.5 m wide strip): (≥ 1.5 m from outer edges of pipeline: Plants **under 1 m in height at maturity**, limited to annual and perennial species with shallow, fibrous roots and no trees (Refer to LA37 for definition).

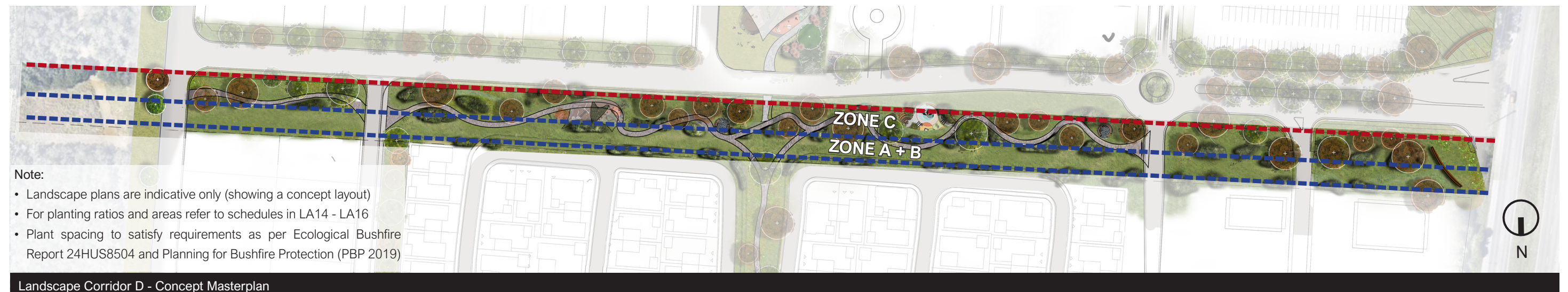
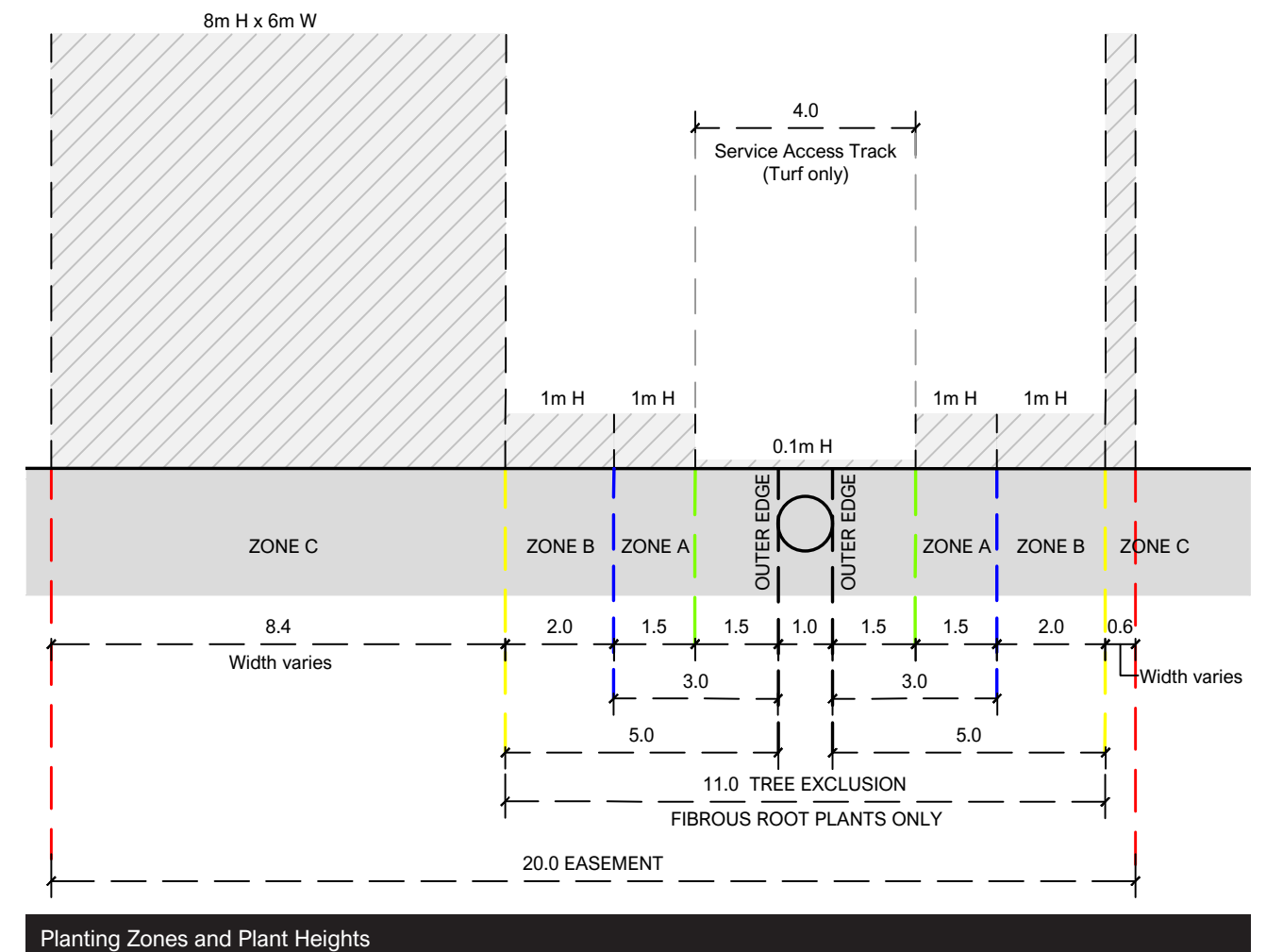
ZONE B (2 m wide strip): (≥ 3 m from outer edges of pipeline): Allows plants **up to 1 m high and 4 m wide at maturity** with shallow, fibrous roots, no trees (Refer to LA37 for definition) and a typical root depth not exceeding 1 m.

ZONE C (width varies): (≥ 5 m from outer edge of pipeline): **Permits taller shrubs and trees** to suit

- Bushfire retardant / tolerant species
- Squirrel Glider habitat species to be located at 50 - 100 m spacings
- Endemic species

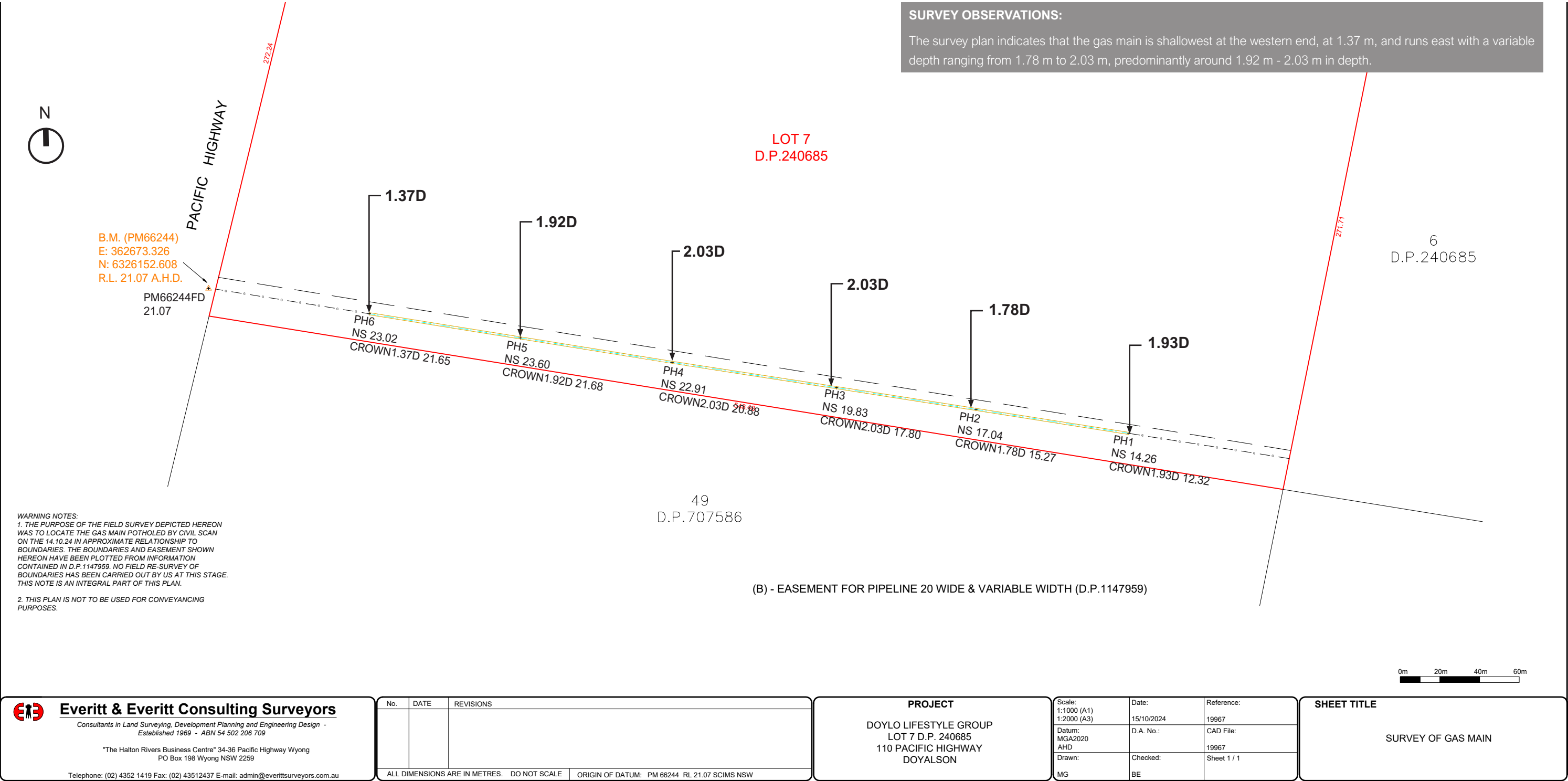
The landscape concept incorporates a **4 m wide Service Access Track**, exceeding requirements to ensure reliable maintenance access and visibility.

Landscape Corridor D is to be planted predominantly with native species, including endemic species where feasible. **Detailed Concept Planting Strategies** for ZONES A, B, and C are **provided in LA11**.



EASEMENT SURVEY

LANDSCAPE CORRIDOR D



Landscape Corridor D - Gas Main Survey

LANDSCAPE CORRIDOR D IN ACCORDANCE WITH VPA 2022 & ANCILLARY PLANTING ZONES | DOYALSON - NSW

LA 10

CONCEPT PLANTING STRATEGY

LANDSCAPE CORRIDOR D

Based on the Survey Observations (LA10) and the delineated Easement Planting Zones (LA09), the following Concept Planting Strategy is proposed:

- The Concept Planting Strategy is structured into the following zones:

Service Access Track

- Turf/grass maintained to a height of under 100 mm.
- Zone to remain free of deep-rooted vegetation to allow service access and visibility.

ZONE A

- Grasses and Ground cover plants over 100 mm but **under 1 m in height at maturity. Shrubs are excluded.**
- Limited to annual and perennial species with **shallow, fibrous roots (typical root depth not exceeding 1 m at maturity).**
- No tree planting.

ZONE B

- SGG Plants over 100 mm but under **1 m and 4 m wide in height at maturity.**
- Limited to plants with **shallow, fibrous roots (typical root depth not exceeding 1 m at maturity).**
- No tree planting.

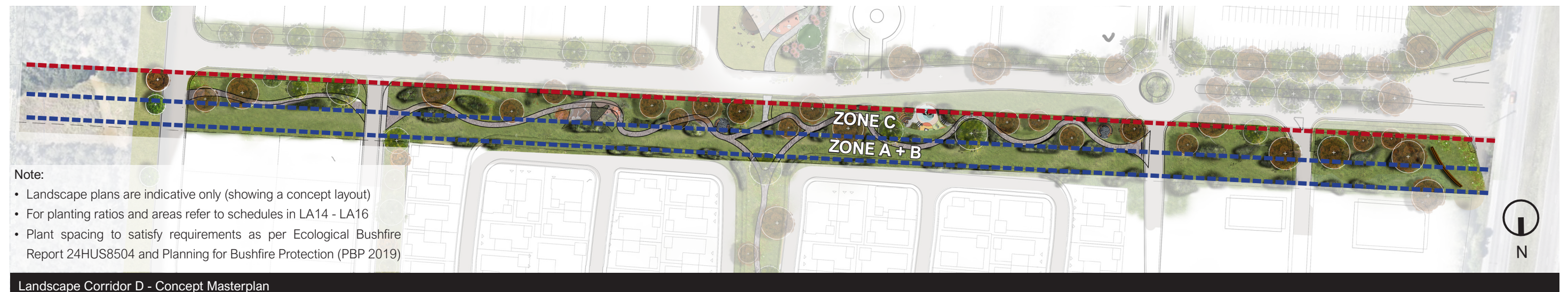
ZONE C

- Planted with taller **shrubs and trees as appropriate.**
- Species selection **emphasises enhancing biodiversity** and providing habitat and food resources for local fauna, including **Squirrel Gliders and Glossy Black Cockatoos.**
- Squirrel Glider habitat species** planted at 50–100 m spacing.

- Planting selection is to be **native and, wherever possible, endemic species.**
- Prioritising **bushfire-resistance and tolerance.**
- Plant selection for ZONES A and B have shallow, fibrous-rooted SGG plants** to ensure no risk of damage to underground assets within the Easement.

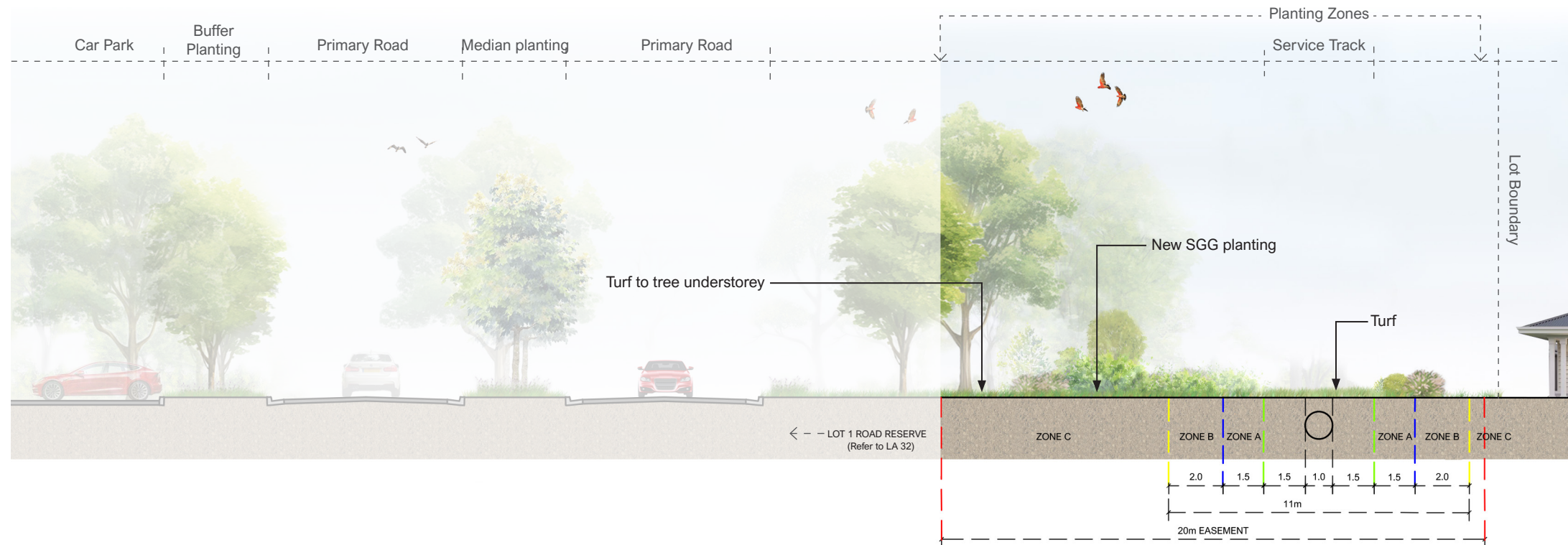
Fiona Lolini, Associate – Ecology & Biodiversity, SLR Consulting, observed that as the pipeline is for gas rather than water, it may reduce the risk of root intrusion as plants generally extend roots toward water sources in dry conditions.

- Although **ZONES A and B** have fibrous root systems under 1 m in depth, **root barriers can be implemented** as an optional measure on either side of the 4-meter access track to protect the pipeline from root intrusion if required.
- Tree planting will be only in ZONE C and to be explicitly avoided in ZONES A and B.**
 - Shrubs, groundcovers, and other small woody plants are typically not considered trees, unless they meet the height or trunk diameter thresholds described below or are specifically defined as Trees by NSW legislation.
 - Based on definitions of "Tree" referenced in LA37, relevant NSW legislation and the Central Coast Council DCP, **a Tree is defined as:**
 - "a woody perennial plant with at least one self-supporting stem or trunk; typically attaining a height of 3 m or more, or a trunk diameter of 75 mm or more at approximately 1.4 m above ground level.
 - Trees include palms, bamboo, or other plants that resemble trees in form where prescribed by legislation;"

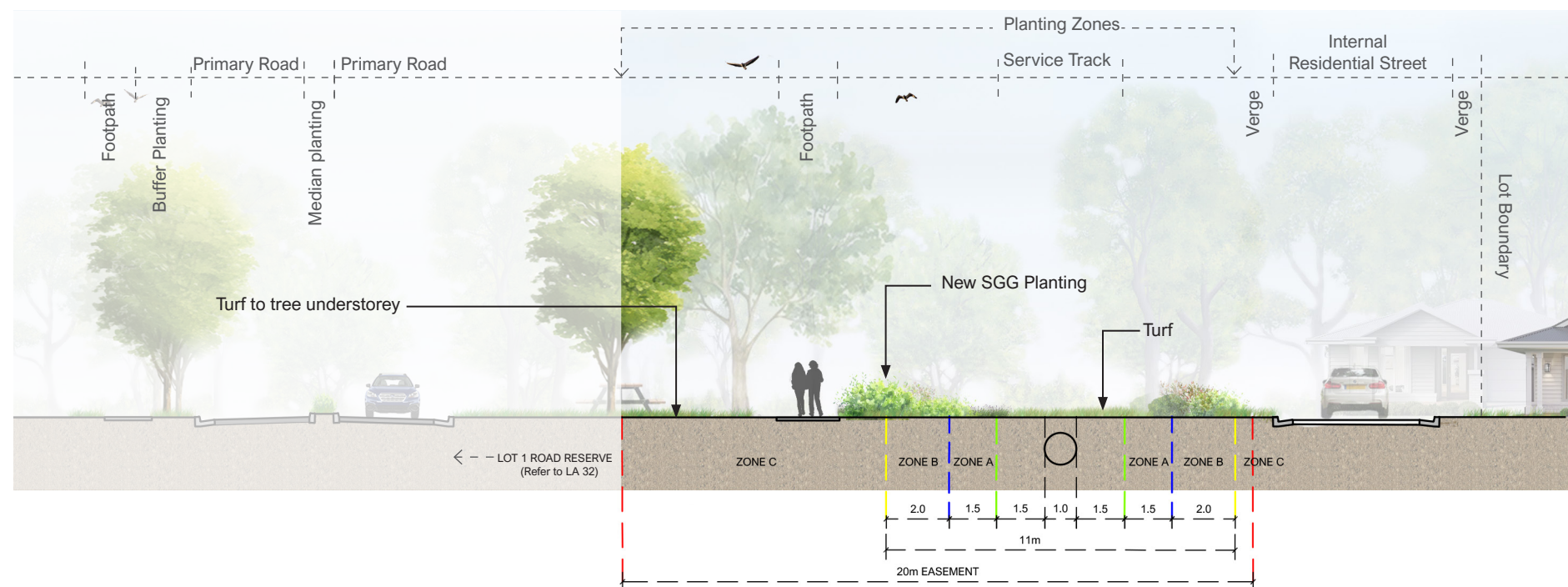


SECTIONS

LANDSCAPE CORRIDOR D



Section AA



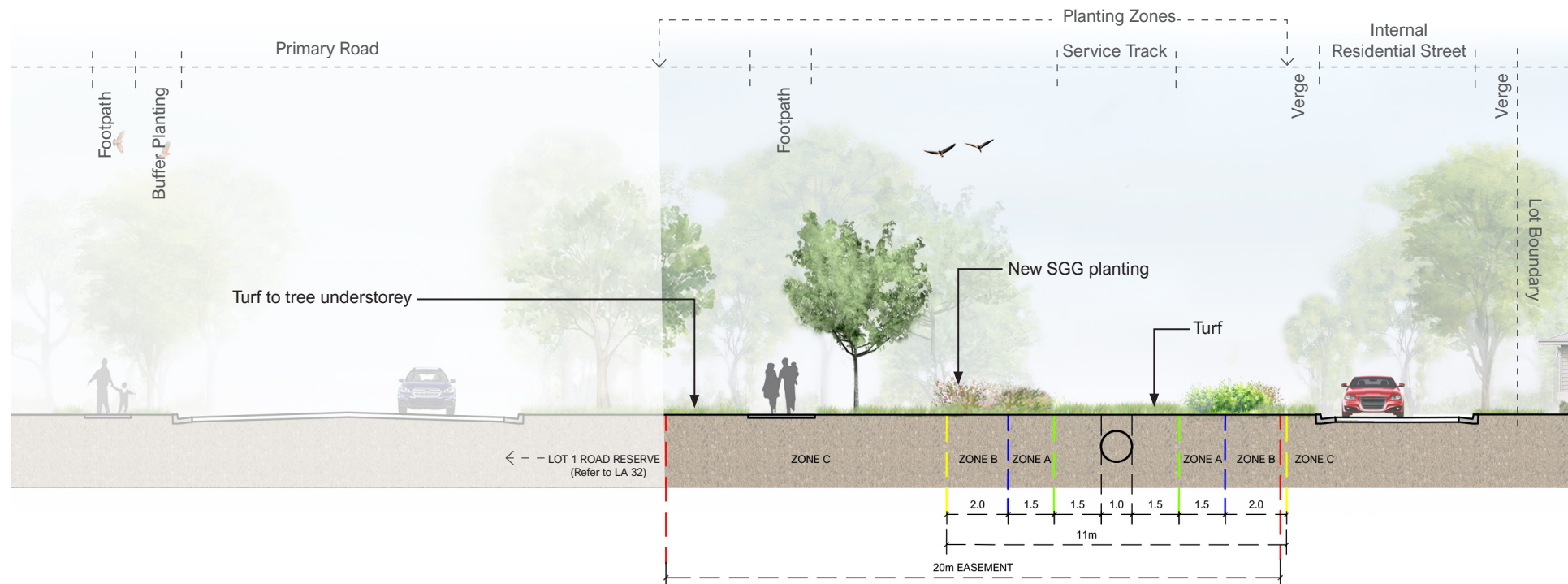
Section BB



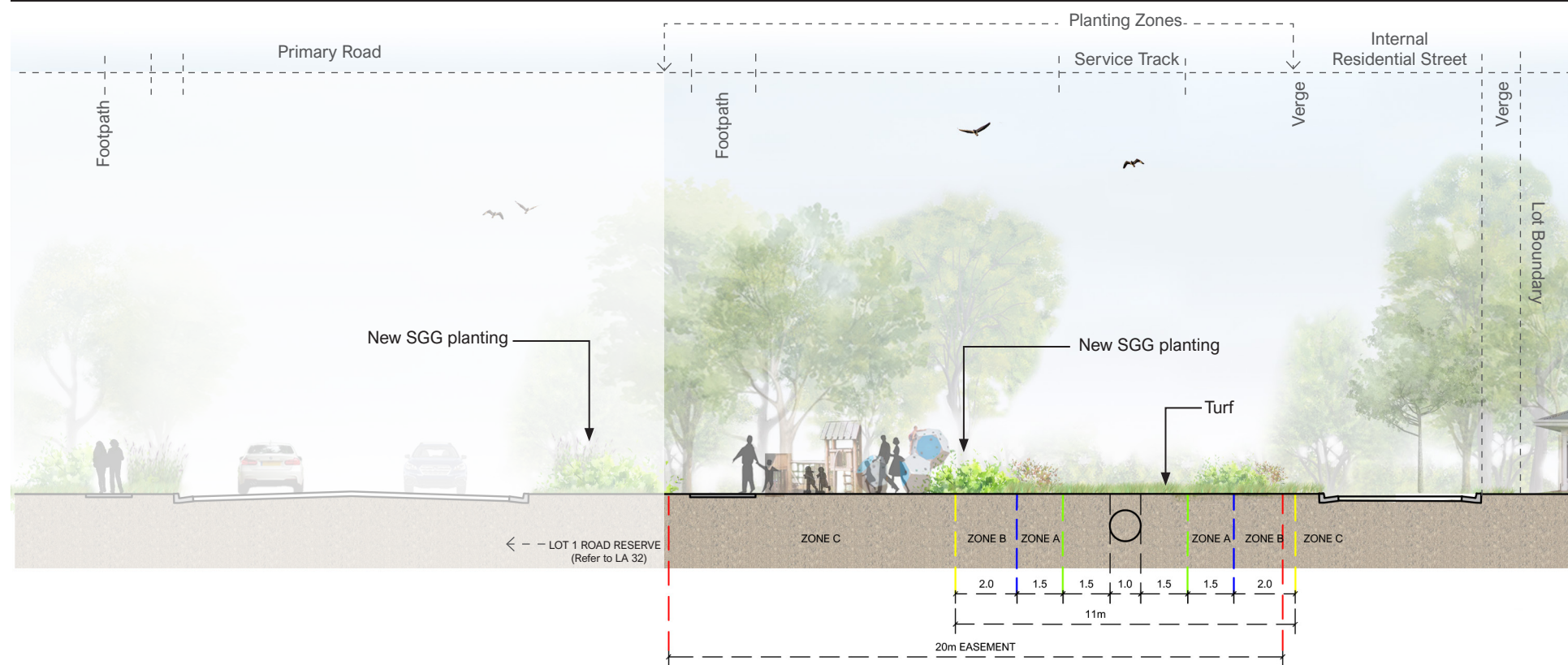
Section location plan

SECTIONS

LANDSCAPE CORRIDOR D



Section CC



Section DD



Section location plan

PLANTING YIELDS SUMMARY

LANDSCAPE CORRIDOR D

CORRIDOR D PLANTING ZONE – TREE PLANTING YIELD BASED ON BUSHFIRE REQUIREMENTS		
Item	Qty	Unit
PART A CALCULATION		
Total Planting Area of Corridor D (4 m Service Access Track and Zones A, B and C)	10,103.0	m²
Allowable Canopy Area	1,515.5	m²
Net Weighted Average Mature Canopy Per Tree	20.2	m²
Total Trees For Canopy Spacing Bushfire Requirement	75.0	trees
PART B CALCULATION		
Allowable Canopy Area (Zone C only)	4,572.0	m²
Gross Weighted Average Mature Canopy Per Tree	44.6	m²
Total Trees For Canopy Spacing Bushfire Requirement	102.5	trees
Total Trees Within Corridor D to Satisfy Bushfire Requirements	75.0	trees
- Bushfire guidance advises of maximum 15% Net Weighted Average Mature Canopy Cover . - Tree establishment is restricted to Zone C. - PART A calculation tests a maximum 15% Net Weighted Average Mature Canopy Cover for Total Planting Area of Corridor D. - PART B calculation tests a maximum 15% Gross Weighted Average Mature Canopy Cover for Total Planting Area of Zone C only. - Net Mature Canopy is the mature canopy spread of each species of selected tree species. - Gross Mature Canopy takes the Net Mature Canopy of selected tree species and adds a 1-metre buffer to the circumference of each tree. This makes a minimum 2-metre spacing between plantings, with all establishment limited to Zone C. - Weighted Average (Net and Gross) Mature Canopy Per Tree is a mathematical result of the proportionate differences in planting ratios for each selected species in a planting area. Planting ratios are based on ecological advice. - Tree Count adopted for Zone C is set using the Part A calculation which is the lesser count with planting spacing in accordance with Design Principle 2.		

CORRIDOR D PLANTING ZONE – SHRUBS, GRASSES AND GROUNDCOVERS (SGG) PLANTING YIELD BASED ON BUSHFIRE REQUIREMENTS		
Zone A Allowable Coverage Area	150.9	m²
Zone A Total SGG Count for Corridor D	452.0	SGG
Zone B Allowable Coverage Area	201.1	m²
Zone B Total SGG Count for Corridor D	603.0	SGG
Zone C Allowable Coverage Area	457.2	m²
Zone C Total SGG Count for Corridor D	1,371.0	SGG
Total SGG Within Corridor D to Satisfy Bushfire Requirements	2,426.0	SGG
- Bushfire guidance advises SGG to be planted to a maximum 10% Net Weighted Average Mature Cover in addition to Tree Planting of 15% Net Weighted Average Mature Canopy Cover. - SGG will be planted within 10% of total planting area for Corridor D to satisfy bushfire requirements, for species list see LA17 . - SGG count assumes three plants per m ² with planting spacing in accordance with Design Principle 2 .		

PLANTING YIELDS DETAIL

LANDSCAPE CORRIDOR D

CORRIDOR D PZ - TREE SUMMARY									
Target 15% Canopy Area: 1,515.5 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (L)	Mature Canopy Per Tree (m²) - Net	Planting Ratio	Canopy Allocation (m²)	Tree Count	Tree Distribution
Angophora hispida	Dwarf Apple Gum	7	5	100ltr	19.6	20%	303.1	15	20.0%
Banksia Integrifolia	Coastal Banksia Tree	15	8	100ltr	50.3	20%	303.1	6	8.0%
Allocasuarina littoralis	Black Oak	10	4	100ltr	12.6	40%	606.2	48	64.0%
Casuarina glauca	Swamp She Oak	20	8	100ltr	50.3	20%	303.1	6	8.0%
Weighted Average of Net Mature Canopy:					20.2	100%	1,515	75	100%
Totals									

CORRIDOR D PZ ZONE A - SHRUBS, GRASSES AND GROUNDCOVERS (SGG) SUMMARY									
Target 10% Coverage Area: 150.9 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (mm)	SGG Coverage (plant per m²)	Planting Ratio	SGG Allocation (m²)	SGG Count	SGG Distribution
Ajuga australia	Australian Bugle	0.5	0.5	140mm	3	30%	45.3	135	30.0%
Dianella caerulea	Blue Flax Lily	0.6	0.6	150mm	3	35%	52.8	158	35.1%
Dianella revoluta	Blue Berry Lily	0.4	0.4	140mm	3	10%	15.1	45	10.0%
Dichondra repens	Kidney Weed	0.3	3	140mm	3	5%	7.5	22	4.9%
Lomandra multiflora	Mat - Rush	0.3	0.5	140mm	3	20%	30.2	90	20.0%
Weighted Average of SGG per m²					3	100%	150.9	450	100%
Totals									

CORRIDOR D PZ ZONE B - SHRUBS, GRASSES AND GROUNDCOVERS (SGG) SUMMARY									
Target 10% Coverage Area: 201.1 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (mm)	SGG Coverage (plant per m²)	Planting Ratio	SGG Allocation (m²)	SGG Count	SGG Distribution
Carpobrotus glaucescens	Pigface	1	2	140mm	3	20%	40.2	120	20.0%
Dianella caerulea	Blue Flax Lily	0.6	0.6	140mm	3	30%	60.3	180	30.0%
Dianella longifolia	Flax Lily	1	1	140mm	3	20%	40.2	120	20.0%
Lomandra multiflora	Mat - Rush	0.3	0.5	140mm	3	20%	40.2	120	20.0%
Lomandra longifolia	Mat Rush	1	1	140mm	3	10%	20.1	60	10.0%
Weighted Average of SGG per m²					3	100%	201.1	600	100%
Totals									

CORRIDOR D PZ ZONE C - SHRUBS, GRASSES AND GROUNDCOVERS (SGG) SUMMARY									
Target 10% Coverage Area: 457.2 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (mm)	SGG Coverage (plant per m²)	Planting Ratio	SGG Allocation (m²)	SGG Count	SGG Distribution
Bursaria spinosa	Sweet Bursaria	3	1.5	140mm	3	10%	45.7	137	10.0%
Hakea salicifolia	Willow-leaved Hakea	4	3	140mm	3	25%	114.3	342	25.0%
Hibiscus heterophyllus	Cottonwood Hibiscus	3	2.5	140mm	3	10%	45.7	137	10.0%
Einadia hastata	Berry Salt Bush	1	2	140mm	3	10%	45.7	137	10.0%
Pimelea linifolia	White Jewel	1	1	140mm	3	25%	114.3	342	25.0%
Banksia spinulosa	Hairpin Banksia	3	3	140mm	3	10%	45.7	137	10.0%
Banksia oblongifolia	Fen Leaf Banksia	2	1	140mm	3	10%	45.7	137	10.0%
Weighted Average of SGG per m²					3	100%	457.2	1,369	100%
Totals									

PLANT SCHEDULE

LANDSCAPE CORRIDOR D

CORRIDOR D - TREE & PLANT SCHEDULES

ZONE A AND B PLANT SCHEDULES

ZONE A Planting Mix - 3 Plants m/2															
Grasses and Ground cover															
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size	Planting Density	Total	Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider	Root Type	Maximum Root Depth	Effective Root Zone	Growth Form
Aju Aus	Ajuga australis	Australian Bugle	0.5	0.5	140mm	30% - 3 perm2	136					Shallow fibrous with rhizomes	0.3-0.5	0.2-0.3	Ground cover herb
Dia Cae	Dianella caerulea	Blue Flax Lily	0.6	0.6	150mm	35% - 3 perm2	159					Fibrous with thick spreading rhizome	0.5-0.8	0.3-0.5	Clumping herb
Dia Rev	Dianella revoluta	Blue Berry Lily	0.4	0.4	140mm	10% - 3 perm2	45					Rhizomatous with fibrous roots	0.5-1.0	0.3-0.6	Clumping herb
Dic Rep	Dichondra repens	Kidney weed	0.3	3	140mm	5% - 3 perm2	22					Creeping stolons rooting at nodes	0.1-0.3	0.05-0.15	Creeping herb
Lom Mul	Lomandra multiflora	Mat - rush	0.3	0.5	140mm	20% - 3 perm2	91					Rhizomatous tussock	0.8-1.2	0.5-0.8	Tussock grass
							Grasses and Groundcovers - Sub Total	453							

ZONE B Planting Mix - @ 3 Plants m/2															
Grasses and Ground cover															
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size	Planting Density		Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider	Root Type	Maximum Root Depth	Effective Root Zone	Growth Form
Car Glau	Carpobrotus glaucescens	Pigface	1	2	140mm	20% - 3 perm2	120					Adventitious roots at nodes	0.3-0.6	0.2-0.4	Prostrate succulent
Dia Cae	Dianella caerulea	Blue Flax Lily	0.6	0.6	140mm	30% - 3 perm2	180					Fibrous with thick spreading rhizome	0.5-0.8	0.3-0.5	Clumping herb
Dia Lon	Dianella longifolia	Flax Lily	1	1	140mm	20% - 3 perm2	120					Fleshy-fibrous or tuberous	0.8-1.2	0.5-0.8	Clumping herb
Lom Mul	Lomandra multiflora	Mat - rush	0.3	0.5	140mm	20% - 3 perm2	120					Rhizomatous tussock	0.8-1.2	0.5-0.8	Tussock grass
Lom Lon	Lomandra longifolia	Mat - rush	1	1	140mm	10% - 3 perm2	60					Extensive fibrous root system	1.0-1.5	0.6-1.0	Tussock grass
				Grasses and Groundcovers - Sub Total				600							

ZONE C - PLANT SCHEDULES

ZONE C TREES											
Trees											
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size	Planting Density	Total	Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider
Ang His	Angophora hispida	Dwarf Apple Gum	7	7	100ltr	20%	15				
Ban Int	Banksia Integrifolia	Coastal Banksia Tree	15	8	100ltr	20%	6				
All Lit	Allocasuarina littoralis	Black Oak	10	6	100ltr	40%	48				
Cas Glau	Casuarina glauca	Swamp She Oak	20	10	100ltr	20%	6				
						Trees - Sub Total	75				

ZONE C SHRUBS - T@ 3 Plants m/2															
Shrubs															
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size	Planting Density	Total	Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider	Root Type	Maximum Root Depth	Effective Root Zone	Growth Form
Bur Spi	Bursaria spinosa	Sweet Bursaria	3	1.5	140mm	10%	137					Rhizomatous spreading system	1.0-1.5	0.6-1.0	Shrub/small tree
Hak Sal	Hakea salicifolia	Willow-leaved Hakea	4	3	140mm	25%	342					Proteoid cluster roots	0.5-1.0	0.3-0.6	Shrub
Hib Het	Hibiscus heterophyllus	Cottonwood Hibiscus	3	2.5	140mm	10%	137					Fibrous root system	1.5-2	1.0-1.8	Shrub/small tree
Ein Has	Einadia hastata	Berry Salt Bush	1	2	140mm	10%	137					Moderate root system	1.0-1.5	0.6-1.0	Shrub/small tree
Pim Lin	Pimelea linifolia	White Jewel	1	1	140mm	25%	342					Prostrate spreading system	0.3-0.6	0.2-0.4	Low shrub
Ban Spi	Banksia spinulosa	Hairpin Banksia	3	3	140mm	10%	137					Moderate fibrous system	0.5-1.0	0.3-0.6	Low shrub
Ban Obl	Banksia oblongifolia	Fen Leaf Banksia	2	1	140mm	10%	137					Proteoid cluster roots	0.5 - 1.0	0.3 - 0.6	Shrub
							Shrubs - Sub Total	1,369							

Grasses & Groundcover - Sub Total	1,053
Shrubs - Sub Total	1,369
Shrubs, Grasses & Groundcover (SGG) TOTAL	2,422
Trees TOTAL	75

Plant Selection:

- Plant species selection (except turf) has been carried out based on Bushfire resistant species listed in **Australian Native Plants Society (Australia) – Australian Plants for Fire Prone Areas**
- Species for Squirrel Glider – **Lake Macquarie Squirrel Glider Planning and Management Guidelines 2015**
- Species for Glossy Black-Cockatoo – **NSW Natural resource Management Advisory Series: Note 2**
- Endemic local species – **advised by SLR Consulting - Ecology & Biodiversity**
- Native species by growth form – Bionet Native Species by Growth Form Data (Department of Planning and Environment, 4 July 2022 – **advised by SLR Consulting - Ecology & Biodiversity**

ZONE A & ZONE B Plant Selection:

- Only **grass and groundcover species** with fibrous root systems, mature height under 1 m, and typical root depth not exceeding 1 m have been selected for ZONES A & B.
- No trees are included in these zones.**
- Plant species** for these zones were **advised by Fiona Lolini, Associate – Ecology & Biodiversity, SLR Consulting.**

Definitions:

Definitions for **Effective Depth, Maximum Root Depth, and Growth Form** can be found in LA37.

NOTE:

Dimensions for height and width for all plantings including trees, shrubs, grasses and groundcovers (SGG) are taken from specialist industry plant suppliers, and identity sizes of species at maturity. Note that growing characteristics, plant size, shape and form are dependent on:

- Planting environment
- Soil volume
- Soil Type
- Planting densities
- Water & nutrient availability
- Maintenance

Schedules identifying Maximum Root Depth and Effective Root Zone have been collated from online resources and desktop research, and may not reflect true accurate calculations as they are dependent upon:

- Planting environment
- Soil volume
- Soil Type
- Water & nutrient availability

PLANT IMAGES

LANDSCAPE CORRIDOR D

ZONE A + B - GRASS AND GROUND COVER SPECIES



Ajuga australis



Dianella caerulea



Dicondra repens



Lomandra longifolia

SERVICE ACCESS TRACK



Cynodon dactylon



Lomandra multiflora



Dianella revoluta



Carpobrotus glaucescens

ZONE C - TREE SPECIES



Allocasuarina littoralis



Angophora hispida



Banksia integrifolia



Casuarina glauca

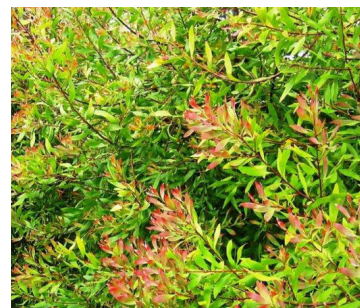
ZONE C - SHRUB SPECIES



Bursaria spinosa



Banksia spinulosa



Hakea salicifolia



Hibiscus heterophyllus



Einadia hastata



Pimelea linifolia



Banksia oblongifolia

A photograph of two black cockatoos perched on the branches of a pine tree. The birds are dark with a prominent white patch on their faces and a bright orange-red band on their tails. They are surrounded by the dense, green needles and thin, brown branches of the tree. The background is a soft-focus view of more trees and foliage.

BUFFER PLANTING ZONE

CONCEPT MASTERPLAN

BUFFER **PLANTING** ZONE

The Buffer Planting Zone is 8.3 m wide and 23.4 m long between Land Use 6 MHE - Over 55 Land Lease Community and Land Use 4 Residential Development - Low Density.

1. Road interface to native buffer to be treated with native and endemic low-level shrub and grass species.
2. Native mass planting tree and shrub planting providing in main buffer screening principles.

Note:

- Landscape plans are indicative only (showing a concept layout)
- For planting ratios and areas refer to schedules in LA22 - LA24
- Plant spacing to satisfy requirements as per Ecological Bushfire Report 24HUS8504 and Planning for Bushfire Protection (PBP 2019)

Buffer Planting Zone - Concept Masterplan

CHARACTER IMAGERY

BUFFER **PLANTING ZONE**



SECTION BUFFER PLANTING ZONE



PLANTING YIELDS SUMMARY

BUFFER PLANTING ZONE

BUFFER PLANTING ZONE – TREE PLANTING YIELD BASED ON BUSHFIRE REQUIREMENTS		
Item	Qty	Unit
ZONE 1		
Total Planting Area of Buffer Planting Zone (Zone 1)	1,017.7	m²
Allowable Canopy Area	152.7	m²
Net Weighted Average Mature Canopy Per Tree	30.5	m²
Total Trees to Suit Canopy Spacing Bushfire Requirement Zone 1	5.0	trees
ZONE 2		
Total Planting Area of Buffer Planting Zone (Zone 2)	763.3	m²
Allowable Canopy Area	114.5	m²
Net Weighted Average Mature Canopy Per Tree	22.9	m²
Total Trees to Suit Canopy Spacing Bushfire Requirement Zone 2	5.0	trees
Total Trees Within Buffer Zones to Satisfy Bushfire Requirements	10.0	trees
- Bushfire guidance advises of maximum 15% Net Weighted Average Mature Canopy Cover . - Net Mature Canopy is the mature canopy spread of each species of selected tree species. - Net Weighted Average Mature Canopy Per Tree is a mathematical result of the proportionate differences in planting ratios for each selected species in a planting area. Planting ratios are based on ecological advice. - Buffer Zone split into larger planting and smaller planting zones (Zone 1 and 2) to create an effective landscape buffer.		

BUFFER PLANTING ZONE – SHRUBS, GRASSES AND GROUNDCOVERS (SGG) PLANTING YIELD BASED ON BUSHFIRE REQUIREMENTS		
ZONE 1		
Zone 1 Allowable Coverage Area (10% coverage)	101.8	m²
Zone 1 Total SGG Count for Corridor D	275.0	SGG
ZONE 2		
Zone 2 Allowable Coverage Area (10% coverage)	76.3	m²
Zone 2 Total SGG Count for Corridor D	223.0	SGG
Total SGG Within Buffer Zones to Satisfy Bushfire Requirements	498.0	SGG
- Bushfire guidance advises SGG to be planted to a maximum 10% Net Weighted Average Mature Cover in addition to Tree Planting of 15% Net Weighted Average Mature Canopy Cover - SGG will be planted within 10% of total planting area for the Buffer Planting Zone to satisfy bushfire requirements, for species list see LA25 . - SGG count assumes three plants per m² with planting spacing in accordance with Design Principle 2.		

PLANTING YIELDS DETAIL

BUFFER PLANTING ZONE

BUFFER PZ (MASS PLANTING TYPE 1) - TREE SUMMARY									
Target 15% Canopy Area: 152.7 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (L)	Mature Canopy Per Tree (m²) - Net	Planting Ratio	Canopy Allocation (m²)	Tree Count	Tree Distribution
Allocasuarina torulosa	Forest Oak	10	7	45ltr	38.5	26%	39.7	1	20.0%
Eucalyptus fibrosa	Red Ironbark	20	8	45ltr	50.3	34%	51.9	1	20.0%
Elaeocarpus Obovatus	Hard Quandong	12	5	45ltr	19.6	40%	61.1	3	60.0%
Weighted Average of Net Mature Canopy:					30.5	100%	152.7	5	100%
Totals									

BUFFER PZ (MASS PLANTING TYPE 1) - SHRUBS, GRASSES AND GROUNDCOVERS (SGG) SUMMARY									
Target 10% Coverage Area: 101.8 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (mm)	SGG Coverage (plant per m²)	Planting Ratio	SGG Allocation (m²)	SGG Count	SGG Distribution
Breynia oblongifolia	Coffee Bush	3	2	Viro tube	3	10%	10.2	3	1.1%
Daviesia ulicifolia	Gorse bitter pea	2	2	Viro tube	3	15%	15.3	45	16.4%
Callistemon citrinus	Crimson Bottlebrush	3	3	Viro tube	3	20%	20.4	61	22.2%
Hibiscus heterophyllus	Cottonwood Hibiscus	3	2.5	Viro tube	3	10%	10.2	30	10.9%
Imperata cylindrica	Cogon Grass	1.2	1	Viro tube	3	35%	35.6	106	38.5%
Acacia longifolia	Golden Wattle	3	2.5	Viro tube	3	10%	10.2	30	10.9%
Weighted Average of SGG per m²					2.7	100%	101.8	275	100%
Totals									

BUFFER PZ (MASS PLANTING TYPE 2) - TREE SUMMARY									
Target 15% Canopy Area: 114.5 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (L)	Mature Canopy Per Tree (m²) - Net	Planting Ratio	Canopy Allocation (m²)	Tree Count	Tree Distribution
Banksia serrata	Old Man Banksia	10	4	75ltr	12.6	33%	37.8	2	40.0%
Elaeocarpus reticulatus	Blueberry Ash	9	4	100ltr	12.6	33%	37.8	2	40.0%
Backhousia myrtifolia	Cinnamon Myrtle	7	5	100ltr	19.6	34%	38.9	1	20.0%
Weighted Average of Net Mature Canopy:					22.9	100%	114.5	5	100%
Totals									

BUFFER PZ (MASS PLANTING TYPE 2) - SHRUBS, GRASSES AND GROUNDCOVERS (SGG) SUMMARY									
Target 10% Coverage Area: 76.3 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (mm)	SGG Coverage (plant per m²)	Planting Ratio	SGG Allocation (m²)	SGG Count	SGG Distribution
Imperata cylindrica	Cogon Grass	1.2	1	Viro tube	3	10%	7.6	22	9.9%
Microlaena stipoides	Burra weeping Grass	0.7	1	Viro tube	3	15%	11.4	34	15.2%
Dianella revoluta var. revo	Blueberry Lilly	1	0.5	Viro tube	3	5%	3.8	11	4.9%
Doryanthes excelsa	Gymea Lily	1.5	1.5	Viro tube	3	10%	7.6	22	9.9%
Lomandra longifolia	Mat Rush	1	1	Viro tube	3	10%	7.6	22	9.9%
Hibiscus heterophyllus	Cottonwood Hibiscus	3	2.5	Viro tube	3	15%	11.4	34	15.2%
Dianella revoluta	Blue Berry Lilly	0.4	0.4	Viro tube	3	10%	7.6	22	9.9%
Lomandra cylindric	Mat Rush	0.7	0.7	Viro tube	3	15%	11.4	34	15.2%
Lomandra multiflora	Mat - rush	0.3	0.5	Viro tube	3	10%	7.6	22	9.9%
Weighted Average of SGG per m²					2.9	100%	76.3	223	100%
Totals									

PLANT SCHEDULE

BUFFER PLANTING ZONE

BUFFER - TREE & PLANT SCHEDULES

BUSHLAND/ BUFFER MASS PLANTING TYPE 1 BMP1 - Tree & shrub understorey layer											
Trees											
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (L)	Planting Density	Total	Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider
All Tor	Allocasuarina torulosa	Forest Oak	10	7	45ltr	26%	1				
Euc Fib	Eucalyptus fibrosa	Red Ironbark	20	8	45ltr	34%	1				
Elo Obo	Elaeocarpus Obovatus	Hard Quandong	12	5	45ltr	40%	3				
Trees - Sub Total							5				

Shrub											
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (L)	Planting Density	Total	Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider
Bre Obl	Breynia oblongifolia	Coffee Bush	3	2	Viro tube	10%	3				
Dav Uli	Daviesia ulicifolia	Gorse bitter pea	2	2	Viro tube	15%	45				
Cal Cit	Callistemon citrinus	Crimson Bottlebrush	3	3	Viro tube	20%	61				
Hib Het	Hibiscus heterophyllus	Cottonwood Hibiscus	3	2.5	Viro tube	10%	30				
Imp Cyl	Imperata cylindrica	Cogon Grass	1.2	1	Viro tube	35%	106				
Aca Lon	Acacia longifolia	Golden Wattle	3	2.5	Viro tube	10%	30				
Shrubs - Sub Total							275				

BUSHLAND/ BUFFER MASS PLANTING TYPE 2 BMP2 - Tree & Mid shrub edge layer layer											
Trees											
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (L)	Planting Density	Total	Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider
Ban Ser	Banksia serrata	Old Man Banksia	10	4	75ltr	33%	2				
Ela Ret	Elaeocarpus reticulatus	Blueberry Ash	9	4	100ltr	33%	2				
Bac Myr	Backhousia myrtifolia	Cinnamon Myrtle	7	5	100ltr	34%	1				
Trees - Sub Total							5				

Shrubs, Grasses & Groundcovers (SGG)											
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (L)	Planting Density	Total	Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider
Imp Cyl	Imperata cylindrica	Cogon Grass	1.2	1	Viro tube	10%	22				
Mic Sti	Microlaena stipoides	Burra weeping Grass	0.7	1	Viro tube	15%	34				
Dia Rev	Dianella revoluta var. revoluta	Blueberry Lilly	1	0.5	Viro tube	5%	11				
Dor Exc	Doryanthes excelsa	Gymea Lily	1.5	1.5	Viro tube	10%	22				
Lom Lon	Lomandra longifolia	Mat Rush	1	1	Viro tube	10%	22				
Hib Het	Hibiscus heterophyllus	Cottonwood Hibiscus	3	2.5	Viro tube	15%	34				
Dia Rev	Dianella revoluta	Blue Berry Lilly	1	1.5	Viro tube	10%	22				
Lom Cyl	Lomandra cylindric	Mat Rush	0.7	0.7	Viro tube	15%	34				
Lom Mul	Lomandra multiflora	Mat - rush	0.3	0.5	Viro tube	10%	22				
Shrubs - Sub Total							223				

Shrubs - Sub Total	498
Trees - Sub Total	10
Shrubs, Grasses & Groundcovers (SGG) TOTAL	498
Trees TOTAL	10

Plant Selection

- Plant species selection (except turf) has been carried out based on Bushfire resistant species listed in **Australian Native Plants Society (Australia) – Australian Plants for Fire Prone Areas**
- Species for Squirrel Glider – **Lake Macquarie Squirrel Glider Planning and Management Guidelines 2015**
- Species for Glossy Black-Cockatoo – **NSW Natural resource Management Advisory Series: Note 2**
- Endemic local species – **advised by SLR Consulting - Ecology & Biodiversity**
- Native species by growth form – Bionet Native Species by Growth Form Data (Department of Planning and Environment, 4 July 2022 – **advised by SLR Consulting - Ecology & Biodiversity**

NOTE:

Dimensions for height and width for all plantings including trees, shrubs, grasses and groundcovers (SGG) are taken from specialist industry plant suppliers, and identity sizes of species at maturity. Note that growing characteristics, plant size, shape and form are dependent upon:

- Planting environment
- Soil volume
- Soil Type
- Planting densities
- Water & nutrient availability
- Maintenance

PLANT IMAGES

BUFFER PLANTING ZONE

SHRUB SPECIES



Breyntia oblongifolia



Daviesia ulicifolia



Hakea salicifolia



Hibiscus heterophyllus



Acacia longifolia



Callistemon citrinus



Lomandra multiflora

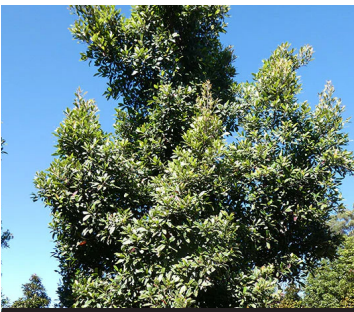


Dianella revoluta

TREE SPECIES



Banksia serrata



Elaeocarpus reticulatus



Elaeocarpus Obovatus



Allocasuarina torulosa



Eucalyptus fibrosa



Backhousia myrtifolia

A photograph of two black cockatoos perched on the branches of a pine tree. The birds are dark with a prominent white patch on their faces and a bright orange-red patch on their lower wings. They are surrounded by dense green pine needles and thin, brown branches. The background is a soft-focus view of more trees and foliage.

GATEWAY SIGNAGE PLANTING ZONE

CONCEPT MASTERPLAN

GATEWAY SIGNAGE PLANTING ZONE



Gateway Signage Planting Zone

PLANTING YIELDS SUMMARY

GATEWAY SIGNAGE PLANTING ZONE

GATEWAY SIGNAGE PLANTING ZONE – TREE PLANTING YIELD BASED ON BUSHFIRE REQUIREMENTS		
Item	Qty	Unit
Total Planting Area of Gateway Signage Area	814.0	m²
Allowable Canopy Area	122.1	m²
Net Weighted Average Mature Canopy Per Tree	17.4	m²
Total Trees Within Gateway Zone to Satisfy Bushfire Requirements	7.0	Trees
- Bushfire guidance advises of maximum 15% Net Weighted Average Mature Canopy Cover . - Net Mature Canopy is the mature canopy spread of each species of selected tree species. - Net Weighted Average Mature Canopy Per Tree is a mathematical result of the proportionate differences in planting ratios for each selected species in a planting area. Planting ratios are based on ecological advice.		
GATEWAY SIGNAGE PLANTING ZONE – SHRUBS, GRASSES AND GROUNDCOVERS (SGG) PLANTING YIELD BASED ON BUSHFIRE REQUIREMENTS		
No SGG to be Planted Within the Gateway Signage Planting Zone		

PLANTING YIELDS DETAIL

GATEWAY SIGNAGE PLANTING ZONE

GATEWAY SIGNAGE PZ - TREE SUMMARY									
Target 15% Canopy Area:		122.1 m²							
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (L)	Mature Canopy Per Tree (m²) - Net	Planting Ratio	Canopy Allocation (m²)	Tree Count	Tree Distribution
Angophora hispida	Dwarf Apple Gum	7	5	75ltr	19.6	35%	42.7	2	28.6%
Elaeocarpus reticulatus	Blueberry Ash	9	4	100ltr	12.6	45%	54.9	4	57.1%
Elaeocarpus Obovatus	Hard Quandong	12	5	100ltr	19.6	20%	24.4	1	14.3%
Weighted Average of Net Mature Canopy:					17.4	100%	122.1	7	100%
								Totals	

Plant Selection

- Plant species selection (except turf) has been carried out based on Bushfire resistant species listed in *Australian Native Plants Society (Australia) – Australian Plants for Fire Prone Areas*
- Species for Squirrel Glider – *Lake Macquarie Squirrel Glider Planning and Management Guidelines 2015*
- Species for Glossy Black-Cockatoo – *NSW Natural resource Management Advisory Series: Note 2*
- Endemic local species – *advised by SLR Consulting - Ecology & Biodiversity*
- Native species by growth form – Bionet Native Species by Growth Form Data (Department of Planning and Environment, 4 July 2022 – *advised by SLR Consulting - Ecology & Biodiversity*

NOTE:

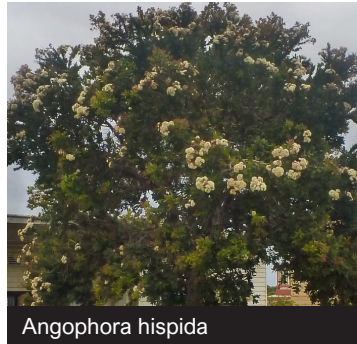
Dimensions for height and width for all plantings including trees, shrubs, grasses and groundcovers (SGG) are taken from specialist industry plant suppliers, and identity sizes of species at maturity. Note that growing characteristics, plant size, shape and form are dependent on:

- Planting environment
- Soil volume
- Soil Type
- Planting densities
- Water & nutrient availability
- Maintenance

PLANT IMAGES

GATEWAY SIGNAGE PLANTING ZONE

TREE SPECIES



A photograph of two black cockatoos perched on the branches of a pine tree. The bird on the right is facing right, showing its dark plumage and a bright orange patch on its tail. The bird on the left is facing left, also showing its dark plumage and orange tail. The background is a dense network of pine needles and branches, with some green foliage visible in the distance.

CORRIDOR D - LOT 1 ROAD RESERVE
PLANTING ZONE

CONCEPT MASTERPLAN

CORRIDOR D - LOT 1 ROAD RESERVE **PLANTING ZONE**



PLANTING YIELDS SUMMARY

CORRIDOR D - LOT 1 ROAD RESERVE

CORRIDOR D - LOT 1 ROAD RESERVE PLANTING ZONE – TREE PLANTING YIELD BASED ON BUSHFIRE REQUIREMENTS		
Item	Qty	Unit
Total Area of Corridor D - L1 Rd Reserve PZ	4,668.0	m²
Allowable Canopy Area	700.2	m²
Net Weighted Average Mature Canopy Per Tree	18.9	m²
Total Trees Within Corridor D L1 Rd Reserve PZ to Satisfy Bushfire Requirements	37.0	trees
- Bushfire guidance advises of maximum 15% Net Weighted Average Mature Canopy Cover . - Net Mature Canopy is the mature canopy spread of each species of selected tree species. - Net Weighted Average Mature Canopy Per Tree is a mathematical result of the proportionate differences in planting ratios for each selected species in a planting area. Planting ratios are based on ecological advice.		

CORRIDOR D - LOT 1 ROAD RESERVE PLANTING ZONE – SHRUBS, GRASSES AND GROUNDCOVERS (SGG) PLANTING YIELD BASED ON BUSHFIRE REQUIREMENTS		
Allowable Coverage Area	466.8	m²
Total SGG Count for Corridor D - Lot 1 Road Reserve	1,400.0	SGG
Total SGG Within L1 Rd Reserve PZ to Satisfy Bushfire Requirements	1,400.0	SGG
- Bushfire guidance advises SGG to be planted to a maximum 10% Net Weighted Average Mature Cover in addition to Tree Planting of 15% Net Weighted Average Mature Canopy Cover - SGG will be planted within 10% of total planting area for Corridor D to satisfy bushfire requirements, for species list see LA36 . - SGG count assumes three plants per m² with planting spacing in accordance with Design Principle 2.		

PLANTING YIELDS DETAIL

CORRIDOR D - LOT 1 ROAD RESERVE

CORRIDOR D - L1 RD RESERVE PZ - TREE SUMMARY									
Target 15% Canopy Area: 700.2 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (L)	Mature Canopy Per Tree (m²) - Net	Planting Ratio	Canopy Allocation (m²)	Tree Count	Tree Distribution
Angophora hispida	Dwarf Apple Gum	7	5	75ltr	19.6	25%	175.1	8	21.6%
Banksia Integrifolia	Coastal Banksia Tree	15	8	100ltr	50.3	15%	105.0	2	5.4%
Allocasuarina littoralis	Black Oak	10	4	100ltr	12.6	45%	315.1	25	67.6%
Casuarina glauca	Swamp She Oak	20	8	100ltr	50.3	15%	105.0	2	5.4%
Weighted Average of Net Mature Canopy:					18.9	100%	700.2	37	100%
Totals									

CORRIDOR D - L1 RD RESERVE PZ - SHRUBS, GRASSES AND GROUNDCOVERS (SGG) SUMMARY									
Target 10% Coverage Area: 466.8 m²									
Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size (mm)	SGG Coverage (plant per m²)	Planting Ratio	SGG Allocation (m²)	SGG Count	SGG Distribution
Ajuga australis	Australian Bugle	0.5	0.5	140mm	3	10%	46.7	140	10.0%
Carpobrotus glaucescens	Pigface	0.1	2	140mm	3	20%	93.4	280	20.0%
Doryanthes excelsa	Gymea Lily	1.5	1.5	150mm	3	10%	46.7	140	10.0%
Dianella longifolia	Flax Lily	1	1	140mm	3	10%	46.7	140	10.0%
Dianella revoluta	Blue Berry Lily	0.4	0.4	140mm	3	10%	46.7	140	10.0%
Dichondra repens	Kidney Weed	0.3	3	140mm	3	20%	93.4	280	20.0%
Lomandra longifolia	Mat Rush	1	1	Viro tube	3	10%	46.7	140	10.0%
Hardenbergia violacea	False Sarsaparilla	0.5	1.5	140mm	3	10%	46.7	140	10.0%
Weighted Average of SGG per m²					3	100%	466.8	1,400	100%
Totals									

PLANT SCHEDULE

CORRIDOR D - LOT 1 ROAD RESERVE

CORRIDOR D - LOT 1 ROAD RESERVE - TREE & PLANT SCHEDULES

LOT 1 ROAD RESERVE - TREES											
Trees											
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size	Planting Density	Total	Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider
Ang His	Angophora hispida	Dwarf Apple Gum	7	5	100ltr	25%	8				
Ban Int	Banksia Integrifolia	Coastal Banksia Tree	15	8	100ltr	15%	2				
All Lit	Allocasuarina littoralis	Black Oak	10	4	100ltr	45%	25				
Cas Glau	Casuarina glauca	Swamp She Oak	20	8	100ltr	15%	2				
Trees - Total							37				

LOT 1 ROAD RESERVE - @ 3 Plants m/2											
Grasses and Ground cover											
Code	Botanical Name	Common Name	Mature Height (m)	Mature Width (m)	Pot Size	Planting Density	Total	Endemic	Fire Resistant	Glossy Black Cockatoo	Squirrel Glider
Aju Aus	Ajuga australis	Australian Bugle	0.5	0.5	140mm	10%	140				
Car Glau	Carpobrotus glaucescens	Pigface	0.1	2	140mm	20%	280				
Dor Exc	Doryanthes excelsa	Gynea Lily	1.5	1.5	150mm	10%	140				
Dia Lon	Dianella longifolia	Flax Lily	1	1	140mm	10%	140				
Dia Rev	Dianella revoluta	Blue Berry Lily	0.4	0.4	140mm	10%	140				
Dic Rep	Dichondra repens	Kidney Weed	0.3	3	140mm	20%	280				
Lom Lon	Lomandra longifolia	Mat Rush	1	1	140mm	10%	140				
Har Vio	Hardenbergia violacea	False Sarsaparilla	0.5	1.5	140mm	10%	140				
Shrubs, Grasses & Groundcover (SGG) TOTAL							1,400				
Trees TOTAL							37				

Plant Selection

- Plant species selection (except turf) has been carried out based on Bushfire resistant species listed in *Australian Native Plants Society (Australia) – Australian Plants for Fire Prone Areas*
- Species for Squirrel Glider – *Lake Macquarie Squirrel Glider Planning and Management Guidelines 2015*
- Species for Glossy Black-Cockatoo – *NSW Natural resource Management Advisory Series: Note 2*
- Endemic local species – *advised by SLR Consulting - Ecology & Biodiversity*
- Native species by growth form – Bionet Native Species by Growth Form Data (Department of Planning and Environment, 4 July 2022 – *advised by SLR Consulting - Ecology & Biodiversity*

NOTE:

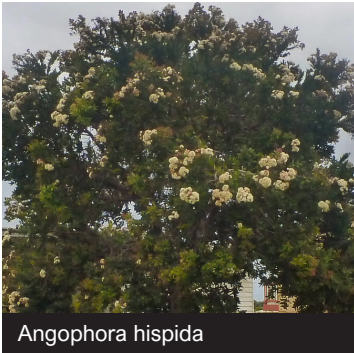
Dimensions for height and width for all plantings including trees, shrubs, grasses and groundcovers (SGG) are taken from specialist industry plant suppliers, and identity sizes of species at maturity. Note that growing characteristics, plant size, shape and form are dependent on:

- Planting environment
- Soil volume
- Soil Type
- Planting densities
- Water & nutrient availability
- Maintenance

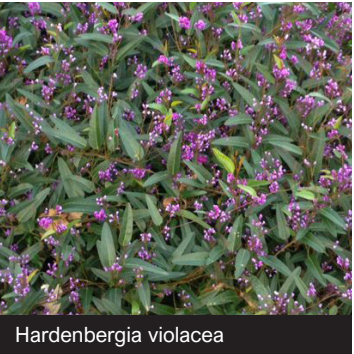
PLANT IMAGES

CORRIDOR D - LOT 1 ROAD RESERVE

TREE SPECIES



GRASS & GROUND COVER SPECIES



DEFINITIONS

LANDSCAPE CORRIDOR D

Growth Form

Growth form, in Australian botanical science, is defined as: A whole-plant phenotype trait that summarises different components of shape and structure into general groups such as trees, shrubs, forbs, grasses, climbers, and ferns. Growth form incorporates characteristics including vegetative shoot height, stem and leaf arrangement, and the position and number of stems/leaves relative to the ground.
[Wenk EH et al., 2024, Australian Journal of Botany, 72]

Tree

- Definition Source 1:**
"a perennial woody plant that is three or more metres in height and that has one or more self- supporting trunks (at least one of which has a circumference at a height of 1.3 metres above ground of more than 0.3 metres) but it does not include a woody plant that is:
a. a shrub, which is a small, low growing, woody plant with multiple stems, or
b. a vine, which is a woody plant that depends on an erect substrate to grow on."
[NSW Rural Fire Service, 10/50 Vegetation Clearing Code of Practice for New South Wales, 2 Definitions, page 4]
- Definition Source 2:**
"A tree is defined to include any woody perennial plant, any plant resembling a tree in form and size and any other plant prescribed by the regulations (section 3, Tree Disputes Act)."

Further, Clause 4 of the Trees (Disputes Between Neighbours) Regulation 2019 states that:
"the definition of tree in the Tree Disputes Act includes "Prescribed plants For the purposes of the definition of tree in section 3 (1) of the Act, the following plants are prescribed:
(a) bamboo,
(b) tiger grass/giant clumping grass (Thysanolaena maxima),
(c) any plant that is a vine."
[New South Wales, 2019, Tree Disputes Act; Trees (Disputes Between Neighbours) Regulation 2019]
- Definition Source 3:**
"tree" means a perennial plant with at least one self-supporting woody or fibrous stem, which:
a. Is 3 metres or more in height;
b. or Has a trunk diameter of 75 mm or more measured at 1.4 metres above ground level
[Central Coast Council, 2022, Development Control Plan 2022, Chapter 3.5]

Fibrous Root System

A fibrous root system is characterized by a dense, branching network of roots that are approximately equal in size and arise from the base of the stem. These roots are typically adventitious, meaning they originate from stem tissue rather than a primary root, and are common in monocotyledonous plants such as grasses. Unlike taproots, fibrous roots:

- Do not enlarge for storage or structural support, reducing the risk of cracking or uplifting infrastructure like pavements, pipes, and foundations.
- Spread horizontally and shallowly, forming a mat-like structure that binds soil effectively without penetrating deeply or forcefully.
- Are ideal for erosion control and soil stabilisation, especially in dry or degraded environments.

[Definition adapted from Fiona Lolini, Associate – Ecology & Biodiversity, SLR Consulting.]

Maximum Root Depth

Maximum root depth is the deepest soil depth reached by the longest roots of a plant, representing the maximum vertical extent where roots are found and able to access water and nutrients.
[CSIRO, Australia, 2007]

Effective Root Zone

The effective root zone refers to the depth of soil over which plant roots can function effectively in water and nutrient uptake. It typically extends from the soil surface down to a physical or chemical barrier such as bedrock, hardpans, or compacted soil layers.
[NSW Department of Planning, Industry and Environment, 2013]

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