ARCADIA

Julius Avenue Data Centre
Landscape Report

Prepared for ISPT
December 2025

We respectfully acknowledge the Traditional Custodians of the lands where we live and work. We acknowledge their unique ability to care for Country and deep spiritual connection to it. We honour Elders past, present and emerging whose knowledge and wisdom has and will ensure the continuation of cultures and traditional practices.

Rev A	13 May 2025	MB
Rev B	20 June 2025	MB
Rev C	12 December 2025	NW

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Executive Summary

The Julius Avenue Data Centre is a secure, scalable, and sustainable facility within the Macquarie Park Technology Precinct. Designed to meet Tier III Uptime Institute standards, the data centre will provide high-performance infrastructure that ensures continuous operations while adapting to evolving technological needs. The project is committed to aligning with local planning regulations and incorporating environmentally responsible design.

A key priority is future proofing, ensuring the facility can scale efficiently to accommodate increasing data demands. Security and reliability are integral, with redundant power and cooling systems, advanced cybersecurity, and robust access controls. The development must address site constraints such as zoning laws, environmental considerations, and infrastructure requirements. As part of a major commercial and technology hub, the project must comply with local council guidelines, implement stormwater management solutions, and ensure seamless integration with existing transport and utility networks. Upgrades to electricity, water, and telecommunications will also be necessary to support the facility's extensive operations.

From a technical standpoint, the facility's design will follow industry best practices, incorporating structurally robust data halls, energy-efficient cooling systems, secure perimeters, and fire-resistant materials. The layout will emphasize operational efficiency, featuring modular data halls, structured cabling, emergency exits, and designated areas for storage, security, and support services. Additionally, the data centre will implement waste management strategies and adhere to strict Australian building and environmental standards.

The Julius Avenue Data Centre will be a cutting-edge facility that integrates innovation, security, and sustainability. This document serves as a comprehensive guide for all stakeholders, ensuring the project is executed with efficiency, compliance, and long-term value while also providing the technical requirements for the development of the data centre.



Introduction

This Development Application has been prepared by Arcadia on behalf of ISPT Limited to accompany a detailed State Significant Development Application (SSDA) for the Julius Avenue Data Centre development at 6-8 Julius Avenue, North Ryde. The legal description of the site is Lot 89 in Deposited Plan (DP) 1082131.

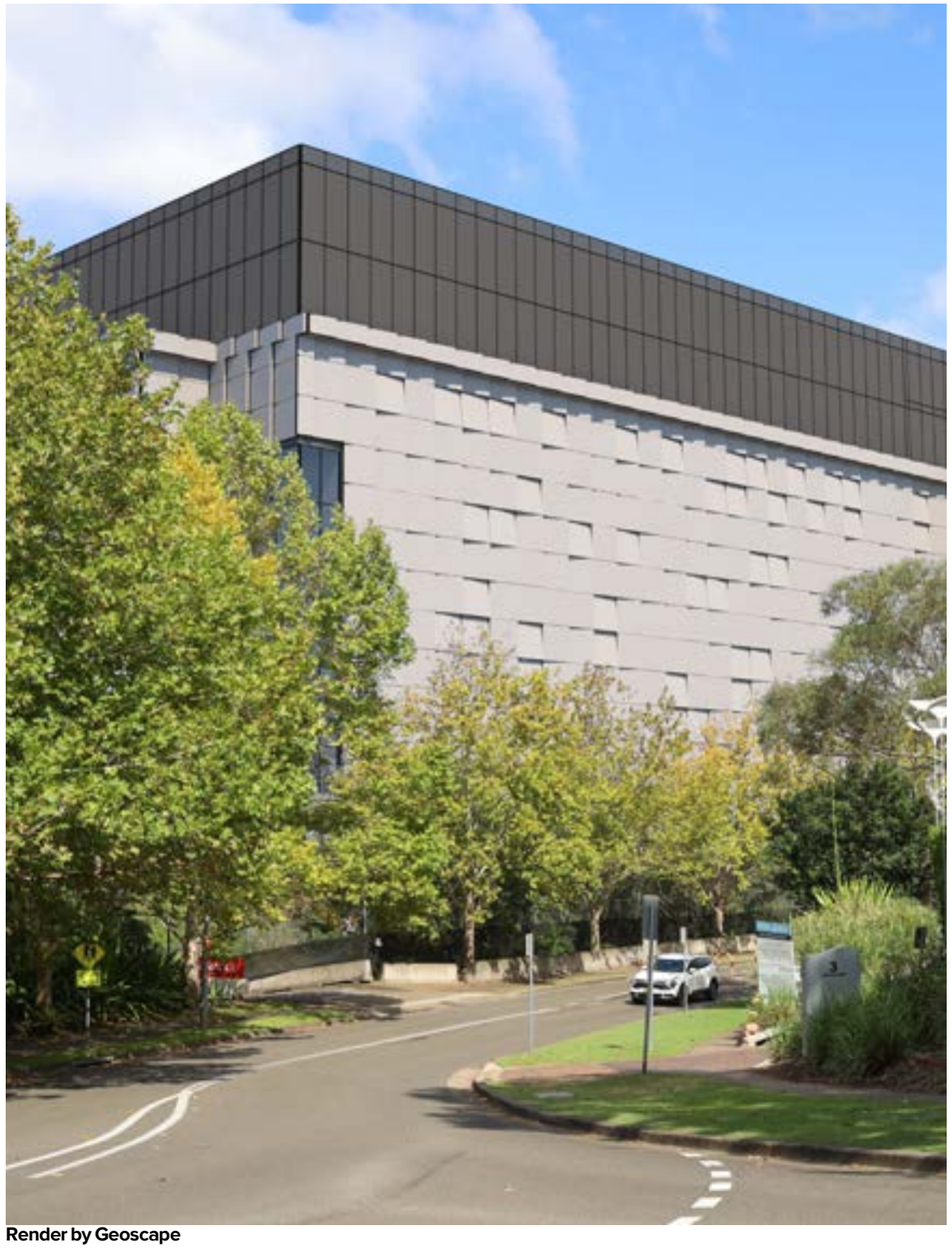
The application seeks consent for construction and operation of a data centre development and includes site preparation works, bulk earthworks and infrastructure, and construction of the buildings, ancillary facilities, and associated site works.
The application also includes the delivery of:

- An internal road as outlined in Macquarie Park Transport Oriented Development Precinct; and
- New public pedestrian links as well as a new public open space adjacent to the Lane Cove National Park along the southern boundary as outlined in the Macquarie Park Design Guide.

Specifically, the Project comprises the redevelopment of the site as summarised below:

- Site preparation works including demolition and removal of existing structures, tree removal and bulk earthworks.
- Landscaping across the site in accordance with the project staging, delivering a mix of native and endemic plant species, shrubs and grasses.
- Construction of data centre as described below:

Site Area	28,630 m2
Primary Land Use	Data Centre (25,204sqm GFA)
Ancillary Land Uses	Office premises (868qm GFA)
Gross Floor Area	16,647 m2
Floor Space Ratio	0.58:1
IT Load	76 MW
Maximum Power Consumption	120 MW
Building Height	40m
New Streets	One (1) new publicly accessible street
Car Parking	38 car parking spaces (including 2 accessible)
Landscaping/trees	334 trees to be removed.
Back-Up Generators	48 x 3MW + 1 x 1MW back-up generators
Dangerous Goods	955kL diesel storage capacity - 12 x 100kL tanks + 72 x 1kL day tanks for data halls + 1 x 6kL tank + 1 x 1kL day tank for office/FOH
Estimated Jobs	Total estimated jobs (construction and operation) to be confirmed.



Render by Geoscape

The Site

The site is identified as 6-8 Julius Avenue, North Ryde. The site is irregular in shape and is located on the south-eastern side of Julius Avenue, North Ryde. The allotment has a primary frontage of approximately 100m to Julius Avenue and has a partial rear frontage to Richardson Place at the north-eastern corner. The site area is approximately 2.863ha.
The site is currently vacant. The north-western part of the site was excavated and cleared of vegetation in 2009, as part of Modified Determination No. 1395/1999 previously approved on the 22 July 2004.

Existing Site Attributes and Surrounding Context

- The site is generally surrounded to the north-east, north-west, and south-west by commercial uses and E3 Productivity Support zoned land.
- Approximately 150m to the North-West of the site is MU1 mixed Use zoned land which contemplates residential development to a height of 95m.
- The site directly adjoins the Lane Cove National Park to the South and South-East which contains a walking track known as The Great North Walk and a fire trail.
- The Lane Cove River is located approximately 100m to the South-East of the site.
- The site directly adjoins the City Of Ryde Administrative Centre to the east.
- Approximately 500m to the North-West of the site is the North Ryde Metro Station.
- The nearest existing residential development is located approximately 300m to the south-east of the site on the eastern side of Lane Cove River in Lane Cove North, and 300m to the south-west of the site on the southern side of Epping Road in North Ryde.



Render by Geoscape

Background Documents

Government Architect NSW

The Government Architect NSW (GANSW) provides strategic design leadership in architecture, urban design and landscape architecture, providing a set of principles and guidance to support good design in NSW.

The following reports guide best practice design for the public domain and open spaces at **Julius Avenue Data Centre.**



Better Placed (2017)



Implementing Good Design (2018)



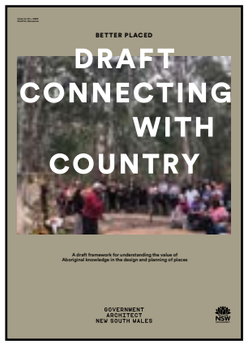
Evaluating Good Design (2018)



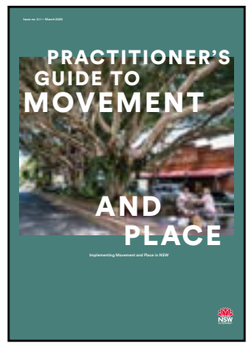
Greener Places (2020)



Draft Greener Places Design Guide (2020)



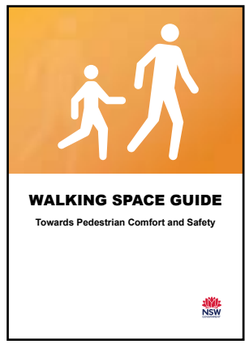
Draft Connecting with Country (2020)



Practitioner's Guide to Movement and Place (2020)



Aligning Movement and Place (2019)



Walking Spaces Guide (2020)



PLANNING FOR BUSH FIRE PROTECTION (2019)

ONE

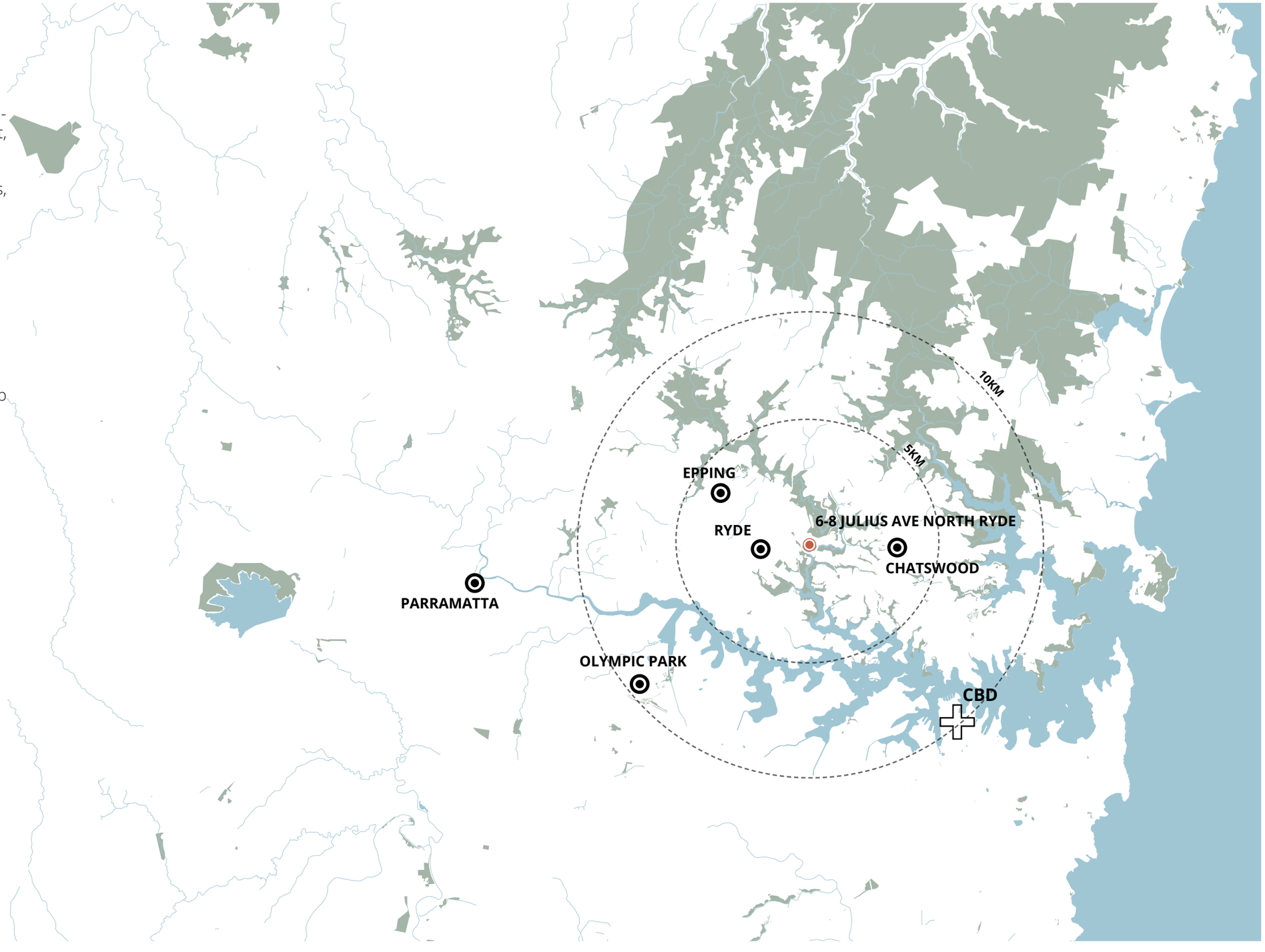
SITE CONTEXT

Analysis
Context

North Ryde

North Ryde is a suburb in the Northern Sydney region, located 15 kilometres north-west of the Sydney central business district, within the City of Ryde local government area. It is a prominent business district, home to several multinational corporations, including Microsoft, Hewlett-Packard, Oracle, Dimension Data, and Honeywell.

The suburb also hosts Macquarie University, attracting residents from the academic and research sectors. Additionally, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) has a major site on Delhi Road in the Riverside Corporate Park, further enhancing the suburb's reputation as a hub for education and research.



North Ryde

+ 20 mins from Sydney CBD

+ 5.36km2

+ Pop. 14 043

History of Local Communities

Wallumedegal people

Wallumedegal Country was said to be the meeting place of the Karadjis (Clever Ones) from the clan groups surrounding Sydney.

The Wallumedegal clan are the traditional custodians of the land where Ryde Central now stands. Living and caring for the land for thousands of years, the Wallumedegal clan applied a landscape ethos of reciprocity, kinship and care.

Wallumedegal clan had a totem animal that represented the family group spiritually as well as physically. The totem for the Wallumedegal is the Snapper, 'Wallumai' in Dharug language. The clan likely named themselves after the Wallumai, which was once plentiful around the area and considered a great delicacy. The Wallumedegal were known as skilled fishermen and women. Women often spent their daysin singing and fishing in canoes carved from the bark of the Eucalyptus Obliqua, fishing with handlines made from Kurrajong bark.

The Wallumedegal men were skilled spear men, fashioning spears from Xanthorrea flower spikes and sharpened bones or shells. A transitional Country between the Darug and Guringai language groups, Wallumedegal Country was said to be the meeting place of the Karadjis (Clever Ones) from the clan groups surrounding Sydney.

Karadjis hold a special place in dreaming stories. They are people of great knowledge and reverence in Indigenous society and are believed to be able to commune with their ancestors and the Sky Father, Baimi, in the Sky Country.

Cultural Sites

North Ryde have some of the finest cultural sites on the lower north shore. Hand stencils and rock drawings are still visible within rock caves and shelters. One example is located on Buffalo Creek, which is part of the broader landscape where Indigenous people gathered, hunted, and fished.

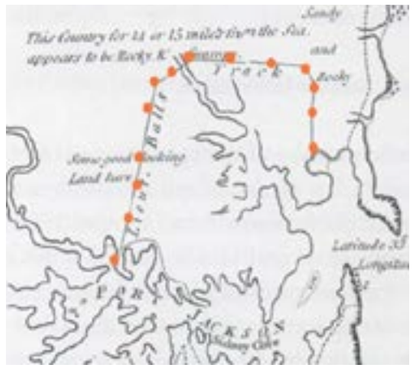
The development is close to an Aboriginal Rock Shelter of a neighbouring site, which further highlights the cultural significance of the area and helps defining a respectful and sensitive landscape response to the site.



Site History



The site is situated on the Hornsby plateau, a sedimentary sandstone plateau formed following the continental uplift of the late Triassic period. Millions of years of erosion from ancient Jurassic rivers formed the jagged, ventricular landscape characteristic of Sydney's ridgelines, before draining into the vast and deep canyons we now call Sydney Harbour. Following the last ice age (approximately 12,000 years ago), glacial melt caused the sea levels to rise, flooding the canyons and forming Sydney Harbour.
Dreaming stories tell of the migration of our first people following the last ice age, from the flooding canyons to higher ground, where clan groups lived and cared for Country for thousands of years to come.



The Wallumedegal clan of the Dharug Nation are the traditional custodians of the land where Macquarie Park now stands.
The totem for the Wallumedegal is the Snapper, 'Wallumai' in Dharug language. The clan likely named themselves after the Wallumai, which was once plentiful around the area and considered a great delicacy.



At the time of European arrival, the Wallumedegal clan of the Dharug Nation occupied the lands around Ryde and Lane Cove River, including the land upon which Macquarie Park now stands. The Wallumedegal clans were great trackers, fisher-people and hunters, and created a system of murus (pathways) along the ridge-lines, connecting to other clan groups and beyond. During the early years of colonisation, many of the clans that made up the Darug Nation, including the Wallumedegal were decimated by small pox and became unable to maintain control of their ancestral lands.



Located North of the centre of the City of Ryde LGA, Macquarie Park once formed the greater North Ryde area. In 1792, much of the areas were granted to British service-men and was renamed the 'Field of Mars', owing to the Roman God of War. During the early years of the 1800s, further land grants were awarded to emancipated convicts as the colony expanded in search of raw materials and fertile farming lands.



North Ryde's modern history has been shaped by significant urban development and economic growth. In the late 20th century, the suburb transitioned from primarily residential and rural land to a bustling business district. The establishment of Macquarie University in 1964 marked a turning point, attracting students and academics and contributing to the local economy.

The area saw substantial commercial development, particularly in the 1980s and 1990s, when many multinational companies set up offices in North Ryde.

Analysis

Surrounding Development

North Ryde's 6-8 Julius Avenue is located in an area that features a mixture of commercial properties. The site is strategically located 16 km north of the Sydney CBD, benefiting from excellent transport links and a vibrant mix of residential and commercial amenities.

The site enjoys good accessibility due to its proximity to major transport routes such as the M2 Hills Motorway. The site is in a growing commercial and residential precinct as part of Macquarie Park Innovation Precinct Place Strategy.

Its surrounding area features Lane Cove National Park, with the Great North Walk along Lane Cove River, creating an excellence potential to establish a pedestrian and cycling connection for the future residents.

The Great North Walk is a 250 km Bicentenary project from Newcastle to Lane Cove, featuring diverse landscapes and significant Aboriginal and European sites. Often completed in stages, it serves as a valuable recreational resource for local communities and Sydney. Access upgrades, managed by the NPWS, need support, particularly regarding the Hornsby Rifle Range land in Berowra Valley. Improving access from nearby train stations and town centres along the route should also be considered.



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Analysis
Existing System

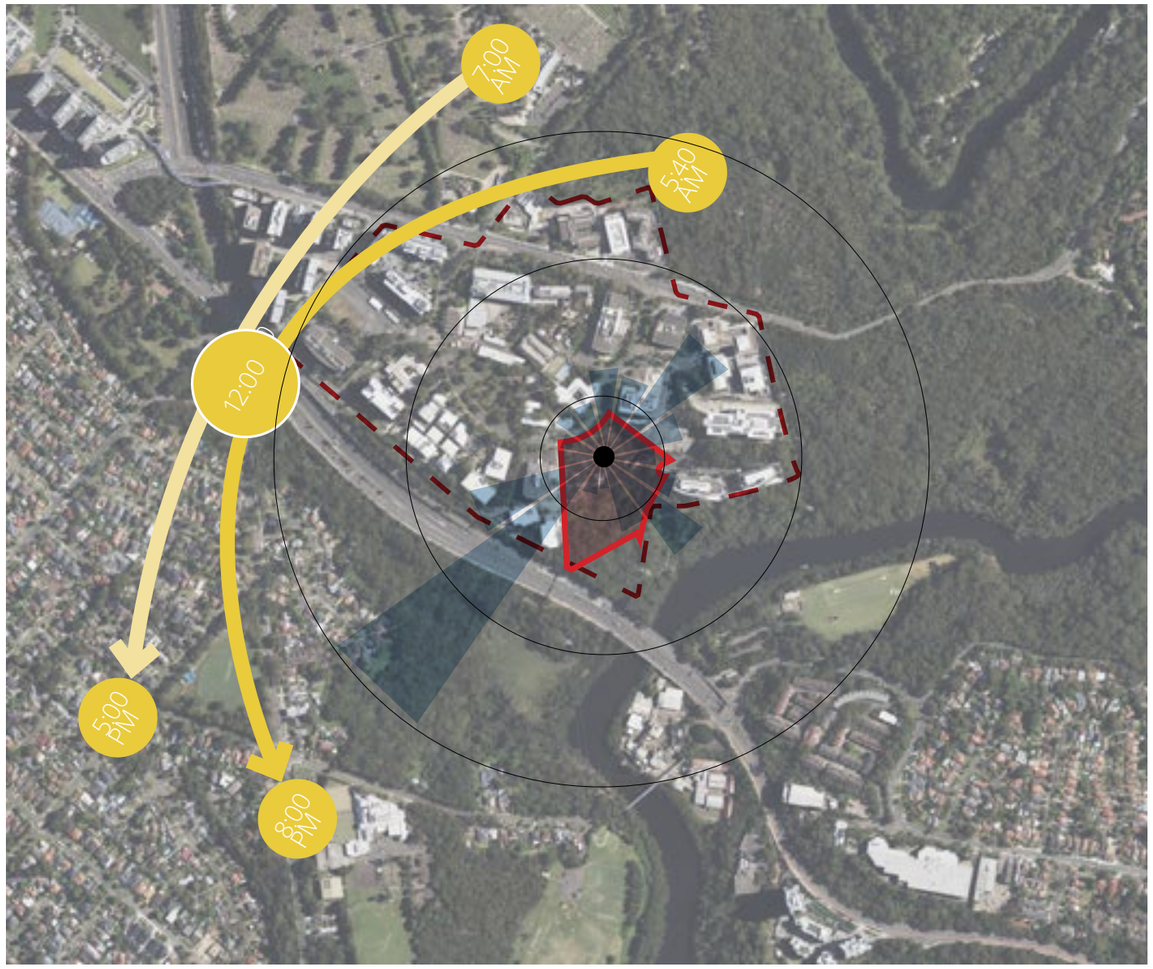
Urban Systems



KEY

- CORPORATE OFFICE
- HEALTH CARE
- PARKS / OPEN SPACE
- RESIDENTIAL COMPLEX
- BUSINESS COMPLEX
- MAJOR ARTERIAL ROAD
- METRO STATION
- BUS STOP
- SITE
- PRECINCT BOUNDARY

Natural Systems



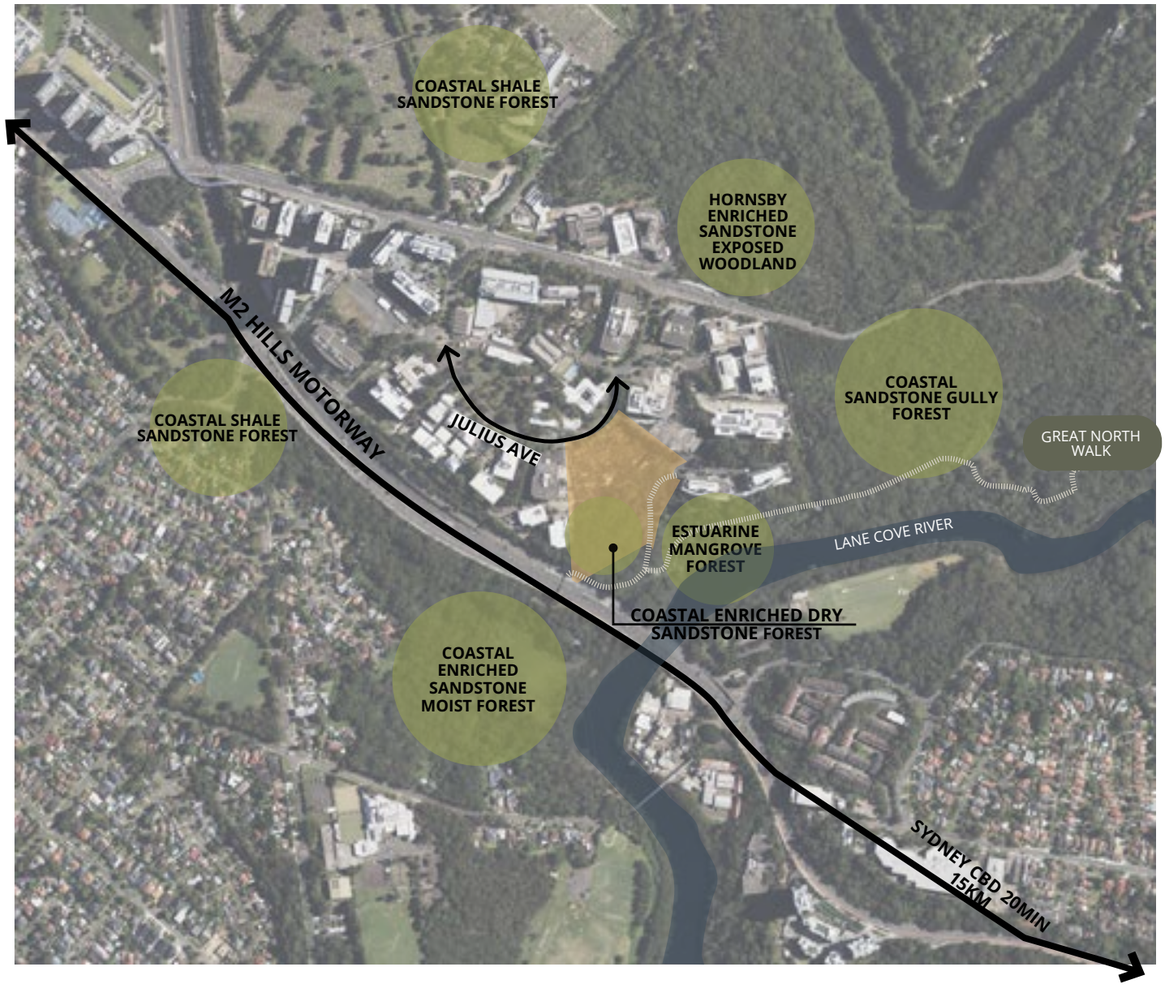
KEY

- SOLAR
- WIND
- VEGETATION
- SITE
- PRECINCT BOUNDARY

ARCADIA

Analysis
Ecology

For detailed ecology analysis, refer to BDAR report by SLR Consulting





COASTAL ENRICHED SANDSTONE DRY FOREST



ESTUARINE MANGROVE FOREST



COASTAL SANDSTONE GULLY FOREST



COASTAL ENRICHED SANDSTONE MOIST FOREST

ID 3592

Sydney coastal Enriched Sandstone forest

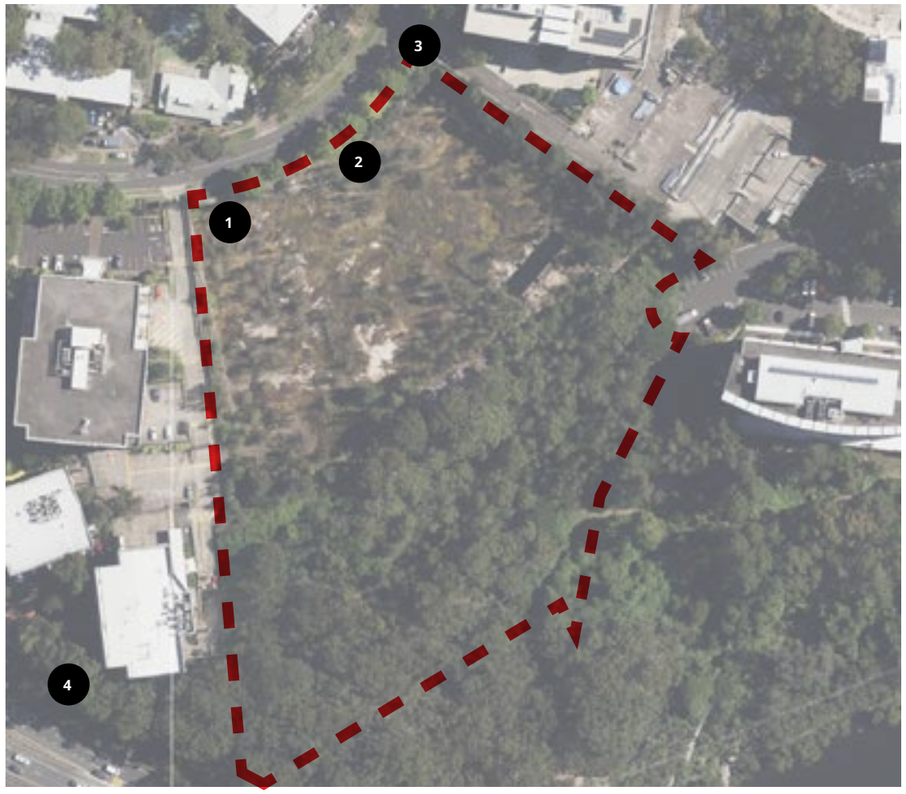
A tall to very tall shrubby sclerophyll open forest found on slightly enriched Hawkesbury Sandstone soils on sheltered slopes and occasionally crests on the Sydney coastal sandstone plateaus.

Typical Sydney Coastal Enriched Sandstone Forest



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Analysis
The Site Character





1 • Significant drop of level



2 • Excavated sandstone bed with new trees growth

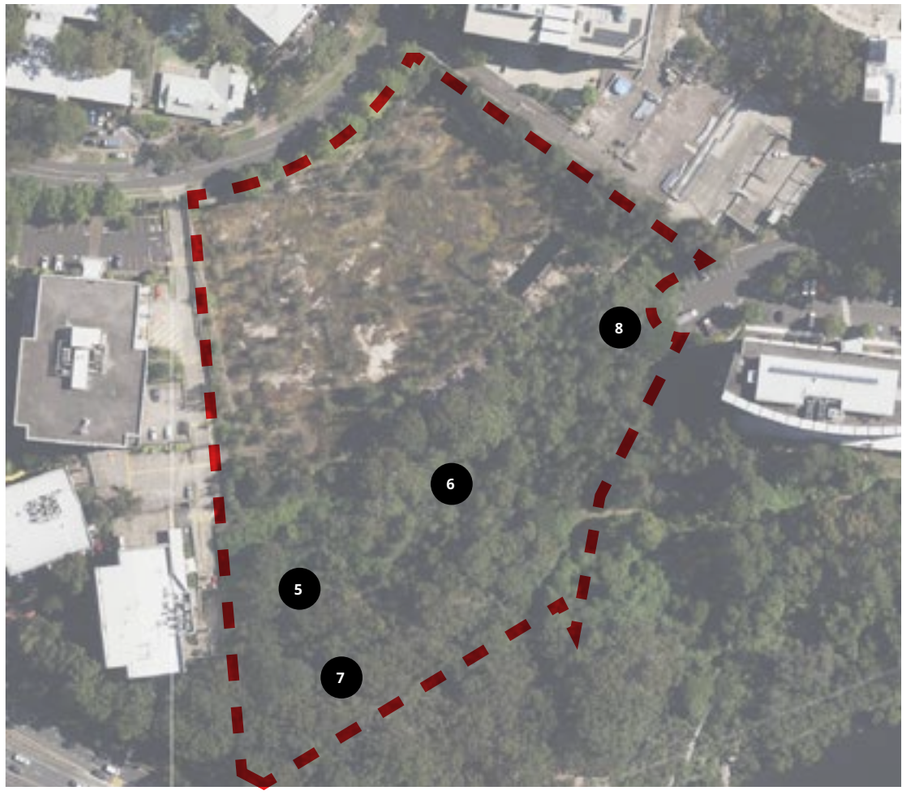


3 • Exotic street trees to the site northern boundary
• Dominant Eucalyptus canopies across the street



4 • Vegetation extends to neighbouring property

Analysis
The Site Character





5 • Cluster of existing native tress



6 • Large exposed sandstone rocks



7 • Existing tracks with steps leading up hill



8 • Mature eucalyptus tree at entry from Richardson Place

Analysis
Current Planning



- Nestled in Lane Cove National Park and near North Ryde Metro Station, Nangamay will feature new housing, an activity hub, pathways, and open spaces within the commercial core.
- 400,000–500,000 sqm of total built space and 1,500–2,000 new homes.
- Direct connections to Lane Cove National Park and River provide walking, running, and cycling opportunities.



- TOD Accelerated Precincts aim to boost housing near transport hubs and create vibrant, walkable areas, with Macquarie Park selected for its transport links.
- Rezoning allows for 9,600 new homes, 100,000 jobs, 3%-10% affordable housing, and 14 ha of open space with new parks and sports fields.
- Improved walking/cycling connections, vibrant streets, and new amenities, including commercial and retail spaces, will enhance the area.



- The document provides detailed frameworks to guide the development in the Macquarie Park Precincint.
- The document includes a list of provisions and objectives, futher elaborated through multiple design principles for the development to respond to.



- The document outlines Aboriginal planning principles and culturally responsive engagement strategies to ensure the landscape and built form reflect the values, stories, and Country of the Wallumedegal and broader Darug people.
- Guiding Culturally Sensitive Co-Design Processes
- Restoring and Celebrating Country through Ecological and Spatial Interventions

TWO

VISION

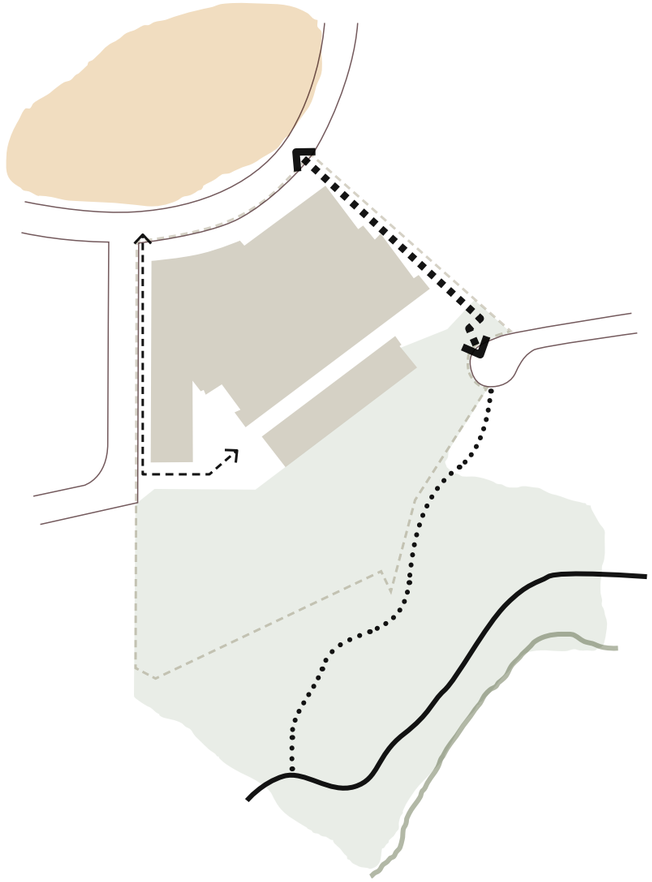
Minimising impacts to Lane Cove National Park through the protection of significant bushland and the provision of a new public landscape that is responsive and sympathetic to its natural surrounds.

A new public connection from Julius Avenue to Richardson Place and the Great North Walk is proposed, strengthening community links and enhancing accessibility through the development.



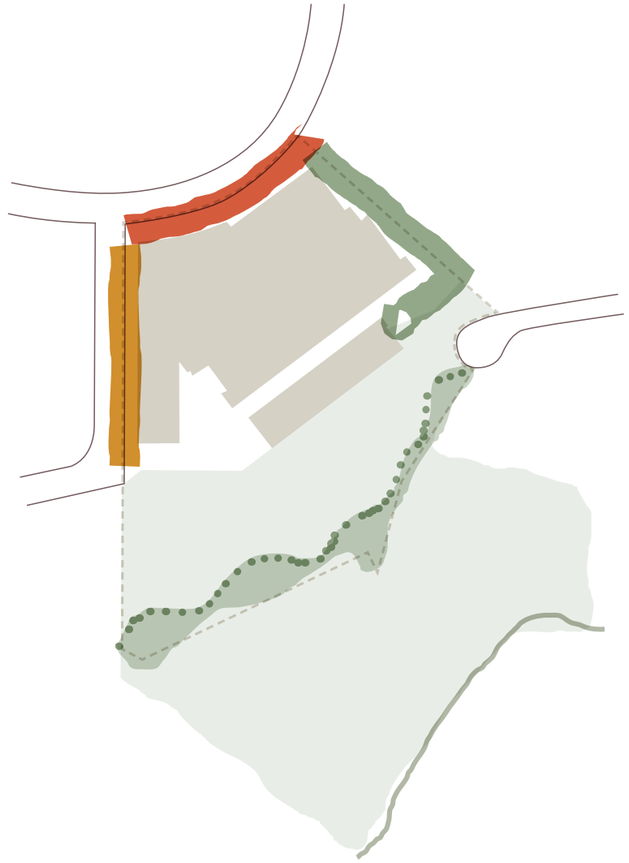
Landscape Approach

Design Principles



CONNECT

Provide a direct and experiential connection from Julius Avenue to Richardson Place and onto the Lane Cove National Park and River.



CELEBRATE

Celebrate the distinct natural character of the Lane Cove National Park through the design of spaces & materials



PROTECT

Protect and conserve the remnant Sydney Coastal Enriched Sandstone Forest to safeguard local biodiversity and the unique ecological character

THREE

LANDSCAPE DESIGN

Design Response

Better Placed Response:

The landscape and open spaces within the JADC development have been designed to achieve design excellence in line with the Macquarie Park Design Guide and the Government Architect NSW's 2017 document Better Placed. This has been realised through the following strategies:

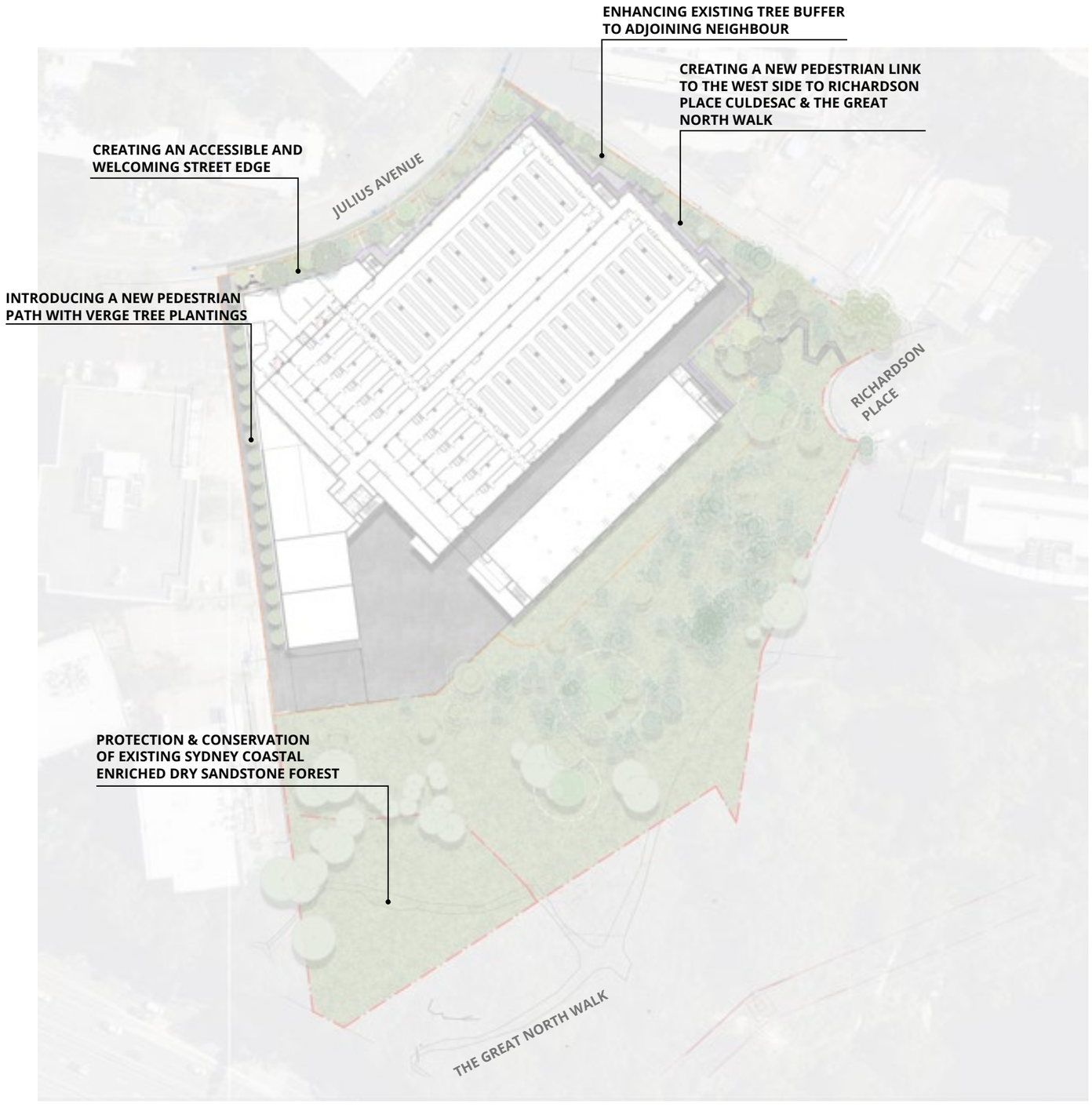
Better Fit
The design of public spaces and the new pedestrian network aligns with the Macquarie Park Design Guide and supports the broader neighbourhood beyond the development boundary. It embraces the unique character of the Sydney Coastal Enriched Dry Sandstone Forest by incorporating plant species from local vegetation communities, ensuring healthy growth and enhancing the adjacent bushland ecosystem.

Better Performance
A diverse mix of native planting is used throughout the site as a key ecological strategy. This approach reduces reliance on irrigation and enhances biodiversity. A large majority of existing trees are retained where possible, and new canopy trees are proposed along Julius Avenue, the new pedestrian connections and staff area. These green elements improve pedestrian comfort, provide shade, reduce urban heat, and strengthen green links.

Better for Community
The proposed entry space creates an accessible, welcoming and shared environment for both staff and the local community; whilst the staff rest area encourages respite and interaction. The public connection to Richardson Place provides new access to The Great Northern Walk, the Lane Cove National Park and beyond.

Better for People
The design supports a healthy and connected community by establishing new pedestrian routes that link to the Great North Walk and Lane Cove National Park. The entrance landscape and staff rest area provide safe and comfortable areas to rest & interact with others/nature and provide moments of reflection and respite.

Better Look and Feel
Greenery and open space are prioritised as a respectful response to the adjacent Lane Cove National Park, offering a nature-oriented aesthetic that softens the visual impact of the data centre development. Material selection adheres to the Ryde Public Domain Guidelines, ensuring consistency across the precinct. Key meeting points are emphasised with warmer, site-responsive materials to enhance the user experience and sense of place.



Landscape Site Master Plan

Tree Removal Retention Plan

Summary:

The revised development design, including the removal of the bushland boardwalk, results in the retention of an additional 175 existing trees. This includes the retention of 2 additional 'Priority for Retention' trees and 37 additional 'Consider for Retention' trees.

The proposed scheme now seeks the removal of 334 trees, 90.7% of which have been classified by the arborist as 'Consider for Removal' or 'Priority for Removal'.

KEY	QTY (INDVIDUAL TREES)	QTY (INDVIDUAL TREES) ORIGINAL	QTY (TREES + TREE GROUPS)*	QTY (TREES + TREE GROUPS)* ORIGINAL
SITE				
TREES TO BE RETAINED "Priority for Retention"	5 ↑	3	5 ↑	3
TREES TO BE RETAINED "Consider for Retention"	57 ↑	20	26 ↑	17
TREES TO BE RETAINED "Consider for Removal"	173 ↑	37	24 ↑	18
TREES TO BE REMOVED "Priority for Retention"	2 ↓	4	2 ↓	4
TREES TO BE REMOVED "Consider for Retention"	29 ↓	42	27 ↓	35
TREES TO BE REMOVED "Consider for Removal"	287 ↓	447	133 ↓	133
TREES TO BE REMOVED "Priority for Removal"	16 –	16	16 –	16
TREES TO BE RETAINED, NOT ASSESSED				
TOTAL INDIVIDUAL TREES BEING REMOVED	334 ↓			
TOTAL INDIVIDUAL TREES BEING REMOVED - ORIGINAL	509			

*** QUANTITY AS PER ARBORICULTURAL IMPACT ASSESSMENT TREE PROTECTION SPECIFICATION**



Landscape Site Master Plan
Concept

The landscape design of the Julius Avenue Data Centre is thoughtfully crafted to respond to the site's existing conditions and the varied character of its surrounding neighbourhoods.

Along the northern interface, facing Julius Avenue and the future residential development across the street, a lush green landscape is proposed. This area will retain significant existing trees and soften the visual impact of the data centre, creating a welcoming and verdant edge to the new neighbourhood. A new public forecourt is also planned at the north-west corner, designed to encourage public activation and serve as a welcoming place for the staffs and visitors.

New pedestrian connections are introduced along both the eastern and western edges of the site. These pathways will be framed by tree canopies and layered with low-level planting, creating a pleasant and inviting pedestrian experience that connects people with nature.

The southern bushland is treated with care, featuring new tree plantings and a pedestrian connection that responds to the natural landscape, weaving through existing trees and rocky outcrops. This pathway provides public access down to the Great North Walk and is enhanced by a lookout deck along the route—offering a moment to pause, reflect, and enjoy the beauty of the native canopy.

KEY

- SITE
- TREES EXISTING TO RETAIN WITH TPZ
- TREES EXISTING TO RETAIN, NOT INCLUDED IN ARBORIST REPORT
- TREES - PROPOSED
- EXISTING SERVICES EASEMENT
- APZ
- SECURITY FENCE

1. FORECOURT WITH SEATING AND SOFT PLANTING BUFFER
2. PLANTING STRIP TO EXISTING TREES
3. WEST PEDESTRIAN CONNECTION WITH GREEN CANOPIES AND CASCADING PLANTING FROM ROOF PLANTERS.
4. SOUTH-EAST BUSHLAND WITH CONNECTION TO JULIUS AVE
5. VIEWING/RESTING PLATFORMS FOR SHORT STAY
6. EXISTING BUSH WALK PATH
7. BUSHLAND RESTORATION AREA
8. EASTERN CONNECTION TO JULIUS AVENUE
9. PLANTING BUFFER WITH EXISTING TREES RETAINED



Master Plan Analysis

Tree Canopy Cover

KEY

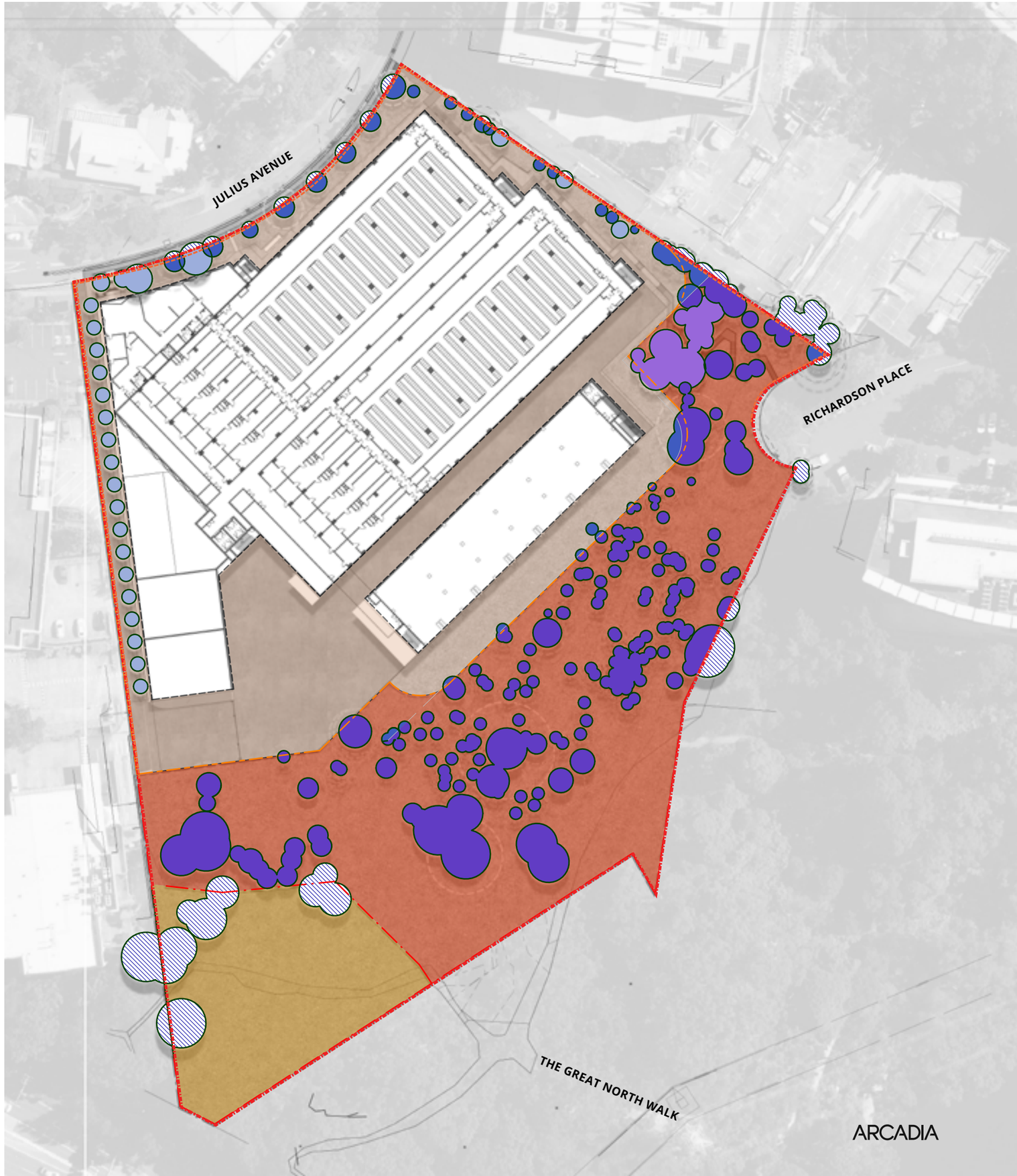
	AREA (SQM)	CANOPY COVER BY EACH CATEGORY
SITE	28630	11.3%
AREA WITHIN APZ ZONE	6082.5	10.11%
EXISTING CANOPIES WITHIN APZ ZONE	314.7	
PROPOSED CANOPIES WITHIN APZ ZONE	300.5	
AREA OUTSIDE OF APZ ZONE	9532.2	27.34%
EXISTING CANOPIES OUTSIDE OF APZ ZONE	2340	
PROPOSED CANOPIES OUTSIDE OF APZ ZONE	266.4	
EXISTING BUSHLAND (UNABLE TO SURVEY)	2545	90% (ASSUME EXISTING)

Note:
Area outside of APZ Zone is plantable area excluding south west bushland area due to existing dense vegetation.

Due to bushfire requirement, tree canopy cover is limited to 15% density in area within APZ Zone.

For area within APZ Zone area:
20 Existing trees
25 Proposed trees

For area outside of APZ Zone area:
215 Existing trees
11 Proposed trees



Master Plan Analysis

Urban Heat Island Mitigation

The Landscape design of the Julius Avenue Data Centre responds to the growing impacts of the urban heat island effect by providing double the existing canopy coverage and the minimising of unshaded hard surfaces. Opting for elevated Frp meshing where appropriate to allow for a greater total landscaped area and softer surface finishes as solar buffers to ensure apropriate comfort levels for those on-site.

Julius avenue data centres primary link to the great north walk, considers principle 2, design action 2-5 & 9 of the greener places Frameworks. Better connecting the local community to interlinked green spaces and providing both public and ecological amenity to site whilst minimising the fragmentation of core bushland. Promoting stewardship and connection with natural processes in alignment with principle 3's multifunctionality.

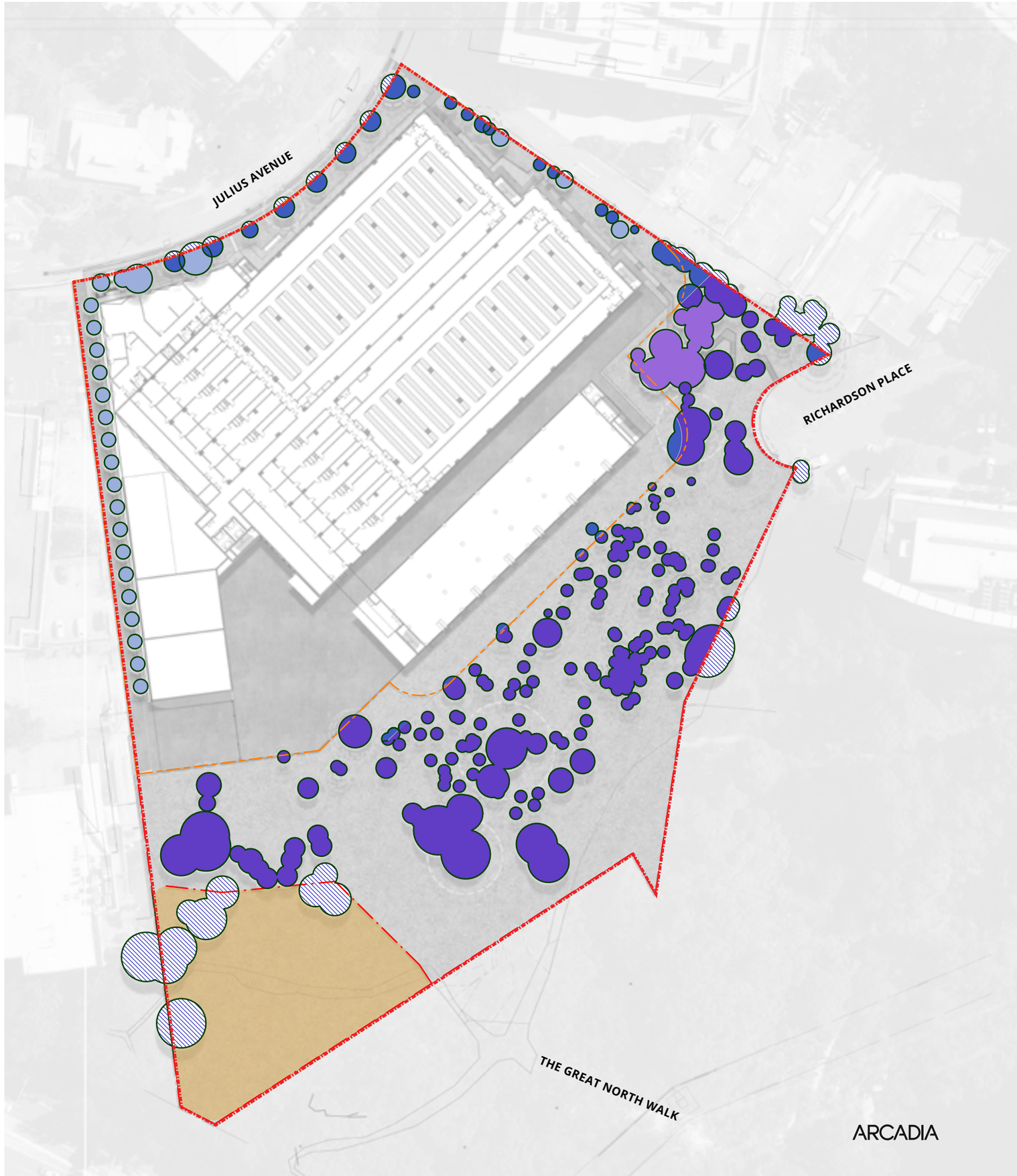
MITIGATION STRATEGIES

ELEVATED FRP MESH

REVEGETATION

TREE CANOPY INCREASE

	AREA (SQM)	CANOPY COVER
SITE	**28630**	
EXISTING BUSHLAND (UNABLE TO SURVEY) ASSUMED 90% COVER	**2290**	**7.99%**
EXISTING CANOPIES	**2654.7**	**9.27%**
PROPOSED CANOPIES	**566.9**	**1.98%**
EXISTING TOTAL CANOPY COVERAGE	**3690**	**12.88%**
TOTAL CANOPY COVERAGE	**5511.6**	**19.24%**
TOTAL CANOPY INCREASE		**6.36%**

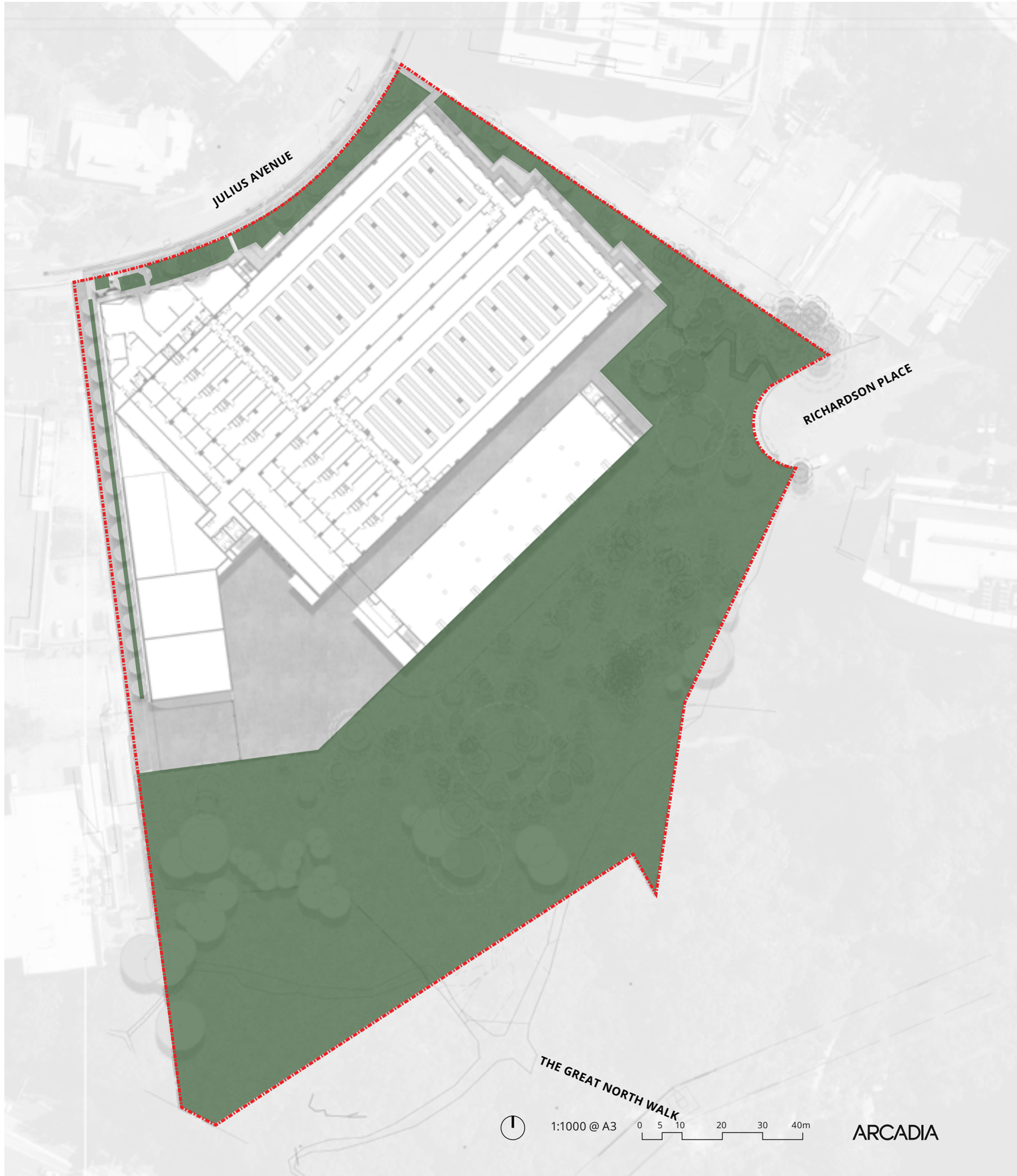


Master Plan Analysis

Deep Soil

KEY

	SITE	**28630 SQM**
	DEEP SOIL AREA	**14264 SQM (49.8%)**

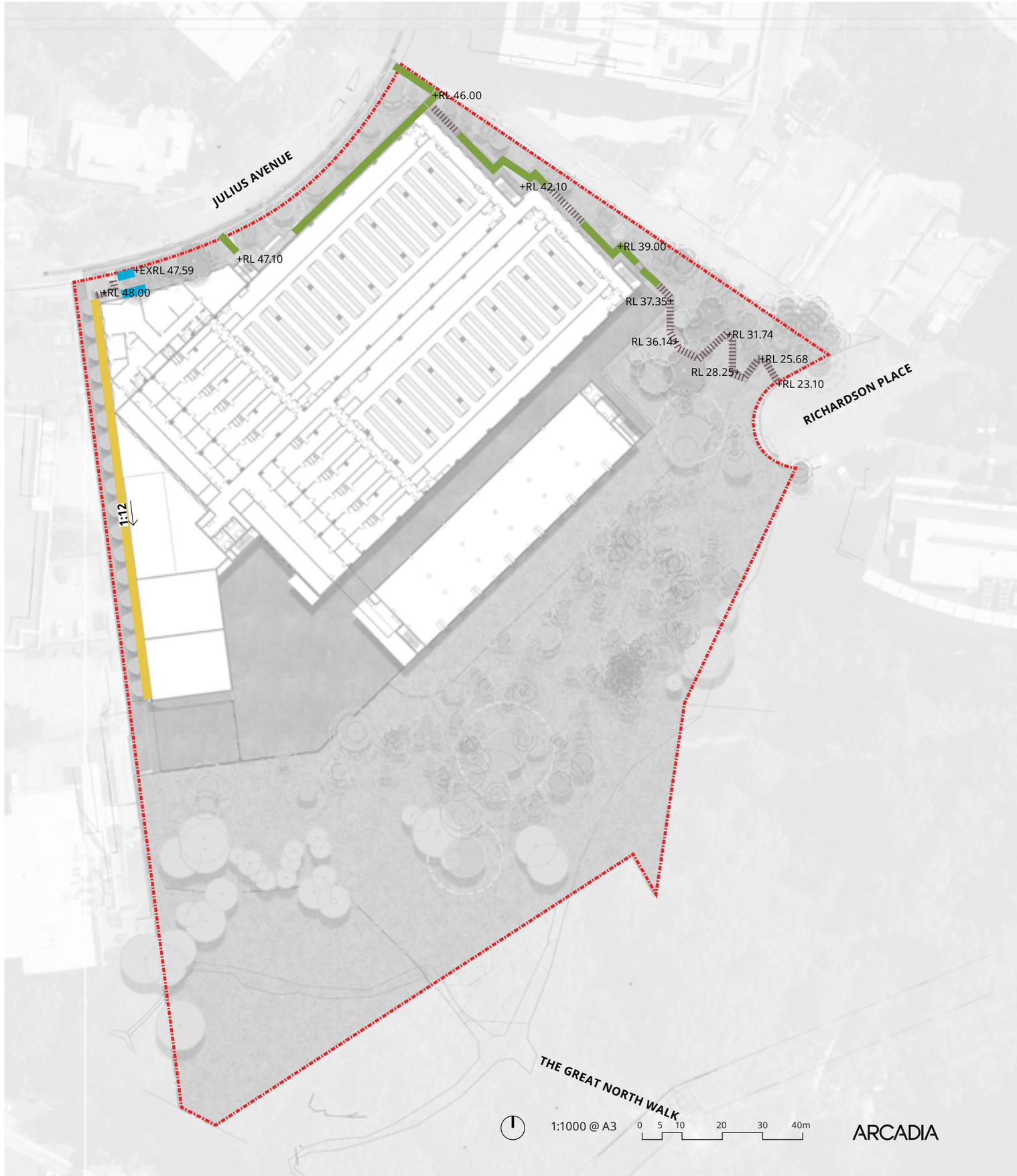


Master Plan Analysis

Levels Strategy

KEY

- **SITE**
- **<1:14 (EXISTING GRADIENT)**
- **>1:20**
- **>1:40**
- **STAIR**



Master Plan Analysis

Program

KEY

- **SITE**
- **COUNCIL FOOTPATH.**
- **PUBLIC DOMAIN INTERFACE WITH PLANTING AND SEATING EDGES.**
- **SHARED FORECOURT.**
- **ROOF TERRACE, PRIVATE ACCESS ONLY.**
- **LOOKOUTS.**
- **BUSHLAND REGENERATIVE AREAS.**
- **BUSHLAND PRESERVATION AREAS.**
- **PUBLIC BOARDWALK AND LOOKOUT**
- **NEW EAST AND WEST PEDESTRIAN CONNECTIONS.**



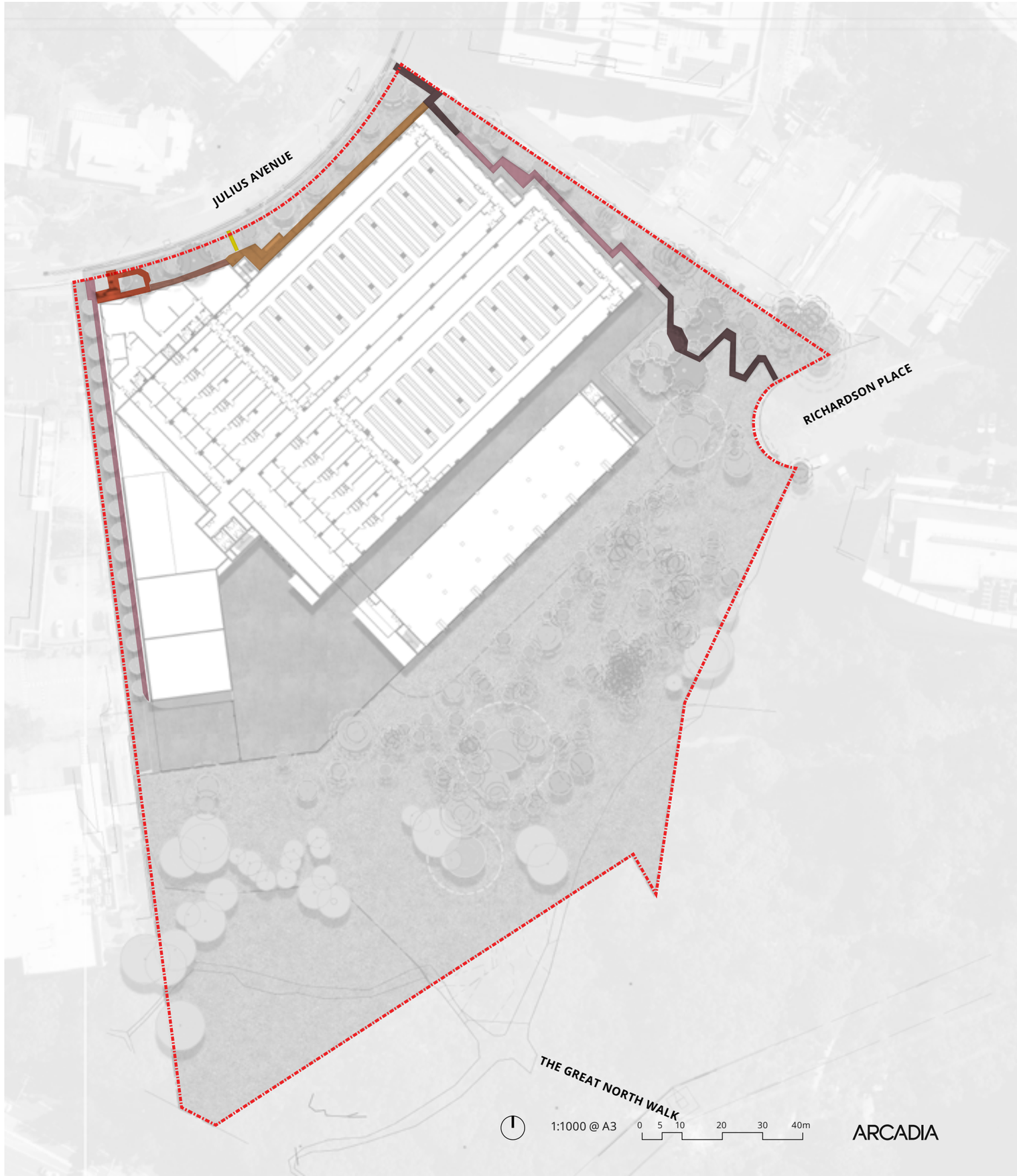
Landscape Site Masterplan

Materials Strategy

KEY

- **SITE**
- **WARM STONE UNIT PAVING**
- **DECOMPOSED GRANITE**
- **CONCRETE PAVING**
- **CONCRETE PAVING WITH GRANITE BANDING TO MATCH CITY OF RYDE STANDARD**
- **FRP GRATED PANELS WITH STEEL HANDRAILS AND BALUSTRADE**
- **GRAVEL PATH.**

ALL SEATING TO BE SANDSTONE BLOCKS CUT ON FROM SITE



Landscape Site Masterplan

Materials Strategy (cont.)

The material selections have been developed based on the below principles:

- Responsive to North Ryde Public Domain Technical Manual, particularly focusing on surface treatment of new pedestrian connections to the east and west of the site, to ensure this forms part of the wider City of Ryde pedestrian network.
- Aligning with Macquarie Park Design Guide, using warm and special materials to highlight significant meeting places with potential for Aboriginal art overlay.
- Sensitive to existing bushland and bushfire requirement through the use of durable, lightweight materials for the boardwalks.

CONCRETE PAVING WITH GRANITE BANDING TO MATCH CITY OF RYDE STANDARD





WARM STONE UNIT PAVING



SANDSTONE SEATINGS



FRP GRATED PANELS WITH STEEL HANDRAILS AND BALUSTRADE



GRAVEL PATH



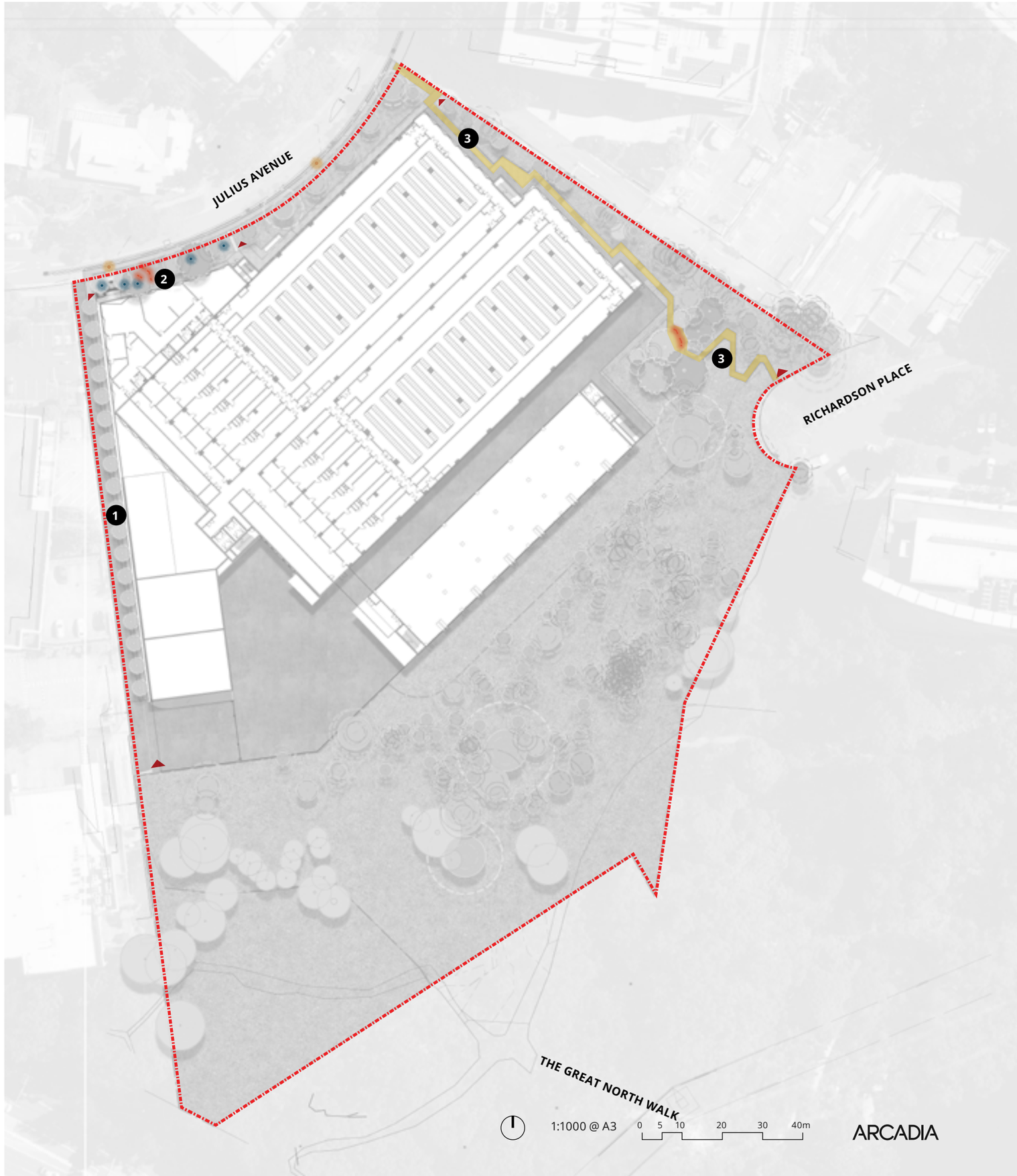
Master Plan Analysis

Signage and Lighting

KEY

- SITE
- 1 PRIVATE ROAD LIGHTING WITH POST-TOP LUMINAIRE
- 2 PUBLIC AREA WITH DECORATIVE LIGHTING
- 3 PUBLIC PATHWAY WITH FEATURE LIGHTS ONLY
- INDICATIVE SIGNAGE LOCATION
- EXISTING STREET LIGHTING
- GARDEN SPIKE LIGHTS
- STRIP LIGHTING UNDER BENCH

NOTE: ALL LIGHTING LOCATIONS ARE INDICATIVE ONLY. TO BE COORDINATED WITH LIGHTING DESIGNER.



The Forecourt

Detailed Plan

KEY

1. **PUBLIC DOMAIN UPGRADE WITH NEW GRASS VERGE AND CONCRETE FOOTPATH**
2. **MAKE-GOOD PLANTING TO EXISTING TREES**
3. **SECURITY FENCING BEHIND PLANTING WITH GATE ACCESS TO FIRE EGRESS DOOR**
4. **SHARED FORECOURT, PUBLICLY ACCESSIBLE WITH NEW TREE PLANTINGS, GARDEN ROOMS WITH SANDSTONE BLOCK SEATINGS, WARM PAVING AND OPPORTUNITIES FOR INDIGENOUS INTERPRETATION**
5. **PROPOSED TREES ALONG WESTERN PEDESTRIAN CONNECTION**



Understorey planting to existing trees



Warm paving with Indigenous art interpretation opportunity



A public welcoming forecourt with garden rooms.



1:500 @ A3

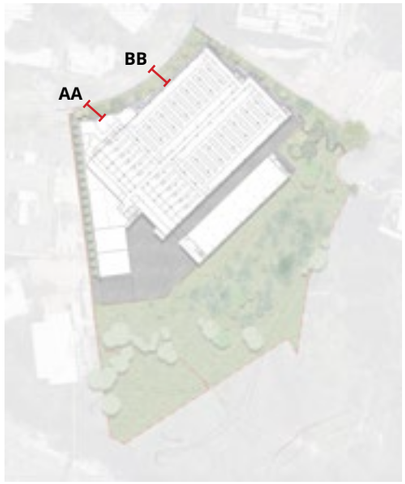
0 2.5 5 10 15 20m

ARCADIA

The Forecourt

Sections

KEY PLAN

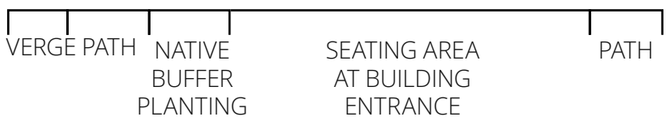


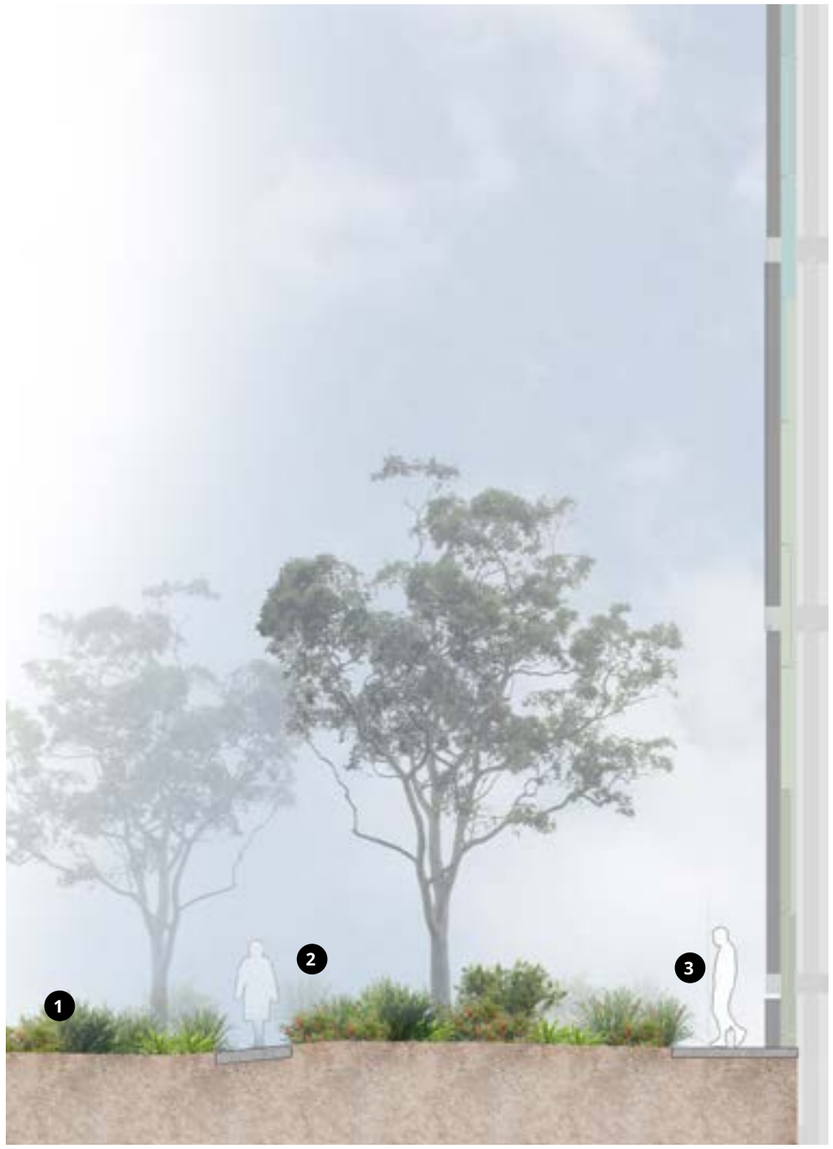
KEY

1. **PUBLIC DOMAIN UPGRADES WITH NEW GRASS VERGE AND CONCRETE FOOTPATH**
2. **MAKE GOOD PLANTING TO EXISTING TREES**
3. **SECURITY FENCING BEHIND PLANTING WITH GATE ACCESS TO FIRE EGRESS DOOR**
4. **SHARED FORECOURT, PUBLICLY ACCESSIBLE WITH NEW TREES & PLANTING, GARDEN ROOMS WITH SANDSTONE BLOCK SEATINGS, WARM PAVING AND OPPORTUNITIES FOR INDIGENOUS INTERPRETATION**



SECTION AA

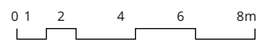




SECTION BB



1:200 @ A3

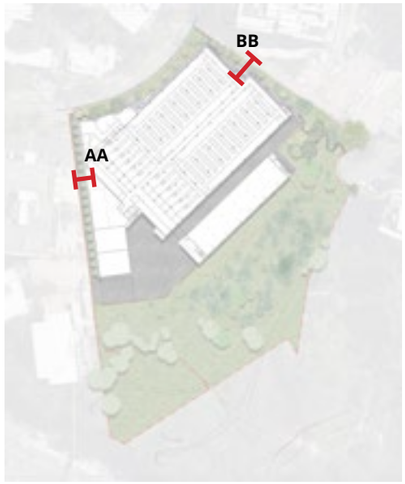


ARCADIA

New Pedestrian Connections

Sections

KEY PLAN

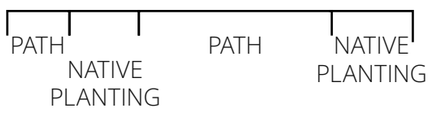


KEY

1. **SECURITY FENCING BEHIND PLANTING WITH GATE ACCESS TO FIRE EGRESS DOOR.**
2. **EXISTING TREES ALONG EASTERN PEDESTRIAN CONNECTION.**



SECTION AA

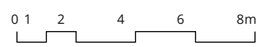




SECTION BB



1:200 @ A3



ARCADIA

The Board Walk + Lookout

Sections

KEY

1. **APZ PLANTING**
2. **LOOKOUT/REST ZONE**
3. **FRP BOARDWALK TO RICHARDSON PLACE**

KEY PLAN





APZ PLANTING | FRP BOARDWALK & APZ PLANTING | LOOKOUT | FRP BOARDWALK & APZ PLANTING

1:200 @ A3 0 1 2 4 6 8m

ARCADIA

FOUR

PLANTING STRATEGY

Tree Planting Plan

KEY

SITE

BOTANICAL NAME	*MATURE SIZE (m)*	*QTY*
Angophora costata	30 x 15	3
Corymbia gummifera	30 x 10	1
Tristaniopsis laurina	15 x 6	5
Elaeocarpus reticulatus 'Prima Donna'	10 x 4	18
Banksia serrata	15 x 4	2
Corymbia maculata	30 x10	2
Eucalyptus piperita	6-8 x 5-25	1
Ceratopetalum gummiferum	4-6 x 3-5	4



Planting Palette
Tree Planting

Street & Landscape Trees


Angophora costata

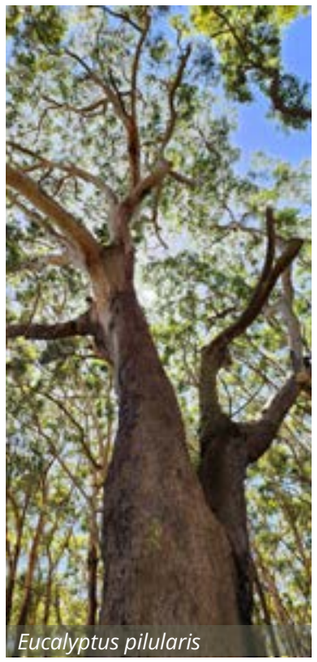

Tristaniopsis laurina


Elaeocarpus reticulatus


Corymbia maculata


Corymbia gummifera

Bushland Regenerative Area Trees


Eucalyptus pilularis


Banksia serrata


Ceratopetalum gummiferum


Eucalyptus piperita


Corymbia maculata

“Smooth-barked native tree species such as Sydney Red Gum, Spotted Gum, and Forest Red Gum”

Understorey Planting Typologies

	BOTANICAL NAME	COMMON NAME	MATURE SIZE H x W(m)	POT SIZE	QTY
Streetscape Mix Area: 360 m²	*Brachyscome multifida*	*Cut Leaf Daisy*	0.3 x 0.5	100mm	540
	Dianella caerulea 'Little Jess'	*Blue Flax Lily Little Jess*	0.4 x 0.4	100mm	540
	Grevillea juniperina 'Carpet Queen'	*'Juniper-Leafed Grevillea Prostrate*	0.6 x 2	100mm	270
	Wahlenbergia gracilis	*Sprawling Bluebell*	0.5 x 0.4	100mm	540
Full Sun Groundcover Mix: Area 290m²	*Banksia spinulosa 'Birthday Candles'*	*Groundcover Banksia*	0.5 x 1	100mm	218
	Grevillea juniperina 'Carpet Queen'	*Juniper-Leafed Grevillea Prostrate*	0.6 x 2	100mm	218
	Lomandra 'Lime Tuff'	*Mat Rush*	0.6 x 0.6	100mm	435
	Viola banksii	*Native Violet*	0.4 x 2	100mm	435
Med-Sun Groundcover Mix : Area 1020m²	*Brachyscome multifida*	*Cut Leaf Daisy*	0.3 x 0.5	100mm	1224
	Lomandra hystrix 'Tropic Cascade'	*Mat Rush Tropic Cascade*	0.6 x 0.6	100mm	1224
	Lomandrra labill 'Evergreen Baby'	*Evergreen Baby*	0.45 x 0.45	100mm	1224
	Wahlenbergia gracilis	*Sprawling Bluebell*	0.5 x 0.4	100mm	1224
	Westringia 'Low Horizon'	*Dwarf Coast Rosemary*	0.3 x 0.7	100mm	1224
Full Sun Shrub Mix : Area 490m²	*Acacia longifolia*	*Sydney Golden Wattle*	5 x 3	100mm	245
	Crowea saligna	*Willow Leaved Crowea*	1 x 0.8	100mm	245
	Grevillea sericea	*Silky Grevillea aby*	2 x 2	100mm	245
	Leptospermum triniverum	*Paperbark Tea Tree*	4 x 3	100mm	245
	Persoonia levis	*Broad-Leaf Geebung*	5 x 2	100mm	245
	Westringia fruticosa	*Coastal Rosemary*	2 x 3	100mm	245
Part-Shade Groundcover Mix : Area 1085m²	*Banksia spinulosa 'Birthday Candles'*	*Groundcover Banksia*	0.5 x 1	100mm	651
	Dichondra repens	*Kidney Weed*	0.2 x spreading	100mm	1302
	Liriope muscari	*Lilyturf*	0.6 x 0.6	100mm	1302
	Lomandra hystrix 'Tropic Cascade'	*Mat Rush Tropic Cascade*	0.6 x 0.6	100mm	1302
	Westringia 'Low Horizon'	*Dwarf Coast Rosemary*	0.3 x 0.7	100mm	1302
Shade Mix : Area 310m²	*Adiantum aethiopicum*	*Maidenhair Fern*	0.8 x 0.9	100mm	620
	Asplenium australasicum	*Birds Nest Fern*	1.5 x 1.5	100mm	155
	Blechnum 'Silver Lady'	*Silver Lady Fern*	1 x 1	100mm	310
	Cyathea cooperi	*Australian Tree Fern*	8.0 x 3.0	100mm	80
	Dichondra repens	*Kidney Weed*	0.2 x	100mm	620
	Dicksonia antarctica	*Soft Tree Fern*	9 x 3	100mm	80



Landscape Site Masterplan
Planting Typologies

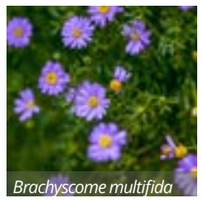
Note: Proposed landscape planting within the APZ is arranged to avoid canopy contact, in accordance with APZ requirements.

Streetscape Mix


Wahlenbergia gracilis


Grevillea 'Carpet Queen'


Dianella 'Little Jess'


Brachyscome multifida

Full Sun Groundcover Mix


Banksia 'Birthday Candles'


Grevillea 'Carpet Queen'


Viola banksii


Lomandra 'Lime Tuff'

Med-Sun Groundcover


Lomandra 'Tropic Cascade'


Lomandra 'Evergreen Baby'


Westringia 'Low Horizon'


Wahlenbergia gracilis


Brachyscome multifida

Full Sun Shrub Mix


Acacia longifolia


Westringia fruticosa


Crowea saligna


Grevillea sericea


Leptospermum triniverum


Persoonia levis

Part-Shade Groundcover Mix


Liriope muscari


Lomandra 'Tropic Cascade'


Dichondra repens


Banksia 'Birthday Candles'


Westringia 'Low Horizon'

Shade Mix


Dicksonia australis


Cyathea cooperi


Asplenium australasicum


Helmholtzia glaberrima


Blechnum cartilaginuem


Blechnum 'Silver Lady'


Adiantum aethiopicum


Dichondra repens

FIVE

ARBORICULTURAL IMPACT ASSESSMENT TREE PROTECTION SPECIFICATION BY TREEIQ

Project No: 6-8/JULIUS/25 Report No: 6-8/JULIUS/AIA/B

ARBORICULTURAL IMPACT ASSESSMENT
TREE PROTECTION SPECIFICATION

6-8 Julius Avenue
North Ryde

Prepared for: ISPT

15th December 2025

Revision B

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Arboriculture Australia MEMBER

INSTITUTE OF AUSTRALIAN CONSULTING ARBORICULTURISTS
IACA
MANAGING URBAN TREES™

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1.0 INTRODUCTION

1.1 Background

1.1.1 This Arboricultural Impact Assessment Report and Tree Protection Specification (AIA) was prepared for ISPT in relation to the proposed Julius Avenue Data Centre. The purpose of this AIA is to undertake a Visual Tree Assessment[1] (VTA), determine the impact of the proposed works on the trees, and where appropriate, recommend the use of sensitive construction methods and tree protection measures to minimise adverse impacts.

1.1.2 This AIA addresses (in part) the *Secretary's Environmental Assessment Requirement (SEAR) No. 7 Trees & Landscape*.

1.1.3 The authors of this AIA are aware of and have considered the objectives of the following:

- *State Environmental Planning Policy - Biodiversity and Conservation (2021)*
- *Ryde Development Control Plan Part 9.5 Tree Preservation (2014)*
- *Australian Standard 4970 Protection of Trees on Development Sites (2009)*
- *Australian Standard 4373 Pruning of Amenity Trees (2007)*
- *Australian Standard 2303 Tree Stock for Landscape Use (2015)*
- *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)*

Refer to Methodology **(Appendix 1)**

1.1.4 TreeiQ acknowledge the release of the revised *Australian Standard AS 4970–2025 Protection of Trees on Development Sites*. All new projects are prepared with reference to this document. However, for existing projects that were initiated under AS 4970–2009, the earlier standard continues to be applied to maintain consistency.

1.1.5 This AIA is based on an assessment of the following supplied documentation/plans only:

- Tree Removal & Retention Plan - prepared by Arcadia, Rev D (28.11.25)
- Landscape Masterplan - prepared by Arcadia, Rev D (28.11.25)
- Landscape Plan (North) - prepared by Arcadia, Rev D (28.11.25))
- Landscape Masterplan (South) - prepared by Arcadia, Rev D (28.11.25)
- Section Sheet 1-2 - prepared by Arcadia, Rev B (28.11.25)
- Site Plan - prepared by GreenBox, Rev 4 (25.11.25)
- Ground Floor Plan - prepared by GreenBox, Rev 2 (25.11.25)
- Building Sections 1 & 2 - prepared by GreenBox, Rev 1 (25.11.25)
- Stormwater Layout Plan - prepared by TTW, Rev E (12.12.25)
- Earthworks Cut & Fill Volumes Plan - prepared by TTW, Rev D (10.12.25)

Refer to Plans **(Appendix 2)**

[1] Mattheck & Breloer (2003)

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1.2 The Proposal

1.2.1 The proposal involves the construction and operation of a data centre and associated infrastructure and amenities, identified as the Julius Avenue Data Centre, comprising the following scope of works:

- Site preparation works, including tree removal;
- Earthworks and additional site retaining;
- Infrastructure comprising civil works and utilities servicing;
- Construction of a data centre including the following:
  - Ground level loading dock, services plantrooms and car parking for 38 cars, including 2 accessible;
  - Eight (8) data halls across four (4) storeys with an IT load of 76 MW and a maximum power consumption of 120 MW, plus rooftop plant;
  - Three (3) storey office/front of house building;
  - Five (5) storey enclosed generator gantry to rear of data centre.
- New Ausgrid 132 kilovolt (KV) Sub-Transmission Switching Station (STSS);
- A new pedestrian through-site link from Julius Avenue to Richardson Place; and
- Complementary landscaping and offset planting.

2.0 RESULTS

2.1 The Site

2.1.1 The site is identified as 6-8 Julius Avenue, North Ryde, legally described as Lot 89 in Deposited Plan 1082131. The site is irregular in shape and is located on the south-eastern side of Julius Avenue, North Ryde. The site has a primary frontage of approximately 100m to Julius Avenue and has a partial rear frontage to Richardson Place (cul-de-sac) at the north-eastern corner. The site has an area of approximately 2.863ha.

2.1.2 The site is currently vacant. The north-western part of the site was excavated and cleared of vegetation in 2009 as part of Modified Determination No. 1395/1999 previously approved on the site.

2.1.3 The site is zoned E3 Productivity Support pursuant to *Ryde Local Environmental Plan (2014)* and is located within the City of Ryde Local Government Area (LGA) which is approximately 15km north-west of the Sydney CBD.

2.2 The Trees

2.2.1 Two hundred and twenty-six (226) trees and tree groups were addressed within this AIA. The trees comprise of a mix of locally indigenous, Australian-native and exotic species. Twenty-three (23) species are represented.

Refer to Tree Assessment Schedule **(Appendix 3)**

2.2.2 The site is heavily vegetated and contains steep embankments, rock faces/outcrops and vertical cuts into the rock strata around the northern and western perimeter of the site. Numerous juvenile and semi-mature trees are present, growing as both individual specimens and groups. Some of these trees were not fully assessed due to restricted access/safety concerns, the small size of the trees (many specimens being less than 5m) and weed status. Weed species comprise predominantly of *Ligustrum lucidum* (Large Leaf Privet), *L. sinense* (Small Leaf Privet) and *Cotoneaster* spp. (Cotoneaster) which are listed as Exempt Tree Species within Part 9.5 of the *Ryde Development Control Plan (2014).*

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2.2.3 The northern and central section of the site has been previously excavated which has removed the existing soil profile and created a poorly draining shelf of exposed rock. The trees that have regenerated in this area comprise predominantly of *Casuarina glauca* (Swamp Sheoak) which is developing from both seed and root suckers to form dense stands. Larger specimens have failed in high winds due to root plate failure associated with the extremely thin, predominantly sand derived soil profile that has developed subsequent to excavation of the area. It is highly likely that the majority of trees in this area would be subject to windthrow once they reach an early-mature size due to a lack of adequate root plate stability.

Refer to Plates **(Appendix 4)**

2.2.4 Seven (7) trees listed in Table 1 are outlined as Exempt Tree Species within Part 9.5 of the *Ryde Development Control Plan (2014).*[2]

2.2.5 Table 1: Exempt Species

Species	Tree Number
Acer negundo (Box Elder)	227
Cinnamomum camphora (Camphor Laurel)	191 & 210
Erythrina x sykesii (Coral Tree)	175 & 216
Ligustrum lucidum (Large Leaf Privet)	180
Syagrus romanzoffianum (Cocos Palm)	224

2.2.6 The trees are not listed in Schedule 5 (Environmental Heritage) of the *Ryde Local Environmental Plan (2014).*[3]

2.2.7 As required by Clause 2.3.2 of *Australian Standard 4970 Protection of Trees on Development Sites (2009)*, each of the trees and tree groups assessed has been allocated a Retention Value. TreeiQ allocates one of four Retention Value categories based on a combination of Landscape Significance and Useful Life Expectancy (ULE). The assessment of Landscape Significance and ULE involves a degree of subjectivity and there will be a range of tree quality and value within each of the Retention Value categories. The Retention Values do not consider any proposed development works and are not a schedule for tree retention or removal. The trees and tree groups have been allocated one of the following Retention Values:

- Priority for Retention
- Consider for Retention
- Consider for Removal
- Priority for Removal

2.2.8 The allocation of a Retention Value to each tree and tree group is a key step in the tree management process as it helps the architect, other project consultants and the consent authority identify which are the most valuable trees on site. It may not be possible to retain all existing trees on a development site. However, the proposal should demonstrate that the retention of the higher value trees have been prioritised within the design process.

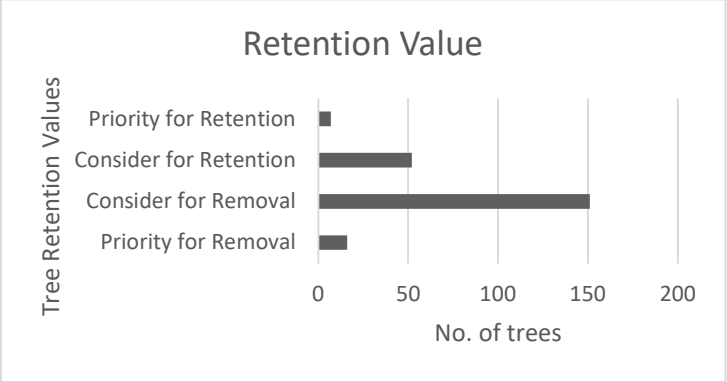
Refer to Chart 1 **(Retention Values)**

[2] Ryde Council (2014)
[3] Ryde Council (2014)

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2.2.9 Chart 1: Retention Values



3.0 ARBORICULTURAL IMPACT ASSESSMENT

3.1 Tree Removal

3.1.1 The supplied plans show that one hundred and seventy-three (173) trees and tree groups are to be removed as part of the proposed development. This includes one (1) tree with a Retention Value of *Priority for Retention*, twenty-eight (28) trees/tree groups with a Retention Value of *Consider for Retention,* one hundred and twenty-eight (128) trees/tree groups with a Retention Value of *Consider for Removal* and sixteen (16) trees with a Retention Value of *Priority for Removal.*

3.1.2 Table 2: Tree Removal

Impact	Priority for Retention	Consider for Retention	Consider for Removal	Priority for Removal
Development Footprint = 168	196	36, 123, 126, 128, 129, 130, 131, 132, 134, 136, 137, 138, 144, 146, 188, 189, 190, 192, 193, 201, 203, 205, 206, 207, 221, 228, 229 & 231	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 50, 51, 52, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 124, 125, 133, 143, 147, 149, 150, 151, 152, 153, 170, 182, 183, 184, 204 & 230	19, 25, 39, 48, 49, 53, 69, 83, 110, 139, 142, 180 & 191
APZ = 2			178 & 199	
Tree Quality= 3				1, 210 & 224
TOTAL = 173	**1**	**28**	**128**	**16**

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3.1.3 In addition to the above, approximately six (6) specimens from Tree Group 156 and four (4) specimens from Tree Group 222 and are to be removed as they are located within the development footprint. Approximately thirteen (13) specimens from Tree Group 226 are to be removed as they are located within the Asset Protection Zone (APZ). Only trees within these groups which fall within the development footprint or APZ should be removed within the remaining trees within the group retained and protected.

3.2 Tree Retention

3.2.1 The supplied plans show that fifty (50) trees and tree groups are to be retained as part of the proposed development. This includes six (6) trees with a Retention Value of *Priority for Retention*, twenty-four (24) trees trees/tree groups with a Retention Value of *Consider for Retention* and twenty (20) trees/tree groups with a Retention Value of *Consider for Removal.*

3.2.2 Table 4: Tree Retention

Impact	Priority for Retention	Consider for Retention	Consider for Removal	Priority for Removal
No works within TPZ =42	161, 177, 211 & 220	2, 141, 158, 162, 164, 166, 171, 172, 173, 175, 179, 181, 185, 186, 187, 202, 208, 212, 213, 218 & 219	154, 155, 157, 159, 160, 168, 174, 176, 194, 198, 209, 214, 215, 216, 217, 223 & 225	
Minor Encroachment = 7	165 & 197	140, 148 & 163	169 & 227	
Major Encroachment = 1			167	
TOTAL = 50	**6**	**24**	**20**	

3.2.3 In addition to the above, approximately five (5) specimens from Tree Group 156 and four-four (44) specimens from Tree Group 222 and nine (9) specimens from Tree Group 226 are to be retained and protected.

3.3 Minor Encroachment

3.3.1 The supplied plans show that works are proposed within the TPZ areas of Trees 140, 148, 163, 165, 169, 197 and 227. As the encroachment into each TPZ is less than 10% and outside of the Structural Root Zone (SRZ), the extent of works represents *Minor Encroachments* as defined by AS-4970. A *Minor Encroachment* is considered acceptable by AS-4970 when it is compensated for elsewhere and contiguous within the TPZ. The encroachments into TPZ should be compensated for by extending the TPZ in areas not subject to encroachment.

3.4 Major Encroachment

3.4.1 The supplied plans show that works are proposed with TPZ of Tree Group 167. As the encroachment into the individual TPZ of the northernmost tree is inside of the SRZ, the extent of work represents a *Major Encroachment* as defined AS-4970. Excavation for the installation of the new pavement (including any sub-base layer) should be undertaken by hand with either the finished levels adjusted, or the wearing/subbase course thinned to allow for the retention of roots (>25mmø). Some minor root pruning may be possible however this would need to be determined by the Project Arborist at the time of pavement installation.

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3.5 Other Works within TPZ

3.5.1 Demolition Works

Demolition works within TPZ areas should be supervised by the Project Arborist and utilise tree sensitive methods. Structures should be demolished in small sections ensuring demolition machinery/equipment does not come into contact with any part of the tree. Existing structures within the SRZ can contribute to tree stability by providing ballast to the root plate or act as a stop to the overturning of the root plate and should be retained in-situ if possible.

3.5.2 FRP Grating

The FRP grating footpath and stairs are indicative only. Where the structure is located within TPZ areas it should be supported on isolated pier footings (with all other parts of the structure positioned above existing ground levels). Excavation for the pier holes should be undertaken using tree sensitive methods (hand/hydrovac/airspade etc). Pier hole locations should be flexible to enable the retention of roots (>25mmø) as required by the Project Arborist. The structure should be designed to provide adequate setback from the trunks and branches and sufficient clearance should be provided for tree growth and movement in wind.

3.5.3 Building Footprint

Preliminary excavation and root pruning should be undertaken along the building line adjacent to TPZ areas prior to the commencement of bulk excavation works. No over-excavation, battering or benching should be undertaken within TPZ areas.

3.5.4 Fencing

The temporary site fencing/security fencing (where required) within the TPZ areas should be supported on isolated posts with all other parts of the structure installed above existing grade. Excavation for the installation of posts should be undertaken using tree sensitive methods (hand/hydrovac/airspade etc). The location of the posts should be adjusted to allow for the retention of roots (>25mmø).

3.5.5 Underground Services

The installation of new underground services should be routed outside of TPZ areas. Where this is not possible, trenches will need to be excavated using tree sensitive methods (i.e. hand/compact excavator or hydrovac excavation) which can be both time consuming and costly. The use of tree sensitive methods is achievable where pipe/conduit diameters are not overly large (<300mm dia. approx.) and trench depths do not require benching, battering or the use of shoring boxes. Alternatively, boring methods may be used for underground service installation where the obvert level is greater than 1200mm below existing grade. Excavations for starting and receiving pits for boring equipment should be located outside of the TPZ areas or located to avoid roots (>25mmø) as required by the Project Arborist.

3.5.6 Landscaping

The installation of plants within the TPZ should be undertaken using hand tools and roots (>25mmø) should be protected. There should be no modification to landscape levels, mechanical cultivation or ripping of soils within TPZ areas. Soil conditioners and turf underlay may be installed however should not increase existing soil levels within the TPZ by greater than 100mm and must not raise levels within 1m of the base of any tree.

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3.6 Pruning

3.6.1 The supplied plans show that Trees 2 and 159-165 located along the Julius Avenue frontage will need to be Selectively Pruned for building clearance. The pruning works will be carried out on one side of the trees' crowns only thereby reducing their visual symmetry. However, the appearance of the trees when viewed from the street will not be significantly impacted in the medium to long term.

Refer to Pruning Specification **(Appendix 5)**

3.6.2 In addition to the above, minor Reduction Pruning maybe required for the trees along eastern-side boundary. These works should be limited to branches less than 100mm to provide a 1.5m building clearance.

3.6.3 It should be noted that the assessment of pruning requirements was made from ground level with no set-out of the proposed footprints provided. During the construction phase of a project some additional minor pruning works may be required to provide building clearances and should be determined by the Project Arborist at the time of construction.

3.6.4 No scaffolding plan was reviewed in preparation of this AIA. Branches should be temporarily pushed or tied back in preference to pruning. Where branches cannot be pushed or tied back without damage, scaffolding/hoarding should be modified and constructed around branches (with appropriate branch protection installed as required). Additional pruning for scaffolding/hoarding should only be undertaken where no alternative is feasible.

3.6.5 Pruning works should be carried out by a Practising Arborist. The Practising Arborist should hold a minimum qualification equivalent (using the Australian Qualifications Framework) of Level 3 or above, in Arboriculture or its recognised equivalent. The Practising Arborist should have a minimum of 3 years' experience in practical Arboriculture. Pruning work should be undertaken in accordance with *Australian Standard 4373: Pruning of Amenity Trees (2007), Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)* and other applicable legislation and codes.

3.6.6 At the time of pruning, all deadwood greater 30mmø should be removed from the crowns of the trees in areas with high value targets.

4.0 CONCLUSION

4.1.1 Two hundred and twenty-six (226) trees and tree groups were addressed within this AIA. The trees comprise of a mix of locally indigenous, Australian-native and exotic species.

4.1.2 This SSDA seeks consent for the construction and operation of a data centre and associated infrastructure and amenities, identified as the Julius Avenue Data Centre.

4.1.3 The supplied plans show that one hundred and seventy-three (173) trees and tree groups are to be removed as part of the proposed development. In addition, approximately six (6) specimens from Tree Group 156, four (4) specimens from Tree Group 222 and thirteen (13) specimens from Tree Group 226 are to be removed as they are located within the development footprint/APZ. Only trees within these groups which fall within the development footprint/APZ should be removed within the remaining trees within the group retained and protected.

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4.1.4 The supplied plans show that fifty (50) trees and tree groups and tree groups are to be retained as part of the proposed development. In addition, approximately five (5) specimens from Tree Group 156, four-four (44) specimens from Tree Group 222 and nine (9) specimens from Tree Group 226 are to be retained and protected. Tree sensitive methods will be required for Tree Group 167 which is subject to a *Major Encroachment* from the proposed paving. Refer to Sections 3.4 and 3.5. The trees to be retained should be protected in accordance with the Tree Protection Specification **(Appendix 6)** and Typical Tree Protection Details **(Appendix 7).**

4.1.5 A Tree Protection Plan (TPP) has been included as **Appendix 2**. This should be updated following completion of the detailed design phase/construction certificate.

4.1.6 The supplied plans show that Trees 2 and 159-165 will need to be pruned to accommodate the proposed development. In addition, minor Reduction Pruning maybe required for the trees along eastern-side boundary. Pruning work should be undertaken in accordance with *Australian Standard 4373: Pruning of Amenity Trees (2007).*

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5.0 LIMITATIONS & DISCLAIMER

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Many factors may contribute to tree failure and cannot always be predicted. TreeiQ takes care to accurately assess tree health and structural condition. However, a tree's internal structural condition may not always correlate to visible external indicators. There is no warranty or guarantee, expressed or implied that problems or deficiencies regarding the trees or site may not arise in the future. Information contained in this Report covers only the trees assessed and reflects the condition of the trees at the time of inspection. Additional information regarding the methodology used in the preparation of this Report is attached as Appendix 1. A comprehensive tree risk assessment and management plan for the trees is beyond the scope of this Report.

Reference should be made to any relevant legislation including Tree Management Controls. All recommendations contained within this Report are subject to approval from the relevant Consent Authority.

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6.0 BIBLIOGRAPHY & REFERENCES

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7.0 APPENDICES

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Appendix 1: Methodology

1.1 **Site Inspection**: This report was determined as a result of several site inspections during January and March 2025. The comments and recommendations in this report are based on findings from this site inspection.

1.2 **Visual Tree Assessment (VTA)**: The subject tree(s)was assessed using the Visual Tree Assessment criteria and notes as described in *The Body Language of Trees – A Handbook for Failure Analysis.*[4]The inspection was limited to a visual examination of the subject tree(s)from ground level only. No internal diagnostic testing was undertaken as part of this assessment. Trees outside the subject site were assessed from the property boundaries only.

1.3 **Tree Dimensions**: The dimensions of the subject tree(s) are approximate only.

1.4 **Tree Locations:** The location of the subject tree(s) was determined from the supplied plans. Trees not shown on the supplied plans have been plotted in their approximate location only.

1.5 **Trees & Development**: Tree Protection Zones, Tree Protection Measures and Sensitive Construction Methods for the subject tree were based on methods outlined in *Australian Standard 4970-2009 Protection of Trees on Development Sites*.

The *Tree Protection Zone* (TPZ) is described in AS-4970 as a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable.

The *Structural Root Zone* (SRZ) is described in AS-4970 as the area around the base of a tree required for the tree's stability in the ground. Severance of structural roots within the SRZ is not recommended as it may lead to the destabilisation and/or demise of the tree.

In some cases it may be possible to encroach into or make variations to the theoretical TPZ. A *Minor Encroachment* is less than 10% of the area of the TPZ and is outside the SRZ. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. A *Major Encroachment* is greater than 10% of the TPZ or inside the SRZ. In this situation the Project Arborist must demonstrate that the tree would remain viable. This may require root investigation by non-destructive methods or the use of sensitive construction methods.

1.6 **Tree Health**: The health of the subject tree(s) was determined by assessing:

I. Foliage size and colour
II. Pest and disease infestation
III. Extension growth
IV. Crown density
V. Deadwood size and volume
VI. Presence of epicormic growth

1.7 **Tree Structural Condition**: The structural condition of the subject tree(s) was assessed by:

I. Assessment of branching structure
(i.e co-dominant/bark inclusions, crossing branches, branch taper, terminal loading, previous branch failures)
II. Visible evidence of structural defects or instability
(i.e root plate movement, wounds, decay, cavities, fungal brackets, adaptive growth)
III. Evidence of previous pruning or physical damage
(root severance/damage, lopping, flush-cutting, lions tailing, mechanical damage)

1.8 **Useful Life Expectancy (ULE)**: The ULE is an estimate of the longevity of the subject tree(s) in its growing environment. The ULE is modified where necessary to take in consideration tree(s) health, structural condition and site suitability. The tree(s) has been allocated one of the following ULE categories (Modified from Barrell, 2001):

I. 40 years +
II. 15-40 years
III. 5-15 years
IV. Less than 5 years

[4]Mattheck&Breloer (2003)

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1.9 **Landscape Significance**: Landscape Significance was determined by assessing the combination of the cultural, environmental and aesthetic values of the subject tree(s). Whilst these values are subjective, a rating of high, moderate, low or insignificant has been allocated to the tree(s). This provides a relative value of the tree's Landscape Significance which may aid in determining its Retention Value. If the tree(s) can be categorized into more than one value, the higher value has been allocated.

Landscape Significance	Description
Very High	The subject tree is listed as a Heritage Item under the *Local Environmental Plan* with a local or state level of significance.
	The subject tree is listed on Council's Significant Tree Register or meets the criteria for significance assessment of trees and/or landscapes by a suitably qualified professional. The criteria are based on general principles outlines in the Burra Charter and on criteria from the Register of the National Estate.
High	The subject tree creates a 'sense of place' or is considered 'landmark' tree.
	The subject tree is of cultural or historical importance or is widely known.
	The subject tree is a prominent specimen which forms part of the curtilage of a heritage item with a known or documented association with that item.
	The subject tree has been identified by a suitably qualified professional as a species scheduled as a Threatened or Vulnerable Species for the site defined under the provisions of the NSW *Biodiversity Conservation Act (2016)* or the Commonwealth *Environmental Protection and Biodiversity Conservation Act* (1999).
	The subject tree is known to contain nesting hollows to a species scheduled as a Threatened or Vulnerable Species for the site as defined under the provisions of the NSW *Biodiversity Conservation Act (2016)* or the Commonwealth *Environmental Protection and Biodiversity Conservation Act* (1999).
	The subject tree is an excellent representative of the species in terms of aesthetic value.
	The subject tree is of significant size, scale or makes a significant contribution to the canopy cover of the locality.
Moderate	The subject tree makes a positive contribution to the visual character or amenity of the area.
	The subject tree provides a specific function such as screening or minimising the scale of a building.
	The subject tree is a good representative of the species in terms of aesthetic value.
Low	The subject tree is a known environmental weed species or is exempt under the provisions of the local Council's Tree Management Controls
	The subject tree makes little or no contribution to the amenity of the locality.
	The subject tree is a poor representative of the species in terms of aesthetic value.

1.10 **Retention Value**: Retention Value was based on the subject tree's Useful Life Expectancy and Landscape Significance. The Retention Value was modified where necessary to take in consideration the subject tree's health, structural condition and site suitability. The subject tree(s) has been allocated one of the following Retention Values:

I. Priority for Retention
II. Consider for Retention
III. Consider for Removal
IV. Priority for Removal

<table>
<tr><th>ULE</th><th></th><th colspan="4">Landscape Significance</th></tr>
<tr><td></td><td>Very High</td><td>High</td><td>Moderate</td><td>Low</td><td>Insignificant</td></tr>
<tr><td>40 years +</td><td rowspan="3">Priority for Retention</td><td colspan="2">Priority for Retention</td><td rowspan="3">Consider for Removal</td><td rowspan="3">Priority for Removal</td></tr>
<tr><td>15-40 years</td><td>Priority for Retention</td><td>Consider for Retention</td></tr>
<tr><td>5-15 years</td><td colspan="2">Consider for Retention</td></tr>
<tr><td>Less than 5 years</td><td>Consider for Removal</td><td colspan="4">Priority for Removal</td></tr>
</table>

The above table has been modified from the Footprint Green Tree Significance and Retention Value Matrix.

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Appendix 2: Plans

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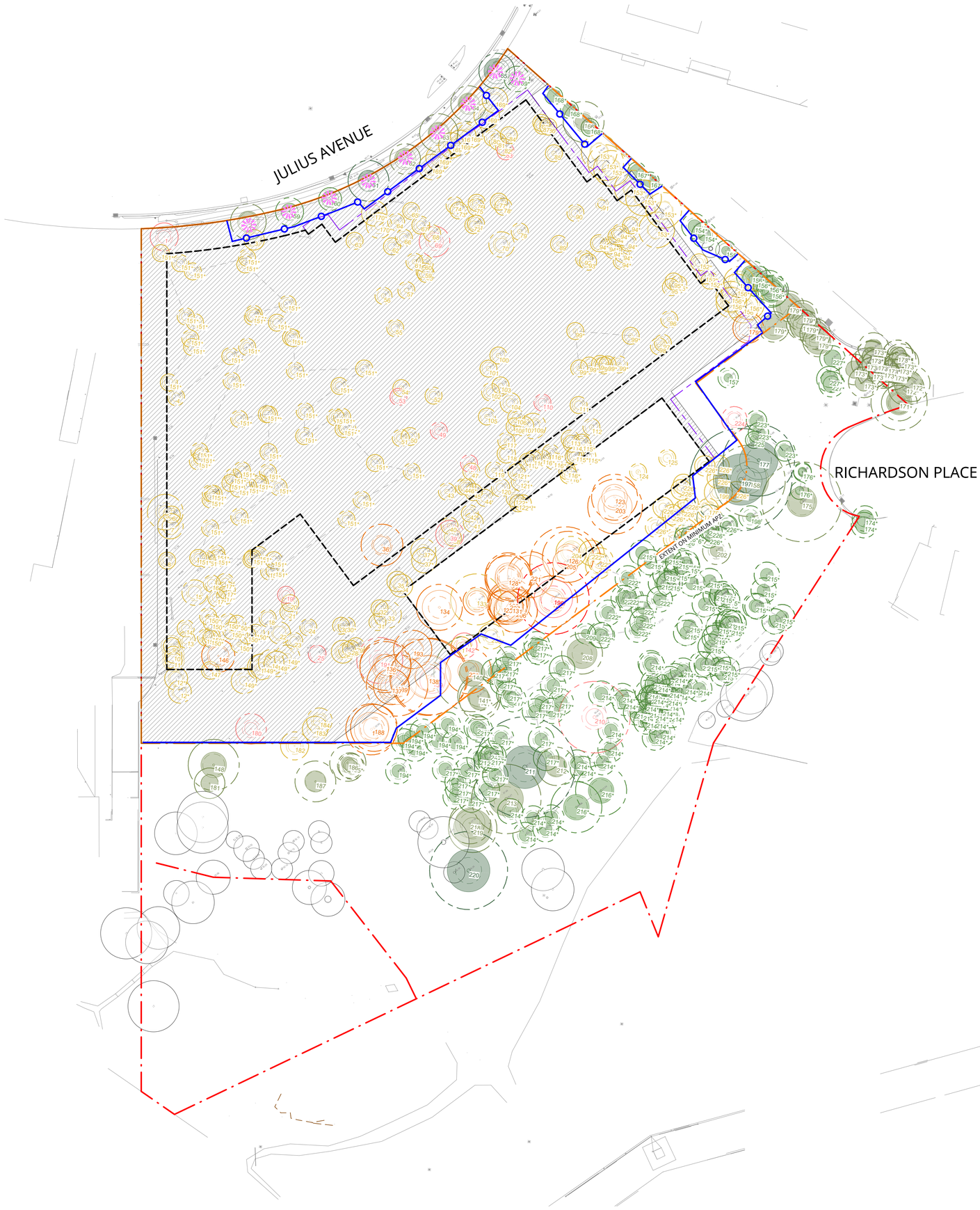
LEGEND

	QTY (INDIVIDUAL TREES)	QTY (TREES + TREE GROUPS)*
PROJECT BOUNDARY		
TREES TO BE RETAINED "Priority for Retention"	6	6
TREES TO BE RETAINED "Consider for Retention"	56	25
TREES TO BE RETAINED "Consider for Removal"	177	23
TREES TO BE REMOVED "Priority for Retention"	1	1
TREES TO BE REMOVED "Consider for Retention"	30	28
TREES TO BE REMOVED "Consider for Removal"	283	132
TREES TO BE REMOVED "Priority for Removal"	16	16
TREES TO BE RETAINED, NOT ASSESSED		
TOTAL INDIVIDUAL TREES BEING REMOVED	330	

* QUANTITY AS PER ARBORICULTURAL IMPACT ASSESSMENT TREE PROTECTION SPECIFICATION

trunk protection - refer to AIA

tpz fencing - refer to AIA



Pty Ltd. Use only figured dimensions. Any other required dimensions are to be referred to and supplied by the landscape architect. All discrepancies to be referred to the project manager and Arcadia Design Group Pty Ltd prior to construction. Ensure compliance with the Building Code of Australia and all relevant Australian Standards and Authority requirements.

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Revision	Revision Description	Revision Date
D	Response to Submissions Draft	28/11/2025
C	30% Schematic Design	02/05/2025
B	WIP For Information	17/04/2025
A	10% Schematic Design	07/02/2025

Project

Julius Avenue Data Centre

6-8 Julius Ave North Ryde

Project Status

Schematic Design

Client

ISPT

Drawing No.

JADC-ALA-DR-LA-000001

Drawing Name

TREE RETENTION & REMOVAL PLAN

Job No. 24-1085

Issue D

Scale 1:500 @A1

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Appendix 3: Tree Assessment Schedule

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
1	*Casuarina glauca* (Swamp She Oak)	275	8	3	Fair	Fair	Partially failed inclusion. Crown density 50-75%. Co-dominant inclusions, major. Remove tree.	Mature	<5	Low	Priority for Removal	Remove. Tree Quality.
2	*Platanus* x *acerifolia* (London Plane Tree)	350	9	5	Good	Good		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
3	*Acacia implexa* (Hickory)	200	8	3	Fair	No access to base. No rating.	Crown density 25-50%. Partially suppressed.	Late Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
4	*Platanus* x *acerifolia* (London Plane Tree)	150	4	2	Good	No access to base. No rating.		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
5	*Casuarina glauca* (Swamp She Oak)	350	7	3	Good	No access to base. No rating.	Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
6	*Casuarina glauca* (Swamp She Oak)	112	6	2	Good	No access to base. No rating.	Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
7	*Casuarina glauca* (Swamp She Oak)	250	8	4	Good	No access to base. No rating.	Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
8	*Banksia integrifolia* (Coastal Banksia)	150	4	2	Good	Good		Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
9	*Banksia integrifolia* (Coastal Banksia)	146	5	2	Good	Good	Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
10	*Banksia integrifolia* (Coastal Banksia)	141	6	2	Good	Good	Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
11	*Banksia integrifolia* (Coastal Banksia)	160	6	2	Good	Good	Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
12	*Banksia integrifolia* (Coastal Banksia)	225	7	3	Good	Good	Group of 2 trees (approx.).	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
13	*Casuarina glauca* (Swamp She Oak)	125	10	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
14	*Platanus* x *acerifolia* (London Plane Tree)	100	5	2	Good	Good	Group of 2 trees (approx.). Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
15	*Casuarina glauca* (Swamp She Oak)	250	11	3	Fair	Good	Crown density 50-75%.	Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
16	*Casuarina glauca* (Swamp She Oak)	150	10	2	Good	Poor	Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
17	*Casuarina glauca* (Swamp She Oak)	175	11	2	Good	Good	Group of 4 (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
18	*Eucalyptus pilularis* (Blackbutt)	150	5	3	Fair	Good	Crown densit 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
19	*Casuarina glauca* (Swamp She Oak)	150	9	2	Poor	Good	Crown density 25-50%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
20	*Casuarina glauca* (Swamp She Oak)	150	8	2	Fair	Good	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
21	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
22	*Casuarina glauca* (Swamp She Oak)	217	10	3	Good	Fair	Bark inclusion(s), minor.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
23	*Platanus* x *acerifolia* (London Plane Tree)	125	5	2	Good	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
24	*Casuarina glauca* (Swamp She Oak)	146	6	2	Fair	Good	Crown density 50-75%.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
25	*Acacia implexa* (Hickory)	175	5	4	Poor	Fair	Crown density 0-25%.	Senescent	<5	Low	Priority for Removal	Remove. Development footprint.
26	*Acacia fimbriata* (Brisbane Golden Wattle)	225	3	3	Good	Good	Partially suppressed.	Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
27	*Angophora costata* (Sydney Red Gum)	150	6	2	Good	Good		Semi-mature	40+	Low	Consider for Removal	Remove. Development footprint.
28	*Eucalyptus pilularis* (Blackbutt)	100	5	2	Good	Good	Partially suppressed. Phototrophic lean, slight.	Young	40+	Low	Consider for Removal	Remove. Development footprint.
29	*Eucalyptus pilularis* (Blackbutt)	100	4	2	Good	Good	Partially suppressed. Phototrophic lean, slight.	Young	40+	Low	Consider for Removal	Remove. Development footprint.
30	*Eucalyptus pilularis* (Blackbutt)	75	5	1	Fair	Good	Group of 2 trees (approx.). Small (<25mmø) epicormic growth in low volumes.	Young	15-40	Low	Consider for Removal	Remove. Development footprint.
31	*Casuarina glauca* (Swamp She Oak)	125	7	1	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
32	*Casuarina glauca* (Swamp She Oak)	146	7	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
33	*Casuarina glauca* (Swamp She Oak)	269	9	3	Good	Fair	Crown density 75-95%. Bark inclusion(s), major.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
34	*Casuarina glauca* (Swamp She Oak)	225	9	3	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
35	*Casuarina glauca* (Swamp She Oak)	200	8	3	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
36	*Allocasuarina torulosa* (Forest Oak)	409	11	4	Good	Good		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
37	*Casuarina glauca* (Swamp She Oak)	246	10	3	Good	No access to base. No rating.	Group of 2 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
38	*Eucalyptus pilularis* (Blackbutt)	125	5	2	Good	Good		Young	40+	Low	Consider for Removal	Remove. Development footprint.
39	*Casuarina glauca* (Swamp She Oak)	275	7	5	Fair	Poor	Partially failed root plate. Crown density 50-75%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
40	*Casuarina glauca* (Swamp She Oak)	125	8	1	Fair	Good	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
41	*Casuarina glauca* (Swamp She Oak)	195	11	2	Good	Fair	Crown density 50-75%. Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
42	*Casuarina glauca* (Swamp She Oak)	100	7	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
43	*Casuarina glauca* (Swamp She Oak)	106	5	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
44	*Casuarina glauca* (Swamp She Oak)	150	11	2	Fair	Good	Crown density 75-95%.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
45	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Fair	Crown density 50-75%. Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
46	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Fair	Group of 2 trees (approx.). Crown density 50-75%. Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
47	*Casuarina glauca* (Swamp She Oak)	125	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
48	*Casuarina glauca* (Swamp She Oak)	100	8	1	Poor	Good	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
49	*Casuarina glauca* (Swamp She Oak)	100	8	2	Poor	Fair	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
50	*Allocasuarina torulosa* (Forest Oak)	175	6	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
51	*Casuarina glauca* (Swamp She Oak)	100	6	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
52	*Casuarina glauca* (Swamp She Oak)	125	6	2	Fair	Good	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
53	*Casuarina glauca* (Swamp She Oak)	150	8	3	Poor	Good	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
54	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
55	*Casuarina glauca* (Swamp She Oak)	150	5	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
56	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
57	*Allocasuarina torulosa* (Forest Oak)	125	4	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
58	*Casuarina glauca* (Swamp She Oak)	150	6	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
59	*Casuarina glauca* (Swamp She Oak)	100	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
60	*Casuarina glauca* (Swamp She Oak)	106	5	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
61	*Casuarina glauca* (Swamp She Oak)	125	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
62	*Casuarina glauca* (Swamp She Oak)	112	5	2	Fair	Fair	Crown density 50-75%. Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
63	*Casuarina glauca* (Swamp She Oak)	125	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
64	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
65	*Casuarina glauca* (Swamp She Oak)	150	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
66	*Casuarina glauca* (Swamp She Oak)	150	11	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
67	*Casuarina glauca* (Swamp She Oak)	175	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
68	*Allocasuarina torulosa* (Forest Oak)	100	8	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
69	*Casuarina glauca* (Swamp She Oak)	300	5	3	Fair	Poor	Partially failed root plate. Crown density 25-50%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
70	*Casuarina glauca* (Swamp She Oak)	250	8	3	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
71	*Casuarina glauca* (Swamp She Oak)	125	8	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
72	*Casuarina glauca* (Swamp She Oak)	150	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
73	*Allocasuarina torulosa* (Forest Oak)	75	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
74	*Casuarina glauca* (Swamp She Oak)	125	10	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
75	*Casuarina glauca* (Swamp She Oak)	150	11	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
76	*Casuarina glauca* (Swamp She Oak)	150	11	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
77	*Casuarina glauca* (Swamp She Oak)	100	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
78	*Casuarina glauca* (Swamp She Oak)	125	9	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
79	*Casuarina glauca* (Swamp She Oak)	100	5	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
80	*Allocasuarina torulosa* (Forest Oak)	100	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
81	*Allocasuarina torulosa* (Forest Oak)	100	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
82	*Casuarina glauca* (Swamp She Oak)	75	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
83	*Casuarina glauca* (Swamp She Oak)	100	7	1	Poor	Good	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
84	*Casuarina glauca* (Swamp She Oak)	75	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
85	*Casuarina glauca* (Swamp She Oak)	100	11	1	Fair	Good	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
86	*Casuarina glauca* (Swamp She Oak)	125	12	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
87	*Casuarina glauca* (Swamp She Oak)	100	11	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
88	*Casuarina glauca* (Swamp She Oak)	100	12	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
89	*Melaleuca quinquenervia* (Broad Leaved Paperbark)	100	4	1	Good	Good		Young	5-15	Low	Consider for Removal	Remove. Development footprint.
90	*Casuarina glauca* (Swamp She Oak)	125	11	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
91	*Casuarina glauca* (Swamp She Oak)	100	5	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
92	*Casuarina glauca* (Swamp She Oak)	160	7	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
93	*Casuarina glauca* (Swamp She Oak)	125	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
94	*Casuarina glauca* (Swamp She Oak)	150	10	3	Fair	No access to base. No rating.	Group of 9 trees (approx.) growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
95	*Allocasuarina torulosa* (Forest Oak)	100	6	1	Fair	No access to base. No rating.	Group of 3 trees (approx.) growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
96	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	No access to base. No rating.	Growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
97	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	No access to base. No rating.	Growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
98	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	No access to base. No rating.	Growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
99	*Casuarina glauca* (Swamp She Oak)	100	7	1	Fair	No access to base. No rating.	Group of 8 trees (approx.) growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
100	*Casuarina glauca* (Swamp She Oak)	90	5	1	Fair	Fair	Crown density 50-75%. Co-dominant inclusions, minor.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
101	*Casuarina glauca* (Swamp She Oak)	75	5	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
102	*Casuarina glauca* (Swamp She Oak)	175	9	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
103	*Melaleuca quinquenervia* (Broad Leaved Paperbark)	125	4	1	Good	Fair	Co-dominant inclusions, minor.	Young	5-15	Low	Consider for Removal	Remove. Development footprint.
104	*Casuarina glauca* (Swamp She Oak)	200	9	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
105	*Casuarina glauca* (Swamp She Oak)	125	8	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
106	*Casuarina glauca* (Swamp She Oak)	125	9	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
107	*Casuarina glauca* (Swamp She Oak)	195	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
108	*Casuarina glauca* (Swamp She Oak)	150	9	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
109	*Allocasuarina torulosa* (Forest Oak)	250	8	3	Good	Good	Crown density 75-95%.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
110	*Casuarina glauca* (Swamp She Oak)	160	8	2	Poor	Good	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
111	*Casuarina glauca* (Swamp She Oak)	125	10	2	Fair	No access to base. No rating.	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
112	*Casuarina glauca* (Swamp She Oak)	100	8	1	Fair	No access to base. No rating.	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
113	*Allocasuarina torulosa* (Forest Oak)	175	9	2	Good	Good	Crown density 75-95%.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
114	*Eucalyptus pilularis* (Blackbutt)	150	6	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
115	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Good	Group of 5 trees (approx.). Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
116	*Casuarina glauca* (Swamp She Oak)	150	12	2	Fair	Good	Group of 7 trees (approx.). Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
117	*Casuarina glauca* (Swamp She Oak)	125	10	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
118	*Casuarina glauca* (Swamp She Oak)	180	10	3	Fair	Fair	Crown density 50-75%. Co-dominant inclusions, minor.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
119	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
120	*Casuarina glauca* (Swamp She Oak)	180	8	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
121	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Good	Group of 2 trees. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
122	*Casuarina glauca* (Swamp She Oak)	125	11	2	Fair	Good	Group of 3 trees. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
123	*Eucalyptus sieberi* (Silver Top Ash)	450	10	6	Good	No access to base. No rating.	Crown density 75-95%. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
124	*Casuarina glauca* (Swamp She Oak)	150	10	1	Fair	No access to base. No rating.	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
125	*Casuarina glauca* (Swamp She Oak)	150	10	2	Fair	No access to base. No rating.	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
126	*Eucalyptus sieberi* (Silver Top Ash)	500	10	6	Good	No access to base. No rating.	Small (<25mmø) & medium (25-75mmø) deadwood in low volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
127	No number allocated						No number allocated				No number allocated	No number allocated.
128	*Angophora costata* (Sydney Red Gum)	450	12	6	Fair	No access to base. No rating.	Group of 3 trees (approx.). Crown density 50-75%. Small (<25mmø) & medium (25-75mmø) deadwood in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
129	*Eucalyptus sieberi* (Silver Top Ash)	500	14	6	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
130	*Eucalyptus pilularis* (Blackbutt)	400	10	9	Good	No access to base. No rating.	Heavily suppressed. Poor form.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
131	*Eucalyptus pilularis* (Blackbutt)	400	10	5	Good	No access to base. No rating.	Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
132	*Eucalyptus pilularis* (Blackbutt)	300	10	5	Good	No access to base. No rating.	Partially suppressed. Termites.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
133	*Glochidion ferdinandi* (Cheese Tree)	300	7	5	Fair	No access to base. No rating.	Crown density 25-50%.	Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
134	*Angophora costata* (Sydney Red Gum)	500	15	8	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
135	No number allocated						No number allocated				No number allocated	No number allocated.
136	*Angophora costata* (Sydney Red Gum)	450	14	5	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
137	*Eucalyptus sieberi* (Silver Top Ash)	500	15	6	Fair	No access to base. No rating.	Crown density 50-75%. Small (<25mmø) & medium (25-75mmø) epicormic growth in high volumes. Partially suppressed.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
138	*Eucalyptus sieberi* (Silver Top Ash)	750	17	10	Good	No access to base. No rating.	Crown density 75-95%. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
139	*Strelitzia nicolai* (Giant Bird of Paradise)	250	6	2	Good	No access to base. No rating.		Mature	<5	Low	Priority for Removal	Remove. Development footprint.
140	*Eucalyptus sieberi* (Silver Top Ash)	750	15	6	Poor	No access to base. No rating.	Crown density 0-25%. Localised crown death. Termites.	Mature	5-15	Moderate	Consider for Retention	Retain. Minor encroachment, development footprint.
141	*Eucalyptus pilularis* (Blackbutt)	400	14	5	Good	No access to base. No rating.	Group of 2 trees (approx.).	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
142	*Eucalyptus pilularis* (Blackbutt)	250	10	2	Poor	No access to base. No rating.	Crown density 0-25%. Localised crown death.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
143	*Eucalyptus pilularis* (Blackbutt)	200	8	2	Good	No access to base. No rating.	Crown density 75-95%.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
144	*Angophora costata* (Sydney Red Gum)	500	15	8	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
145	No number allocated						No number allocated				No number allocated	No number allocated.
146	*Casuarina cunninghamiana* (River She Oak)	325	10	5	Good	Fair	Co-dominant inclusions, minor.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
147	*Acacia decurrens* (Green Wattle)	173	4	3	Fair	Good	Crown density 25-50%. Heavily suppressed.	Late Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
148	*Eucalyptus resinifera* (Red Mahogany)	500	18	6	S s	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Retain. Minor encroachment, development footprint.
149	*Casuarina glauca* (Swamp She Oak)	250	11	2	Good	Good	Group of 6 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
150	*Casuarina glauca* (Swamp She Oak)	125	9	1	Good	Good	Group of 11 trees (approx.). Crown density 75-95%. Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
151	*Casuarina glauca* (Swamp She Oak)	150	9	2	Fair	Good	Group of 50+ trees (approx.). Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
152	*Allocasuarina torulosa* (Forest Oak)	125	8	2	Good	Good	Group of 3 trees (approx.).	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
153	*Acacia binervia* (Coastal Myall)	350	5	4	Good	No access to base. No rating.	Group of 7 trees (approx.).	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
154	*Allocasuarina torulosa* (Forest Oak)	250	5	3	Good	No access to base. No rating.	Group of 2 trees (approx.).	Mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
155	*Banksia integrifolia* (Coastal Banksia)	200	5	2	Good	Good		Mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
156	*Casuarina cunninghamiana* (River She Oak)	300	10	5	Good	No access to base. No rating.	Group of 11 trees (approx.), includes *Allocasuarina torulosa* 125mm DBH max.	Mature	15-40	Low	Consider for Removal	Remove individuals within footprint. Rest of group to be retained and protected.
157	*Casuarina glauca* (Swamp She Oak)	200	10	2	Good	No access to base. No rating.		Semi-mature	5-15	Low	Consider for Removal	Retain. No works within TPZ.
158	*Eucalyptus sieberi* (Silver Top Ash)	700	16	9	Good	No access to base. No rating.	Small (<25mmø) & medium (25-75mmø) deadwood in low volumes.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
159	*Platanus* x *acerifolia* (London Plane Tree)	275	7	4	Good	Good		Semi-mature	40+	Low	Consider for Removal	Retain. No works within TPZ.
160	*Platanus* x *acerifolia* (London Plane Tree)	225	7	4	Fair	Good	Crown density 75-95%. Small (<25mmø) epicormic growth in low volumes.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
161	*Platanus* x *acerifolia* (London Plane Tree)	400	8	5	Good	Good		Semi-mature	40+	Moderate	Priority for Retention	Retain. No works within TPZ.
162	*Platanus* x *acerifolia* (London Plane Tree)	300	9	5	Fair	Good	Crown density 75-95%. Small (<25mmø) epicormic growth in low volumes.	Semi-mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
163	*Platanus* x *acerifolia* (London Plane Tree)	375	8	5	Fair	Good	Crown density 75-95%. Small (<25mmø) epicormic growth in low volumes.	Semi-mature	15-40	Moderate	Consider for Retention	Retain. Minor encroachment, pavement.
164	*Platanus* x *acerifolia* (London Plane Tree)	350	8	5	Fair	Good	Crown density 75-95%. Small (<25mmø) epicormic growth in moderate volumes.	Semi-mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
165	*Platanus* x *acerifolia* (London Plane Tree)	350	10	6	Good	Good		Semi-mature	40+	Moderate	Priority for Retention	Retain. Minor encroachment, pavement.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
166	*Casuarina cunninghamiana* (River She Oak)	400	13	4	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
167	*Ulmus parvifolia* (Chinese Weeping Elm)	175	4	3	Good	No access to base. No rating.	Group of 2 trees (approx.). Crown density 50-75%.	Semi-mature	15-40	Low	Consider for Removal	Retain. Major encroachment, pavement.
168	*Ulmus parvifolia* (Chinese Weeping Elm)	175	4	3	Good	No access to base. No rating.	Group of 3 trees (approx.). Crown density 50-75%.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
169	*Acacia binervia* (Coastal Myall)	250	6	3	Good	No access to base. No rating.	Group of 9 trees (approx.). Crown density 75-95%. Partially suppressed.	Mature	15-40	Low	Consider for Removal	Retain. Minor encroachment, pavement.
170	*Casuarina glauca* (Swamp She Oak)	250	8	2	Good	No access to base. No rating.	Group of 2 trees (approx.). Crown density 50-75%.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
171	*Casuarina cunninghamiana* (River She Oak)	550	20	6	Good	Good	Small (<25mmø) & medium (25-75mmø) deadwood in low volumes.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
172	*Casuarina cunninghamiana* (River She Oak)	350	18	5	Good	Good	Group of 3 trees (approx.). Small (<25mmø) & medium (25-75mmø) deadwood in low volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
173	*Casuarina glauca* (Swamp She Oak)	300	18	4	Good	Good	Group of 22 trees (approx.). Small (<25mmø) & medium (25-75mmø) deadwood in low volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
174	*Glochidion ferdinandi* (Cheese Tree)	250	7	4	Good	Fair	Group of 2 trees (approx.). Bark inclusion(s), minor.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
175	*Erythrina* x *sykesii* (Coral tree)	781	10	7	Good	Good		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
176	*Casuarina glauca* (Swamp She Oak)	175	10	2	Good	Good	Group of 2 trees (approx.). Crown density 75-95%.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
177	*Eucalyptus sieberi* (Silver Top Ash)	700	16	9	Good	No access to base. No rating.	Small (<25mmø) & medium (25-75mmø) deadwood building	Mature	15-40	Prune	Priority for Retention	Retain. No works within TPZ.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
178	*Casuarina glauca* (Swamp She Oak)	200	14	3	Good	Good	Group of 2 trees (approx.). Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. APZ.
179	*Casuarina cunninghamiana* (River She Oak)	300	14	6	Good	No access to base. No rating.	Group of 8 trees (approx.).	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
180	*Ligustrum lucidum* (Large Leaf Privet)	300	6	3	Good	No access to base. No rating.	Weed species.	Mature	<5	Low	Priority for Removal	Remove. Development footprint.
181	*Eucalyptus resinifera* (Red Mahogany)	300	12	4	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
182	*Allocasuarina torulosa* (Forest Oak)	275	9	3	Good	Good		Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
183	*Eucalyptus resinifera* (Red Mahogany)	250	10	2	Fair	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
184	*Eucalyptus resinifera* (Red Mahogany)	250	10	3	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
185	*Corymbia gummifera* (Red Bloodwood)	250	9	3	Fair	Good	Group of 2 trees (approx.). Crown density 50-75%.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
186	*Corymbia gummifera* (Red Bloodwood)	355	11	3	Fair	Good	Crown density 50-75%.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
187	*Eucalyptus resinifera* (Red Mahogany)	400	13	5	Fair	Good	Crown density 50-75%. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
188	*Angophora costata* (Sydney Red Gum)	459	14	7	Fair	Good	Crown density 50-75%.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
189	*Eucalyptus pilularis* (Blackbutt)	602	15	9	Fair	Good	Crown density 50-75%. Small (<25mmø) & large (>75mmø) epicormic growth in moderate volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
190	*Angophora costata* (Sydney Red Gum)	500	14	6	Good	Good		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
191	*Cinnamomum camphora* (Camphor Laurel)	450	5	3	Fair	Poor	Coppice stool.	Mature	<5	Low	Priority for Removal	Remove. Development footprint.
192	*Eucalyptus pilularis* (Blackbutt)	750	16	10	Good	Good	Crown density 75-95%. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
193	*Angophora costata* (Sydney Red Gum)	375	12	5	Good	Good		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
194	*Eucalyptus pilularis* (Blackbutt)	250	10	3	Good	Good	Group of 9 trees (approx.). E. Pilularis and E. Sieberi all <250mm DBH.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
195	No number allocated						No number allocated				No number allocated	No number allocated.
196	*Eucalyptus pilularis* (Blackbutt)	700	20	9	Good	Fair	Small (<25mmø) & large (>75mmø) epicormic growth in low volumes. Termites.	Mature	15-40	High	Priority for Retention	Remove. Development footprint.
197	*Eucalyptus pilularis* (Blackbutt)	1000	20	12	Good	Good	Small (<25mmø) & large (>75mmø) deadwood in low volumes. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	High	Priority for Retention	Retain. Minor encroachment, development footprint.
198	*Casuarina cunninghamiana* (River She Oak)	225	9	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
199	*Banksia integrifolia* (Coastal Banksia)	275	8	3	Good	Good		Mature	15-40	Low	Consider for Removal	Remove. APZ.
200	No number allocated						No number allocated				No number allocated	No number allocated.
201	*Casuarina cunninghamiana* (River She Oak)	250	13	2	Good	Good	Crown density 50-75%.	Semi-mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
202	*Casuarina cunninghamiana* (River She Oak)	275	16	3	Good	Good		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
203	*Eucalyptus pilularis* (Blackbutt)	535	7	8	Fair	Fair	Localised crown death. Wound(s), various stages of decay.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
204	*Eucalyptus pilularis* (Blackbutt)	300	6	5	Fair	Fair	Crown consists mainly of epicormic growth. Heavily suppressed.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
205	*Eucalyptus pilularis* (Blackbutt)	700	13	6	Fair	Fair	Crown density 50-75%. Termites.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
206	*Eucalyptus pilularis* (Blackbutt)	425	12	10	Good	Good	Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
207	*Eucalyptus pilularis* (Blackbutt)	400	10	4	Fair	Poor	Wound(s), early signs of decay. Termites.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
208	*Eucalyptus pilularis* (Blackbutt)	400	12	7	Good	Good		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
209	*Angophora costata* (Sydney Red Gum)	200	11	2	Good	Good	Co-dominant inclusions, minor.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
210	*Cinnamomum camphora* (Camphor Laurel)	700	6	4	Good	Fair	Coppice stool	Semi-mature	<5	Low	Priority for Removal	Remove. Tree Quality.
211	*Eucalyptus pilularis* (Blackbutt)	985	20	10	Good	No access to base. No rating.	Small (<25mmø) & large (>75mmø) epicormic growth in moderate volumes.	Mature	15-40	High	Priority for Retention	Retain. No works within TPZ.
212	*Angophora costata* (Sydney Red Gum)	375	14	5	Good	Good	Small (<25mmø) & medium (25-75mmø) epicormic growth in low volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
213	*Eucalyptus pilularis* (Blackbutt)	680	18	8	Good	Good	Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
214	*Casuarina glauca* (Swamp She Oak)	250	15	3	Good	Good	Group of 44 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
215	*Casuarina glauca* (Swamp She Oak)	250	15	3	Good	Good	Group of 40 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
216	*Erythrina x sykesii* (Coral Tree)	500	10	6	Good	No access to base. No rating.	Not covered by Council controls. Group of 2 (approx.). Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
217	*Eucalyptus pilularis* (Blackbutt)	250	8	3	Good	Good	Group of 33 trees (approx.). Including C.glauca	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
218	*Eucalyptus pilularis* (Blackbutt)	407	15	7	Good	Good	Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes. Co-dominant inclusions, minor.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
219	*Eucalyptus pilularis* (Blackbutt)	474	12	9	Good	Good	Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
220	*Eucalyptus pilularis* (Blackbutt)	763	22	10	Good	Fair	Small (<25mmø) & large (>75mmø) epicormic growth in low volumes. Co-dominant inclusions, major. Wound(s), various stages of decay. Termites.	Mature	15-40	High	Priority for Retention	Retain. No works within TPZ.
221	*Eucalyptus pilularis* (Blackbutt)	450	11	9	Good	Fair	Partially suppressed. Termites.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
222	*Eucalyptus pilularis* (Blackbutt)	250	10	3	Good	Good	Group of 44 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove individuals within footprint. Rest of group to be retained and protected.
223	*Glochidion ferdinandi* (Cheese Tree)	200	6	3	Good	Good	Group of 3 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
224	*Syagrus romanzoffianum* (Cocos Palm)	250	9	3	Good	No access to base. No rating.	Not covered by Council controls.	Mature	<5	Low	Priority for Removal	Remove. Tree Quality.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
225	*Glochidion ferdinandi* (Cheese Tree)	125	5	2	Good	Good	Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
226	*Mixed scrub*	200	7	2	Good	No access to base. No rating.	Group of 22 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove individuals within APZ. Rest of group to be retained and protected.
227	*Acer negundo* (Box Elder)	250	8	4	Good	No access to base. No rating.	Not covered by Council controls. Group of 9 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Retain. Minor encroachment, FRP footpath.
228	*Glochidion ferdinandi* (Cheese Tree)	275	9	5	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
229	*Eucalyptus pilularis* (Blackbutt)	450	14	4	Fair	No access to base. No rating.	Crown density 50-75%. Small (<25mmø) & large (>75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
230	*Eucalyptus pilularis* (Blackbutt)	250	8	3	Good	No access to base. No rating.		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
231	*Eucalyptus pilularis* (Blackbutt)	350	12	7	Good	No access to base. No rating.	Small (<25mmø) & large (>75mmø) epicormic growth in moderate volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.

Appendix 4: Plates



Plate 1: Showing Trees 9-14 located on western boundary



Plate 2: Showing trees in central section of site, and windthrown tree due to shallow soil profile



Plate 3: Showing trees in central section of site, and waterlogging due to poor drainage



Plate 4: Showing trees located in southwestern section of the site



Plate 5: Showing Tree group 174 located on southeastern boundary



Plate 6: Showing Trees 159-164 located on northern boundary



Plate 7: Showing Trees located in southern section of the site



Plate 8: Showing Trees located in southern section of the site

Appendix 5: Pruning Specification



Tree 2: Crown lift/Reduction Plan branches less than 50mm for building



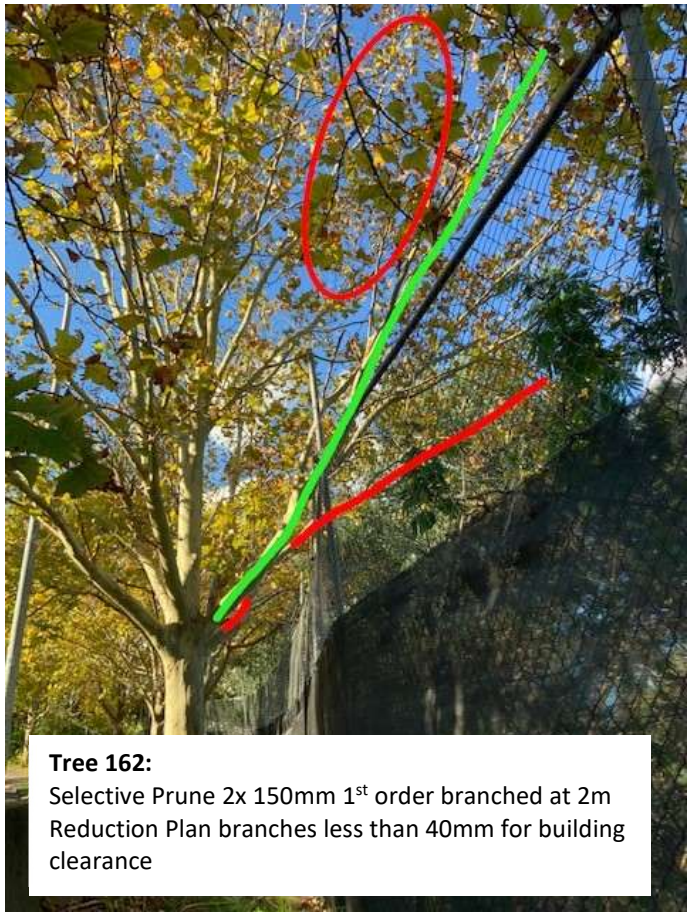
Tree 159: Crown lift/Reduction Plan branches less than 25mm for building clearance



Tree 160: Crown lift/Reduction Plan branches less than 30mm for building clearance



Tree 161:
Selective Prune 1x 100mm 2nd order branch at 2m
Selective Prune 1x 100mm 2nd order branch at 2.5m
Selective Prune 1x 100mm 2nd order branch at 3.5m
Reduction Plan branches less than 50mm for building clearance



Tree 162:
Selective Prune 2x 150mm 1st order branched at 2m
Reduction Plan branches less than 40mm for building clearance



Tree 163:
Selective Prune 2x 125mm 1st order branched at 2m
Reduction Plan branches less than 40mm for building clearance



Tree 164:
Selective Prune 1x 125mm 1st order branched at 2m
Reduction Plan branches less than 50mm for building clearance



Tree 165:
Selective Prune 1x 150mm 1st order branched at 2m
Reduction Plan branches less than 50mm for building clearance

Appendix 6: Tree Protection Specification

1.0 Appointment of Project Arborist

A Project Arborist shall be engaged prior the commencement of work on-site and monitor compliance with the protection measures. The Project Arborist shall inspect the tree protection measures and Compliance Certification shall be prepared by the Project Arborist for review by the Principal Certifying Authority prior to the release of the Compliance Certificate.

The Project Arborist shall have a minimum qualification equivalent (using the Australian Qualifications Framework) of NSW TAFE Certificate Level 5 or above in Arboriculture.

1.1 Compliance

Contractors and site workers shall receive a copy of these specifications a minimum of 3 working days prior to commencing work on-site. Contractors and site workers undertaking works within the Tree Protection Zone shall sign the site log confirming they have read and understand these specifications, prior to undertaking works on-site.

The Project Arborist shall undertake regular site inspections and certify that the works are being undertaken in accordance with this specification.

Compliance Documentation shall be prepared by the Project Arborist following each site inspection. The Compliance Documentation shall include documentary evidence of compliance with the tree protection measures and methods as outlined within this Specification. Upon the completion of the works, a final assessment of the trees shall be undertaken by the Project Arborist and future recommended management strategies implemented as required.

1.2 Tree & Vegetation Removal

Tree removal works shall be undertaken in accordance with the *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)* and other applicable codes and legislation.

Tree removal shall not damage the trees to be retained. Other vegetation to be removed within a TPZ shall be carefully lifted by hand/hand tools to avoid damaging roots (>25mmø) within the surrounding soil profile.

1.3 Tree Protection Zone

The trees to be retained shall be protected prior and during construction from activities that may result in an adverse effect on their health or structural condition. The area within the Tree Protection Zone (TPZ) shall exclude the following activities, unless otherwise stated: -

- Modification of existing soil levels, excavations and trenching
- Mechanical removal of vegetation
- Movement of natural rock
- Storage of materials, plant or equipment or erection of site sheds
- Affixing of signage or hoarding to the trees
- Preparation of building materials, refueling or disposal of waste materials and chemicals
- Lighting fires
- Movement of pedestrian or vehicular traffic
- Temporary or permanent location of services, or the works required for their installation
- Any other activities that may cause damage to the tree

NOTE: If access, encroachment or incursion into the TPZ is deemed essential, prior authorisation is required by the Project Arborist.

1.4 Tree Protection Fencing

TPZ fencing shall be installed as located on the Tree Removal Retention Plan **(Appendix 2)**. The final location of all TPZ fencing shall be confirmed through consultation between the Head Contractor/Project Manager and the Project Arborist prior to the commencement of works. Site hoarding may be accepted as TPZ fencing where it is located so that it correctly encloses and protects the TPZ, subject to approval from the Project Arborist.

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As a minimum, TPZ fencing shall consist of 1.8m-high wire mesh panels supported by concrete feet. Panels shall be securely fastened together and adequately supported to prevent movement or displacement. No damage to any retained tree is permitted during the installation of the TPZ fencing. On sloping ground or where concrete feet are not suitable, TPZ fencing may be secured using star pickets driven into stable ground, located to avoid tree roots, and installed in a manner that does not cause root damage, subject to approval by the Project Arborist. Fencing may be set back only where necessary to allow for demolition or construction access, and only where ground protection has been installed and approved by the Project Arborist. Refer to Section 1.8.

Refer to Typical Tree Protection Details (3) **(Appendix 7)**.

1.5 Signage

Signs identifying the TPZ should be placed around the edge of the TPZ and be visible from within the development site. The lettering on the sign should comply with *Australian Standard - 1319 (1994) Safety signs for the occupational environment*. The signage shall be installed prior to the commencement of works on-site and shall be maintained in good condition for the duration of the development period.

1.6 Site Management

Materials, waste storage, and temporary services shall not be located within the TPZ.

1.7 Works within the Tree Protection Zones

In some cases works within the TPZ may be authorized by the determining authority. **These works shall be supervised by the Project Arborist**. When undertaking works within the TPZ, care should be taken to avoid damage to the tree's root system, trunks and lower branches.

1.8 Ground Protection

Ground protection shall be installed to any unfenced areas of the TPZ as required by the Project Arborist. Vehicular and machinery access shall be restricted to areas of existing pavement or from areas of temporary ground protection such as ground mats or steel road plates. Refer to Typical Tree Protection Details (3) **(Appendix 7).**

1.9 Trunk Protection

Trunk protection shall be installed onto Trees 2, 159-165 and 169 or as required by the Project Arborist by wrapping padding (either carpet underlay or 10mm thick jute geotextile mat) around the trunk and first order branches to a minimum height of 2m. Timber battens (90 x 45mm) spaced at 150mm centres shall be strapped together and placed over the padding. Timber battens must not be fixed to the trees. Refer to Typical Tree Protection Details (3) **(Appendix 4)**. Branch protection shall be installed as deemed necessary by the Project Arborist.

1.10 Structure & Pavement Demolition

Demolition of existing structures/pavement within the TPZ shall be supervised by the Project Arborist. Machinery is to be excluded from the TPZ unless operating from the existing slabs, pavements or areas of ground protection (refer to Section 1.5). Machinery shall work in conjunction with a spotter to guide the machinery operator and ensure that the ground surface/tree roots beneath the structure/pavement are not disturbed/damaged by demolition works. Machinery should not contact any part of a tree. Wherever possible, footings or elements below grade shall be retained to minimise disturbance to roots. The Project Arborist shall assess any inground structures within the SRZ prior to their removal and determine if these structures may be contributing to the stability of the tree. Where required, inground structures should be retained in situ.

Small structures to be demolished within a TPZ shall be carefully broken up in small sections using a hand-operated pneumatic/electric breaker and waste material removed by hand/hand tools. Large structures to be demolished within the TPZ shall be undertaken within the footprint of the existing structure ('top down, pull back') and away from the trees.

When removing slab/pavement sections within TPZ, machinery shall work backwards out of the TPZ to ensure machinery remains on un-demolished sections of slab at all times. Existing sub-base materials within a TPZ shall remain in-situ and (and reused) where possible. If the existing sub-base is to be removed, these works shall be undertaken by hand/hand tools ensuring that tree roots are retained and protected.

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If roots (>25mmø) are encountered during the demolition works, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute geotextile fabric. The geotextile fabric shall be kept in a damp condition at all times. Where the Project Arborist determines that the tree is using underground elements (i.e footings, pipes, rocks etc.) for support, these elements shall be left in-situ.

1.11 Pavement/Kerb Installation

Installation of the pavements and sub-base within the TPZ shall be supervised by the Project Arborist. The new surfaces and sub-base materials shall be placed at (for areas of existing pavement only) or above grade to minimise excavations and retain roots (unless prior root mapping results show above sensitive construction to be unnecessary).

If roots (>25mmø) are encountered during the installation of the new sub-base and surfaces, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Adjustment of final levels and design shall remain flexible to enable the retention of structural roots (>25mmø) where deemed necessary by the Project Arborist. Compaction of the sub-base shall be consolidated with a pedestrian-operated plate compactor only. If possible, the pavement material shall be permeable.

Where required, new kerbs within the TPZ should be modified to bridge tree roots (>25mmø) unless root pruning is approved and undertaken by the Project Arborist.

1.12 Footings Installation

Footing installation within TPZ areas shall be supervised by the Project Arborist. Other than for the isolated piers, all other parts of the structure shall be installed above grade.

Drilling/piling machinery shall be excluded from the TPZ unless operating from an area where ground protection has been installed (refer to Section 1.8) or from the existing slabs or pavements. Drilling/piling machinery shall be of a suitable size to not damage the trees' roots, trunk, branches and crown. No clearance pruning is permitted to allow for machinery access. Machinery shall work in conjunction with an observer to ensure that adequate clearance from trees is maintained at all times.

1.13 Underground Services

Underground service installation within the TPZ shall be supervised by the Project Arborist.

The installation of underground services shall be located outside of the TPZ. Where this is not possible, they shall be installed using tree sensitive excavation methods (hand/hydrovac/airspade) with the services installed around/below roots (>25mmø, or as determined by the Project Arborist). Excavation using compact machinery fitted with a flat bladed bucket is permissible where approved by the Project Arborist. Excavation using compact machinery should be undertaken in small increments, guided by a spotter who is to look for and prevent damage to roots (>25mmø).

Alternatively, boring methods may be used for underground service installation where the obvert level (highest interior level of pipe) is greater than 1200mm below existing grade. Excavations for starting and receiving pits for boring equipment shall be located outside of the TPZ areas or located to avoid roots (>25mmø) as deemed necessary by the Project Arborist. OSD tanks (where required) should be located outside of the TPZ areas.

1.14 Basement/Basement Construction

Preliminary excavation and root pruning shall be undertaken along the building/basement line within and adjacent to the TPZ areas prior to the commencement of the bulk excavation works. No over-excavation, battering or benching shall be undertaken beyond the building footprint.

1.15 Excavations, Root Protection & Root Pruning

Excavations and root pruning within the TPZ shall be supervised by the Project Arborist. Excavations within the TPZ shall be avoided wherever possible.

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Excavations within the TPZ shall be undertaken by hand or using hydro vacuum excavation methods (or similar approved device) to protect tree roots. If there is any delay between excavation works and backfilling, exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute mat. The mat shall be kept in a damp condition at all times.

No over-excavation, battering or benching shall be undertaken beyond the footprint of any structure unless approved by the Project Arborist. Hand excavation and root pruning shall be undertaken along the excavation line prior to the commencement of mechanical excavation to prevent tearing and shattering damage to the roots from excavation equipment.

Roots (>25mmø) shall be pruned by the Project Arborist only. Roots (<25mmø) may be pruned by the Principal Contractor. Root pruning shall be undertaken with clean, sharp secateurs or a pruning saw to ensure a smooth wound face, free from tears.

Damaged roots shall be pruned behind the damaged tissues with the final cut made to an undamaged part of the root.

1.16 Soft Landscaping

Planting of new trees, shrubs and ground covers and the installation of turf within the TPZ areas shall be undertaken using hand tools and roots (>25mmø) shall be protected. No mechanical cultivation/ripping of soils shall be undertaken within TPZ areas. Soil conditioners and turf underlay may be installed however existing soil levels shall not be increased within the TPZ by greater than 100mm and must not raise levels within 1m of the base of any tree.

Landscape planting shall be completed in the final stage of the development works and tree protection fencing and trunk protection shall remain in place until these works are due to commence.

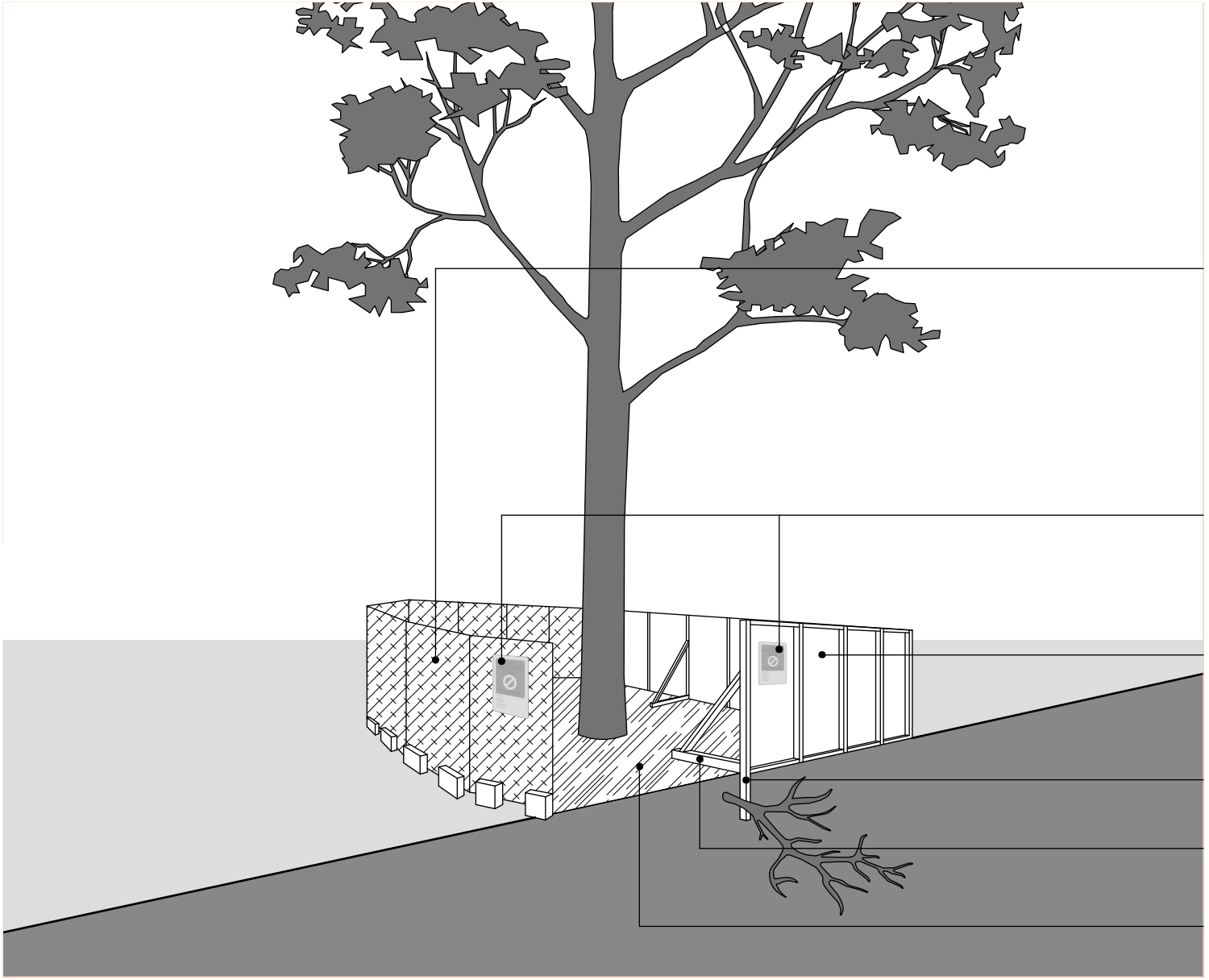
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Appendix 7: Typical Tree Protection Details

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Note:
No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.

Option 1 - Fencing
1.8m high chain wire mesh panels with shade cloth attached (if required), held in place with concrete feet.

Tree Protection Zone (TPZ) sign

Option 2 - Fencing
Plywood or wooden panel paling fence. This type of fencing material also prevents building materials or soil entering the TPZ.

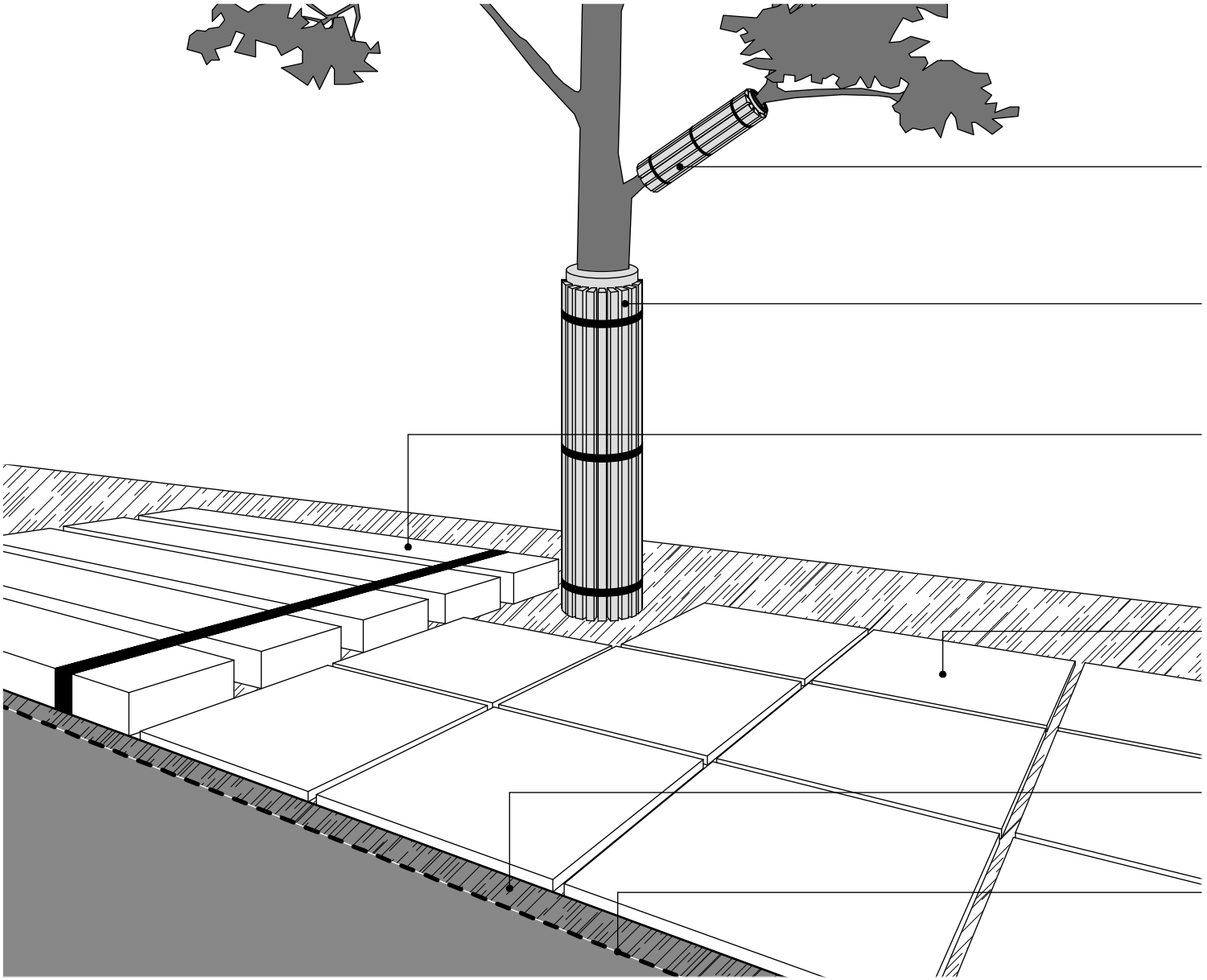
Installation of supports should avoid damaging roots.

Bracing is permissible within the TPZ.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer installed across surface of TPZ.

03 Tree Protection Fencing

Not to Scale



Branch Protection - use boards and padding to prevent damage to bark on branch. Boards are to be strapped, not screwed or nailed to the branch.

Trunk Protection - use boards and padding to prevent damage to bark (minimum 2m). Boards are to be strapped, not screwed or nailed to the trunk.

Ground Protection - use device strapped over mulch or aggregate layer. Ground protection device should be of a suitable thickness to prevent soil compaction and root damage.

Steel plates (or approved equivalent) with or without mulch or aggregate layer below.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer.

Geotextile fabric underneath mulch or aggregate layer.

04 Examples of Branch, Trunk and Ground Protection

Not to Scale



Branches may require pruning to erect scaffolding. Pruning may be subject to local regulations. Flexible branches should be tied back in preference to pruning.

Minimum 1.8m high hoarding. Temporary fencing may be incorporated into scaffolding as either containment screening or as hoarding.

Note:
If excavation is required for installation of support post for fencing, the Project Arborist should assess any pruning of roots greater than 20mm diameter.

Scaffold planks

Boards or plywood to be installed over mulch or aggregate layer for any areas requiring access within the TPZ.

Soleplate over geotextile. No excavation for soleplate within TPZ.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer within TPZ.

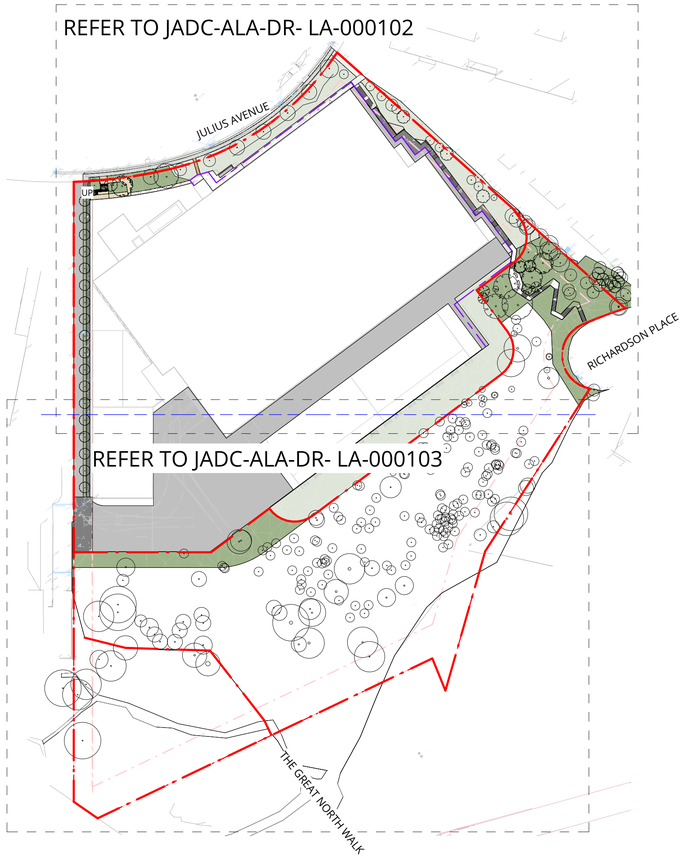
Geotextile fabric

05 Indicative Scaffolding within a Tree Protection Zone (TPZ) Not to Scale

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LANDSCAPE ARCHITECTURAL WORKS

DRAWING LIST			
Sheet Number	**Sheet Name**	**Current Revision**	**Current Revision Date**
JADC-ALA-DR-LA-000000	COVER PAGE	E	12/12/2025
JADC-ALA-DR-LA-000101	LANDSCAPE MASTER PLAN	E	12/12/2025
JADC-ALA-DR-LA-000102	LANDSCAPE PLAN NORTH	E	12/12/2025
JADC-ALA-DR-LA-000103	LANDSCAPE PLAN SOUTH	E	12/12/2025
JADC-ALA-DR-LA-000501	SECTION SHEET 1	C	12/12/2025
JADC-ALA-DR-LA-000502	SECTION SHEET 2	C	12/12/2025
JADC-ALA-DR-LA-000400	PLANTING SCHEDULE	C	12/12/2025
JADC-ALA-DR-LA-000401	TREE PLANTING PLAN	C	12/12/2025
JADC-ALA-DR-LA-000601	TYPICAL DETAILS - HARDWORKS	C	12/12/2025
JADC-ALA-DR-LA-000602	TYPICAL DETAILS - SOFTWORKS	C	12/12/2025
JADC-ALA-DR-LA-000700	LANDSCAPE SPECIFICATION NOTES	C	12/12/2025
JADC-ALA-DR-LA-000001	TREE RETENTION & REMOVAL PLAN	E	12/12/2025



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Revision	Revision Description	Revision Date
E	Response to Submissions	12/12/2025
D	Response to Submissions Draft	28/11/2025
C	30% Schematic Design	02/05/2025
B	WIP For Information	17/04/2025
A	10% Schematic Design	07/02/2025

Project

Julius Avenue Data Centre

6-8 Julius Ave North Ryde

Project Status

Tender

Client

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Drawing No.

JADC-ALA-DR-LA-000000

Drawing Name

COVER PAGE

Job No. 24-1085

Issue E

Scale 1:1000 @A1

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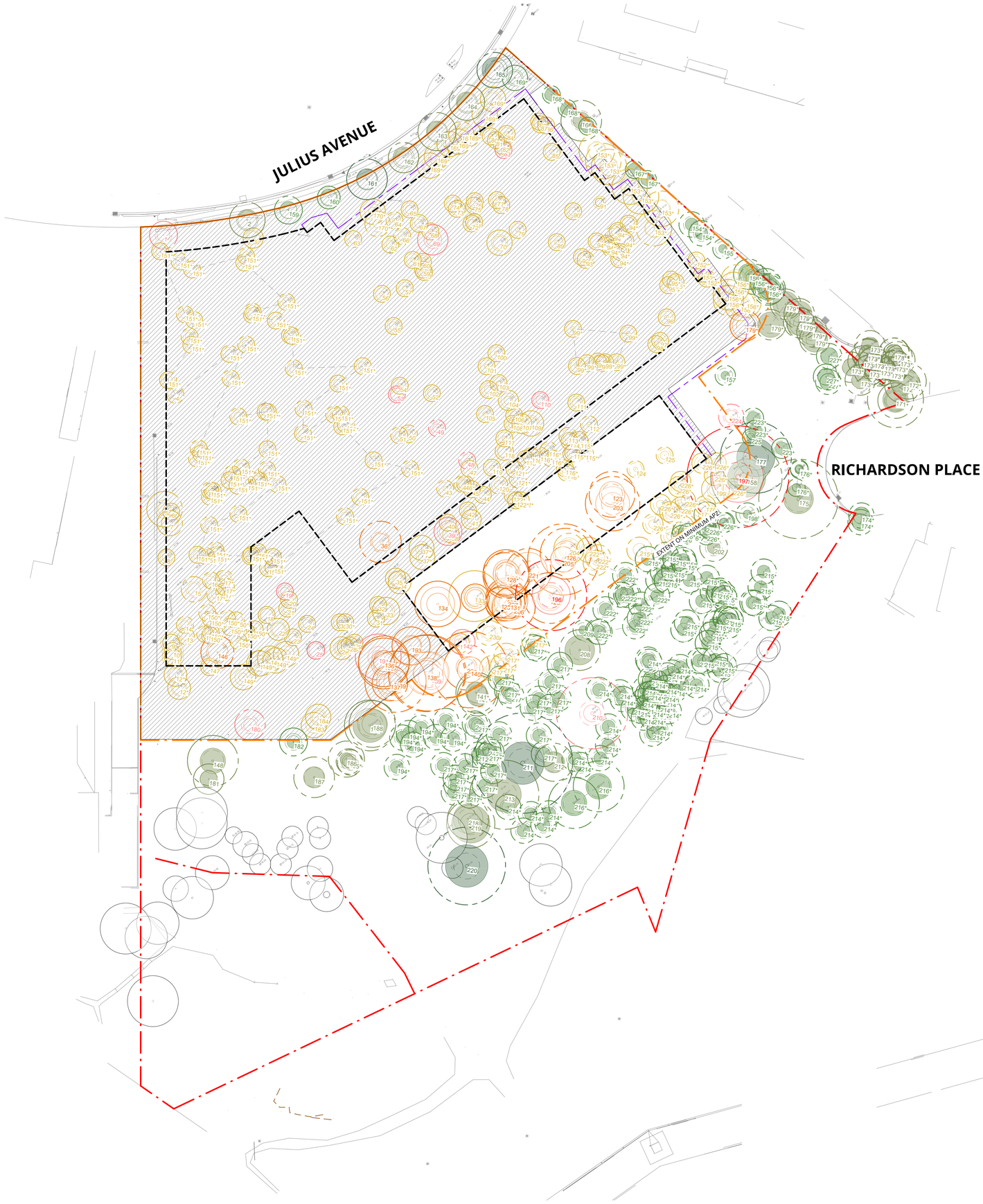
LEGEND

	QTY (INDIVIDUAL TREES)	QTY (TREES + TREE GROUPS)*
PROJECT BOUNDARY		
TREES TO BE RETAINED "Priority for Retention"	5	5
TREES TO BE RETAINED "Consider for Retention"	57	26
TREES TO BE RETAINED "Consider for Removal"	173	24
TREES TO BE REMOVED "Priority for Retention"	2	2
TREES TO BE REMOVED "Consider for Retention"	29	27
TREES TO BE REMOVED "Consider for Removal"	287	133
TREES TO BE REMOVED "Priority for Removal"	16	16
TREES TO BE RETAINED, NOT ASSESSED		
TOTAL INDIVIDUAL TREES BEING REMOVED	334	

* QUANTITY AS PER ARBORICULTURAL IMPACT ASSESSMENT TREE PROTECTION SPECIFICATION

* THE REVISED DEVELOPMENT DESIGN, INCLUDING THE REMOVAL OF THE BUSHLAND BOARDWALK, RESULTS IN THE RETENTION OF AN ADDITIONAL 175 EXISTING TREES. THIS INCLUDES THE RETENTION OF 2 ADDITIONAL 'PRIORITY FOR RETENTION TREES AND 37 ADDITIONAL 'CONSIDER FOR RETENTION TREES.

THE PROPOSED SCHEME NOW SEEKS THE REMOVAL OF 334 TREES, 90.7% OF WHICH HAVE BEEN CLASSIFIED BY THE ARBORIST AS 'CONSIDER FOR REMOVAL' OR 'PRIORITY FOR REMOVAL'.



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JADC-ALA-DR-LA-000001

Drawing Name
TREE RETENTION & REMOVAL PLAN

Job No. 24-1085
Issue E
Scale 1:500 @A1

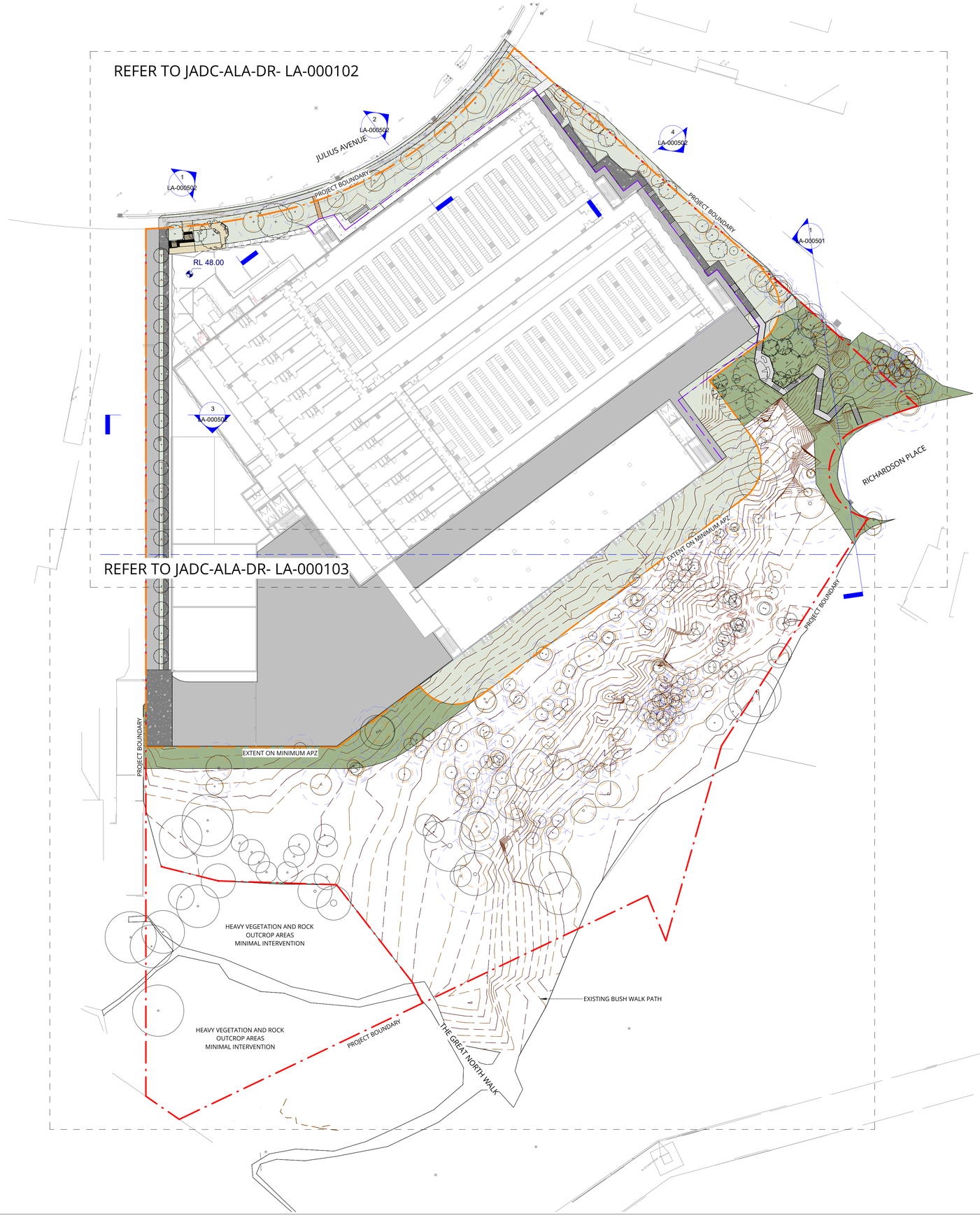
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LEGEND

- PROJECT BOUNDARY
- EXTENT OF THE MINIMUM ASSET PROTECTION ZONE (APZ)
- EXISTING TREE RETAINED
- EXISTING TREE RETAINED, NOT ASSESSED BY THE ARBORIST
- PROPOSED TREES
- PL01 PROPOSED UNDERSTORY PLANTING ON GRADE
- PL02 PROPOSED PLANTING ON GRADE
- PL03 PROPOSED PLANTING ON PODIUM
- PV01 PAVING TYPE 1 STONE UNIT PAVING
- PV02 PAVING TYPE 2 CONCRETE PAVING
- PV03 PAVING TYPE 3 CONCRETE PAVING WITH GRANITE BANDING TO MATCH CITY OF RYDE STANDARD
- PV05 PAVING TYPE 4 - GRAVEL
- PV06 PAVING TYPE 5 - DECOMPOSED GRANITE
- FRP PAVING TYPE 5 – FRP GRATING PANELS WITH STEEL HANDRAILS AND BALUSTRADES
- STAIRS
- WL01 RETAINING WALL
- WL02 SEATING WALL
- FN01 SEATING WALL WITH BENCH TOP

NOTE:
PROPOSED BOARD WALKS AND TREE LOCATIONS IN THE BUSHLAND ARE INDICATIVE ONLY BASED ON AVAILABLE SURVEY INFORMATION. FINAL LOCATION TO BE CONFIRMED AND SET OUT ON SITE TO ENSURE MINIMAL IMPACT TO EXISTING TREES AND TERRAIN.



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Revision Revision Description Revision Date

Project

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Project Status
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Drawing No.
JADC-ALA-DR- LA-000101

Drawing Name
LANDSCAPE MASTER PLAN

Job No. 24-1085
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Scale 1:500 @A1

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LEGEND

- PROJECT BOUNDARY
- EXTENT OF THE MINIMUM ASSET PROTECTION ZONE (APZ)
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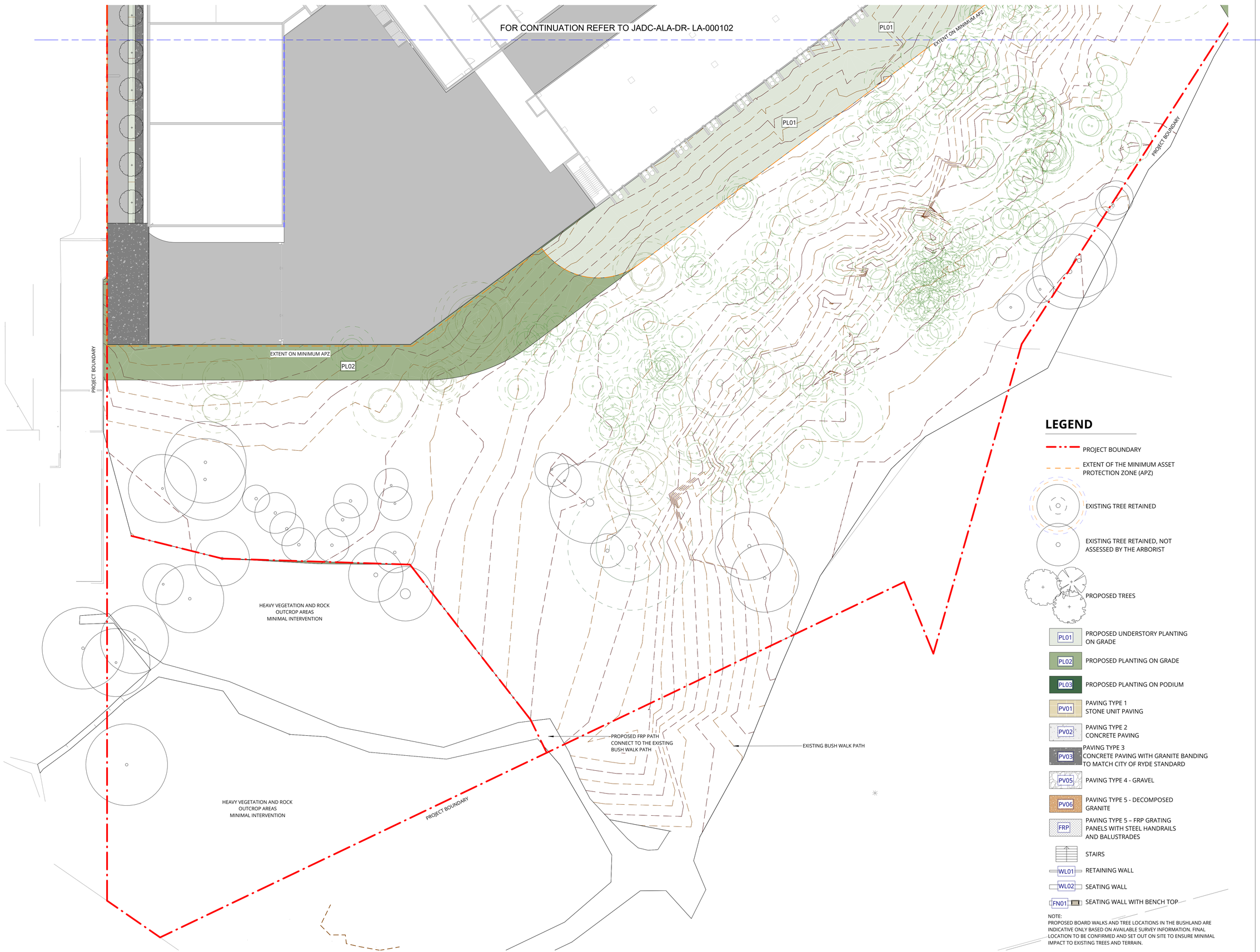
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JADC-ALA-DR- LA-000102

Drawing Name
LANDSCAPE PLAN NORTH

Job No. 24-1085
Issue E
Scale 1:250 @A1

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LEGEND

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Project

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Schematic Design

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Drawing No.
JADC-ALA-DR-LA-000103

Drawing Name
LANDSCAPE PLAN SOUTH

Job No. 24-1085
Issue E
Scale 1:250 @A1

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PLANTING SCHEDULE					
ID	*BOTANICAL NAME*	COMMON NAME	MATURE SIZE	POT SIZE	QTY
TREES					
TREES OUTSIDE MINIMUM APZ					
Ang cos	*Angophora costata*	Sydney Red Gum	30 x 15	75L	2
Ban ser	*Banksia serrata*	Banksia	15 x 4	400L	2
Cer gum	*Ceratopetalum gummiferum*	New South Wales Christmas Bush	4-6 x 3-5	400L	4
Cor mac	*Corymbia maculata*	Spotted Gum	30 x10	75L	2
Eua pip	*Eucalyptus piperita*	Eucalyptus piperita	6-8 x 5-25	75L	1
11					
TREES WITHIN MINIMUM APZ					
Ang cos*	*Angophora costata*	Sydney Red Gum	30 x 15	400L	1
Cor gum*	*Corymbia gummifera*	Red Bloodwood	30 x 10	400L	1
Ela ret	*Elaeocarpus reticulatus 'Prima Donna'*	Blueberry Ash	10 x 4	400L	18
Tri lau	*Tristaniopsis laurina*	Water Gum	15 x 6	400L	5
25					
TREES: 36					

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Project Status

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Drawing No.

JADC-ALA-DR-LA-000400

Drawing Name

PLANTING SCHEDULE

Job No.	24-1085
Issue	C
Scale	@A1

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Project

Julius Avenue Data Centre

6-8 Julius Ave North Ryde

Project Status

Schematic Design

Client

ISPT

Drawing No.

JADC-ALA-DR-LA-000401

Drawing Name

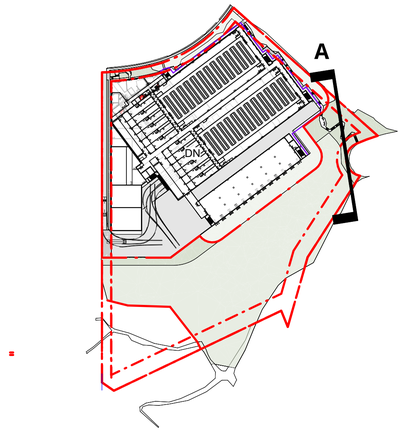
TREE PLANTING PLAN

Job No. 24-1085

Issue C

Scale 1:500 @A1

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1 SSDA SECTION A - SOUTH EAST BUSHLAND AND ACCESS ROAD
1 : 100

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C	Response to Submissions	12/12/2025
B	Response to Submissions Draft	28/11/2025
A	30% Schematic Design	02/05/2025

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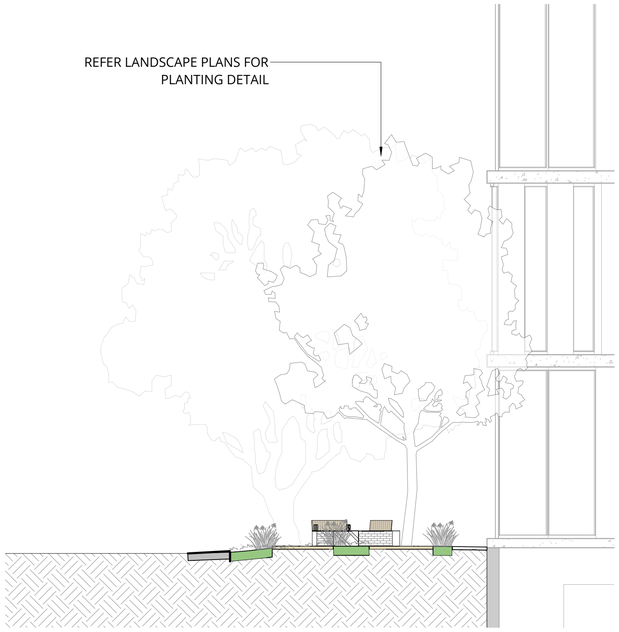
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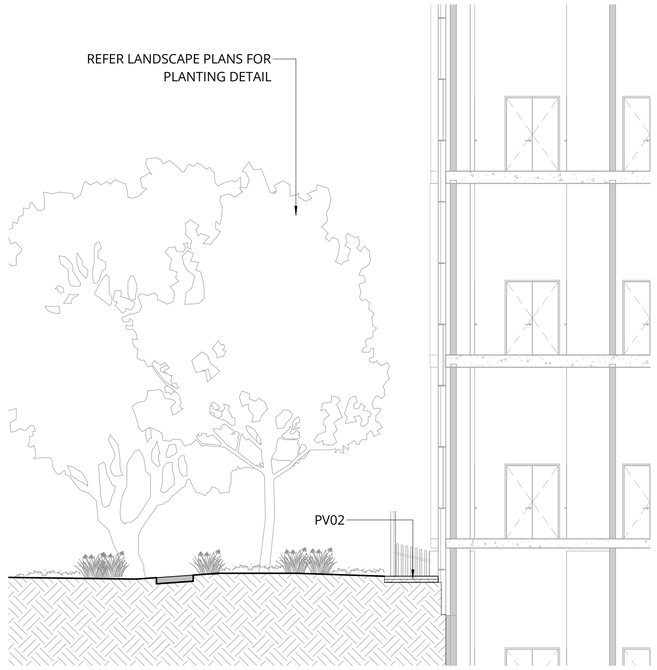
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Job No. 24-1085
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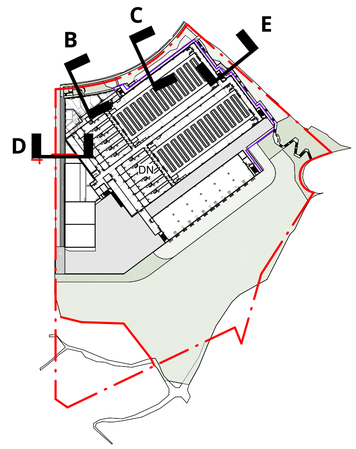
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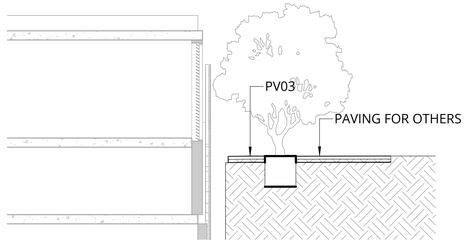


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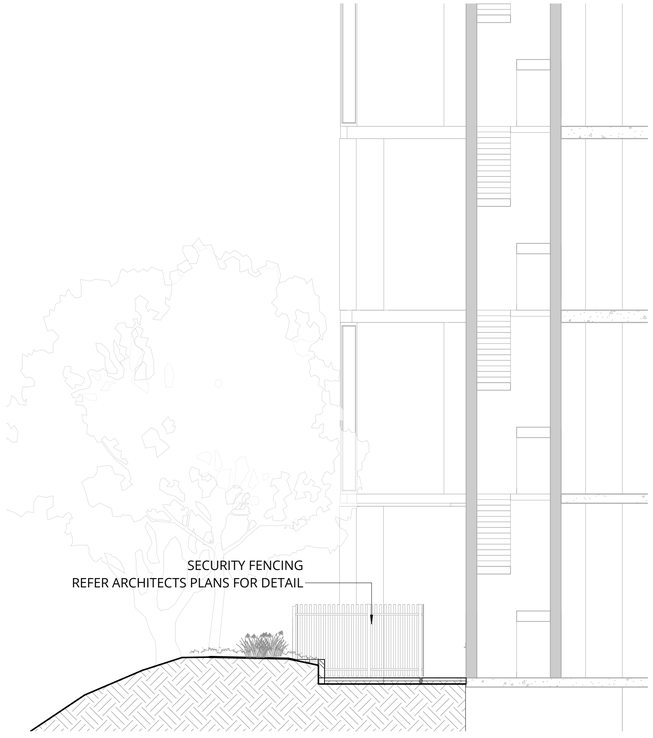


2 SSDA SECTION C - JULIUS AVENUE INTERFACE
1 : 100





3 SSDA SECTION D - NEW WESTERN PEDESTRIAN CONNECTION
1 : 100



4 SSDA SECTION E - NEW EASTERN PEDESTRIAN CONNECTION
1 : 100

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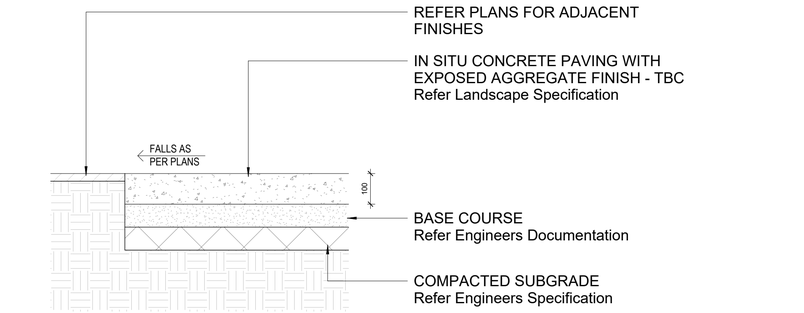
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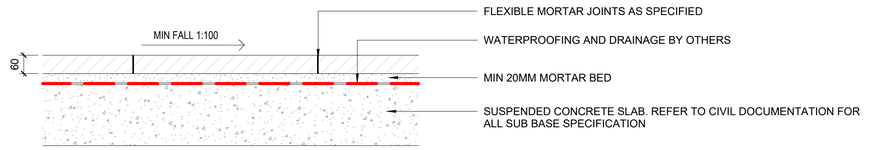
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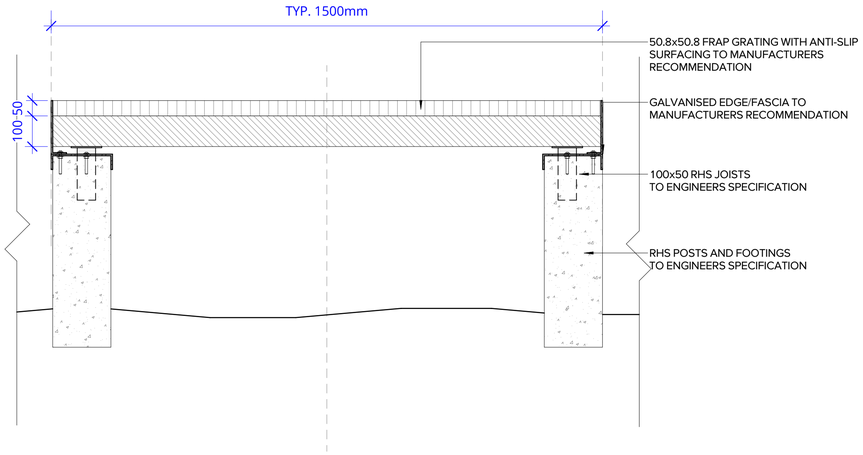
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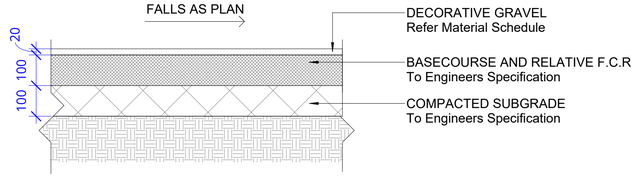
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1 : 10



2 DETAILS_PAVING_TYPICAL UNIT PAVING
1 : 10



3 DETAILS_PAVING_PERMEABLE FRP DECKING
1 : 10



4 DETAILS_PAVING_DECORATIVE GRAVEL
1 : 10

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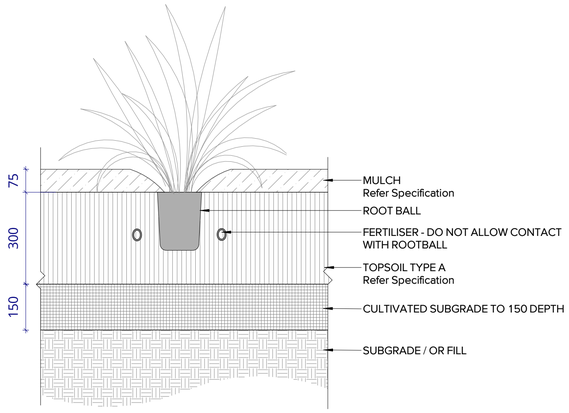
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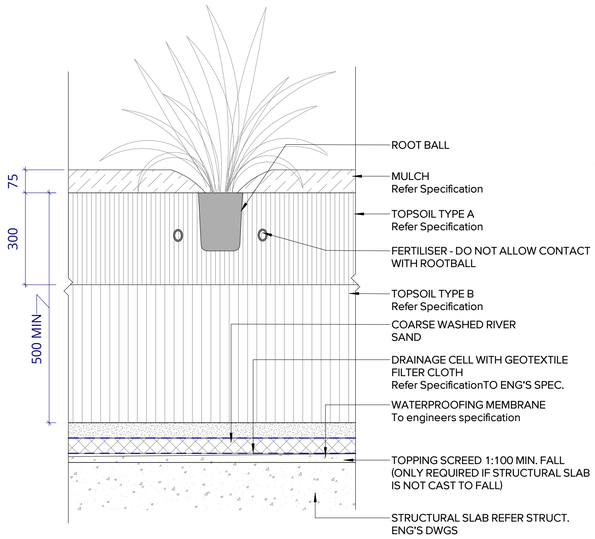
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TYPICAL DETAILS - HARDWORKS

Job No. 24-1085
Issue C
Scale AS INDICATED @A1

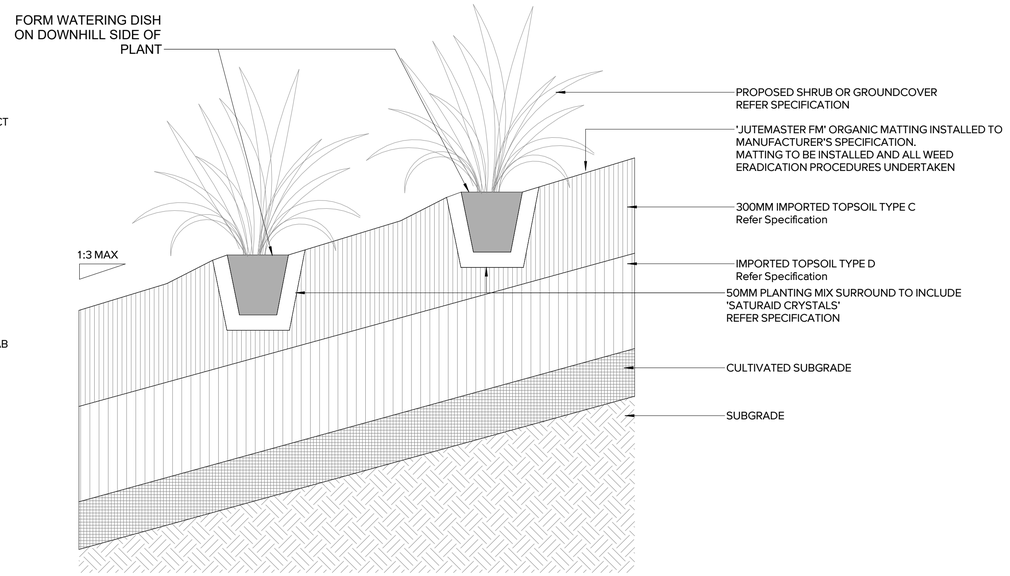
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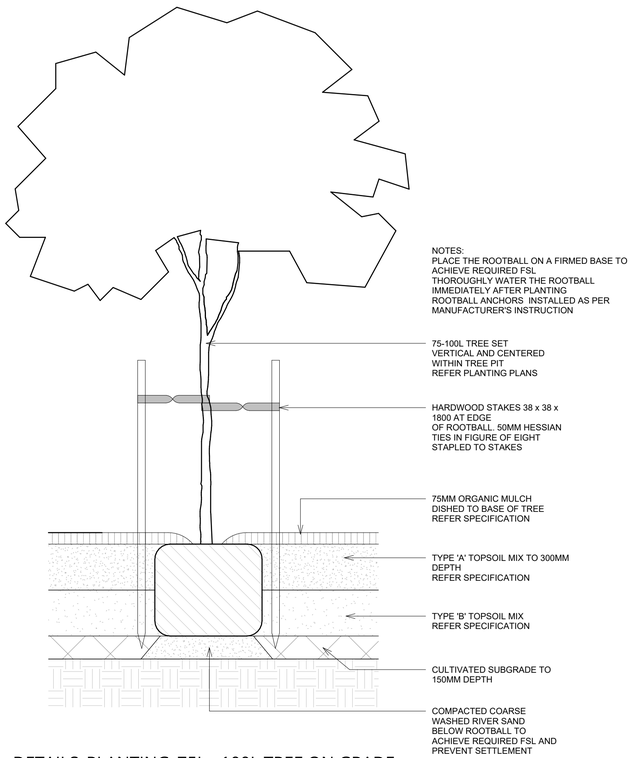
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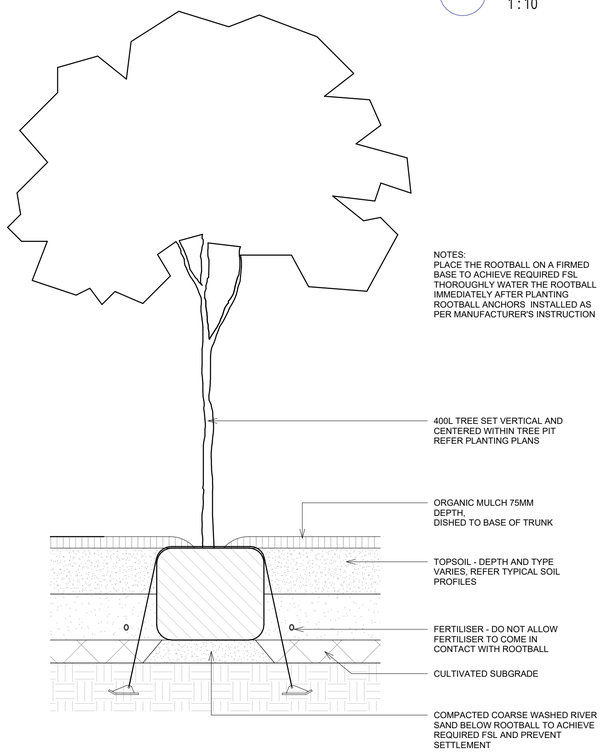
2 DETAILS_MASSPLANTING ON SLAB
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3 DETAILS_PLANTING ON BATTER
1 : 10



4 DETAILS_PLANTING_75L - 100L TREE ON GRADE
1 : 20



5 DETAILS_PLANTING_400L TREE ON GRADE
1 : 20

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Drawing No.
JADC-ALA-DR-LA-000602

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TYPICAL DETAILS - SOFTWORKS

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LANDSCAPE SPECIFICATION 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.

ABORIST MANAGEMENT OF TREE PROTECTION
A QUALIFIED AND APPROVED ABORIST IS TO BE CONTRACTED TO UNDERTAKE OR MANAGE THE INSTALLATION OF PROTECTIVE FENCING, AND TO UNDERTAKE SUCH MEASURES AS HE DEEMS APPROPRIATE TO PRESERVE THE SUBJECT TREES TO BE RETAINED. THE ARBORIST IS TO BE RETAINED FOR THE ENTIRE CONTRACT PERIOD TO UNDERTAKE ONGOING MANAGEMENT AND REVIEW OF THE TREES.

DRAINAGE CELL AND FILTER FABRIC
FOR ON-SLAB AREAS INSTALL AN APPROVED 'DRAINAGE CELL' PRODUCT TO COMPREHENSIVELY COVER THE BOTTOM OF ALL PLANTERS. OVER DRAINAGE CELL TO ON-SLAB AREAS, A POLYFELT GEOTEXTILE LINING (AS SUPPLIED BY 'POLYFELT TS' OR APPROVED EQUIVALENT) IS TO BE INSTALLED TO COVER THE BOTTOM OF ALL PLANTERS, TURNED UP 300MM AND TAPED TO THE PLANTER SIDES TO ENSURE SOIL MIX DOES NOT ESCAPE INTO DRAINAGE OUTLETS/HOLES. INSTALL MIN. 50MM COARSE RIVER SAND OVER ALL GEOTEXTILE LINING PRIOR TO INSTALLATION OF SOIL MIX.

PLANTING MIXTURE
SHALL BE HOMOGENOUS BLEND OF SOIL AND ADDITIVES IN THE FOLLOWING PROPORTIONS:
EXISTING SITE SOIL IF SUITABLE OR
IMPORTED TOPSOIL 50%
COMPOST 30%
D/W SAND 20%
SOIL TESTING OF EXISTING SITE SOIL IS TO BE UNDERTAKEN TO ASSESS SUITABILITY OF USE AS PLANTING TOPSOIL AND COMPLIANCE WITH AUSTRALIAN STANDARDS.

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
PINE BARK: FROM MATURE TREES, GRADED IN SIZE FROM 15MM TO 30MM, FREE FROM WOOD SLIVERS. DARK BROWN IN COLOUR AND TEXTURE.

COMPOST
SHALL BE WELL ROTTED VEGETATIVE MATERIAL OR ANIMAL MANURE, OR OTHER APPROVED MATERIAL, FREE FROM HARMFUL CHEMICALS, GRASS AND WEED GROWTH AND WITH NEUTRAL PH. PROVIDE A CERTIFICATE OF PROOF OF PH UPON REQUEST.

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.

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. 5-15 LITRE SIZE PLANT 1X(1200X25X25MM)
B. 35-75 LITRE SIZE PLANT 2X(1500X38X38MM)
C. 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.

IRRIGATION SYSTEM
SUPPLY AN AUTOMATIC WATERING SYSTEM USING 'TORO IRRIGATION SYSTEM' OR SIMILAR APPROVED, WITH MICRO-JET SPRINKLER HEADS AND LOW DENSITY, RUBBER MODIFIED POLYPROPYLENE RETICULATION, TO INCLUDE FILTERS, BENDS JUNCTIONS, ENDS AND OTHER ANCILLARY EQUIPMENT. THE LANDSCAPER SHALL NOMINATE HIS SOURCE OF SUPPLY FOR THE WATERING SYSTEM AND OBTAIN APPROVAL FROM THE SUPERINTENDENT BEFORE PLACING ORDERS FOR EQUIPMENT OR SUPPLY.
A SCHEMATIC PLAN OF THE PROPOSED IRRIGATION SYSTEM IS TO BE PREPARED BY THE CONTRACTOR, SHOWING SOLENOIDS, PIPE DIAMETERS, AND ALL NOZZLE AND TRICKLE ATTACHMENT TYPES (INCLUDING SPRAY/HEAD ANGLE), FOR REVIEW BY THE SUPERINTENDENT PRIOR TO INSTALLATION
THE CONTRACTOR IS TO LIASE WITH THE HYDRAULIC ENGINEER AND COUNCIL AS NECESSARY, TO ENSURE THE THE IRRIGATION SYSTEM CONFORMS WITH ALL THE COUNCIL AND WATER BOARD CODES AND REQUIREMENTS.
PROVIDE AN AUTOMATIC CONTROLLER THAT PROVIDES FOR TWO WEEK SCHEDULING AND HOURLY MULTI-CYCLE OPERATION. THE CONTROLLER SHALL MANUAL OVERRIDE. PROGRAMMING SHALL BE UNDERTAKEN BY THE CONTRACTOR WHO SHALL ADVISE ON THE OPERATION OF THE SYSTEM.
PROVISION OF SECURE HOUSING FOR THE AUTOMATIC IRRIGATION CONTROLLER TO BE LOCATED IN ASSOCIATION WITH THE LANDSCAPE CONTRACTOR AND LOCATION CONFIRMED BY THE SUPERINTENDENT. WIRING TO CONNECT REMOTE SOLENOID LOCATIONS IS TO BE PROVIDED.
THE CONTROLLER SHALL BE LOCATED IN A DRY PLACE, PROTECTED FROM THE WEATHER, AND ALL CABLE CONNECTIONS SHALL BE MADE WITH WATERPROOF CONNECTORS.

WATER SUPPLY POINTS TO BE SUPPLIED BY BUILDER.
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE AND GUARANTEE SATISFACTORY OPERATION OF THE IRRIGATION SYSTEM.
AFTER THE SYSTEM HAS BEEN INSTALLED TO THE SATISFACTION OF THE SUPERINTENDENT, THE INSTALLATION SHALL BE TESTED UNDER KNOWN WORKING CONDITIONS.
ACCEPTANCE OF THE INSTALLED PLANT AND EQUIPMENT SHALL BE SUBJECT TO THESE BEING SATISFACTORY.

TREATED PINE TIMBER EDGING
TIMBER EDGE: 100 X 25MM CCA TREATED RADIATA PINE TIMBER STAKES: 50 X 50 X 500MM CCA TREATED RADIATA PINE-SHARPENED AT ONE END. INSTALL IN LOCATIONS SHOWN ON THE DRAWINGS FLUSH TO FINISHED SURFACE LEVELS.

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, RESEEDING, 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. THE MAINTENANCE PERIOD SHALL COMMENCE AT PRACTICAL COMPLETION AND CONTINUE FOR A PERIOD OF TWENTY SIX (26) WEEKS.

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 NOT EXCEEDING TWO (2) WEEKS 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
TREES AND SHRUBS SHALL BE PRUNED AS DIRECTED BY THE LANDSCAPE ARCHITECT. PRUNING WILL BE DIRECTED AT THE MAINTENANCE OF THE DENSE FOLIAGE OR MISCELLANEOUS PRUNING AND BENEFICIAL TO THE CONDITION OF THE PLANTS. ANY DAMAGED GROWTH SHALL BE PRUNED.
ALL PRUNED MATERIAL SHALL BE REMOVED FROM THE SITE.

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.
PEST AND DISEASED 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.

WEED ERADICATION
ERADICATE WEEDS BY ENVIRONMENTALLY ACCEPTABLE METHODS USING A NON-RESIDUAL GLYPHOSATE HERBICIDE (EG. 'ROUNDUP') 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.

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Project No: 6-8/JULIUS/25 Report No: 6-8/JULIUS/AIA/B

ARBORICULTURAL IMPACT ASSESSMENT
TREE PROTECTION SPECIFICATION

6-8 Julius Avenue
North Ryde

Prepared for: ISPT

15th December 2025

Revision B

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MANAGING URBAN TREES™

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1.0 INTRODUCTION

1.1 Background

1.1.1 This Arboricultural Impact Assessment Report and Tree Protection Specification (AIA) was prepared for ISPT in relation to the proposed Julius Avenue Data Centre. The purpose of this AIA is to undertake a Visual Tree Assessment[1] (VTA), determine the impact of the proposed works on the trees, and where appropriate, recommend the use of sensitive construction methods and tree protection measures to minimise adverse impacts.

1.1.2 This AIA addresses (in part) the *Secretary's Environmental Assessment Requirement (SEAR) No. 7 Trees & Landscape*.

1.1.3 The authors of this AIA are aware of and have considered the objectives of the following:

- *State Environmental Planning Policy - Biodiversity and Conservation (2021)*
- *Ryde Development Control Plan Part 9.5 Tree Preservation (2014)*
- *Australian Standard 4970 Protection of Trees on Development Sites (2009)*
- *Australian Standard 4373 Pruning of Amenity Trees (2007)*
- *Australian Standard 2303 Tree Stock for Landscape Use (2015)*
- *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)*

Refer to Methodology **(Appendix 1)**

1.1.4 TreeiQ acknowledge the release of the revised *Australian Standard AS 4970–2025 Protection of Trees on Development Sites*. All new projects are prepared with reference to this document. However, for existing projects that were initiated under AS 4970–2009, the earlier standard continues to be applied to maintain consistency.

1.1.5 This AIA is based on an assessment of the following supplied documentation/plans only:

- Tree Removal & Retention Plan - prepared by Arcadia, Rev D (28.11.25)
- Landscape Masterplan - prepared by Arcadia, Rev D (28.11.25)
- Landscape Plan (North) - prepared by Arcadia, Rev D (28.11.25))
- Landscape Masterplan (South) - prepared by Arcadia, Rev D (28.11.25)
- Section Sheet 1-2 - prepared by Arcadia, Rev B (28.11.25)
- Site Plan - prepared by GreenBox, Rev 4 (25.11.25)
- Ground Floor Plan - prepared by GreenBox, Rev 2 (25.11.25)
- Building Sections 1 & 2 - prepared by GreenBox, Rev 1 (25.11.25)
- Stormwater Layout Plan - prepared by TTW, Rev E (12.12.25)
- Earthworks Cut & Fill Volumes Plan - prepared by TTW, Rev D (10.12.25)

Refer to Plans **(Appendix 2)**

[1] Mattheck & Breloer (2003)

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1.2 The Proposal

1.2.1 The proposal involves the construction and operation of a data centre and associated infrastructure and amenities, identified as the Julius Avenue Data Centre, comprising the following scope of works:

- Site preparation works, including tree removal;
- Earthworks and additional site retaining;
- Infrastructure comprising civil works and utilities servicing;
- Construction of a data centre including the following:
  - Ground level loading dock, services plantrooms and car parking for 38 cars, including 2 accessible;
  - Eight (8) data halls across four (4) storeys with an IT load of 76 MW and a maximum power consumption of 120 MW, plus rooftop plant;
  - Three (3) storey office/front of house building;
  - Five (5) storey enclosed generator gantry to rear of data centre.
- New Ausgrid 132 kilovolt (KV) Sub-Transmission Switching Station (STSS);
- A new pedestrian through-site link from Julius Avenue to Richardson Place; and
- Complementary landscaping and offset planting.

2.0 RESULTS

2.1 The Site

2.1.1 The site is identified as 6-8 Julius Avenue, North Ryde, legally described as Lot 89 in Deposited Plan 1082131. The site is irregular in shape and is located on the south-eastern side of Julius Avenue, North Ryde. The site has a primary frontage of approximately 100m to Julius Avenue and has a partial rear frontage to Richardson Place (cul-de-sac) at the north-eastern corner. The site has an area of approximately 2.863ha.

2.1.2 The site is currently vacant. The north-western part of the site was excavated and cleared of vegetation in 2009 as part of Modified Determination No. 1395/1999 previously approved on the site.

2.1.3 The site is zoned E3 Productivity Support pursuant to *Ryde Local Environmental Plan (2014)* and is located within the City of Ryde Local Government Area (LGA) which is approximately 15km north-west of the Sydney CBD.

2.2 The Trees

2.2.1 Two hundred and twenty-six (226) trees and tree groups were addressed within this AIA. The trees comprise of a mix of locally indigenous, Australian-native and exotic species. Twenty-three (23) species are represented.

Refer to Tree Assessment Schedule **(Appendix 3)**

2.2.2 The site is heavily vegetated and contains steep embankments, rock faces/outcrops and vertical cuts into the rock strata around the northern and western perimeter of the site. Numerous juvenile and semi-mature trees are present, growing as both individual specimens and groups. Some of these trees were not fully assessed due to restricted access/safety concerns, the small size of the trees (many specimens being less than 5m) and weed status. Weed species comprise predominantly of *Ligustrum lucidum* (Large Leaf Privet), *L. sinense* (Small Leaf Privet) and *Cotoneaster* spp. (Cotoneaster) which are listed as Exempt Tree Species within Part 9.5 of the *Ryde Development Control Plan (2014).*

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2.2.3 The northern and central section of the site has been previously excavated which has removed the existing soil profile and created a poorly draining shelf of exposed rock. The trees that have regenerated in this area comprise predominantly of *Casuarina glauca* (Swamp Sheoak) which is developing from both seed and root suckers to form dense stands. Larger specimens have failed in high winds due to root plate failure associated with the extremely thin, predominantly sand derived soil profile that has developed subsequent to excavation of the area. It is highly likely that the majority of trees in this area would be subject to windthrow once they reach an early-mature size due to a lack of adequate root plate stability.

Refer to Plates **(Appendix 4)**

2.2.4 Seven (7) trees listed in Table 1 are outlined as Exempt Tree Species within Part 9.5 of the *Ryde Development Control Plan (2014).*[2]

2.2.5 Table 1: Exempt Species

Species	Tree Number
Acer negundo (Box Elder)	227
Cinnamomum camphora (Camphor Laurel)	191 & 210
Erythrina x sykesii (Coral Tree)	175 & 216
Ligustrum lucidum (Large Leaf Privet)	180
Syagrus romanzoffianum (Cocos Palm)	224

2.2.6 The trees are not listed in Schedule 5 (Environmental Heritage) of the *Ryde Local Environmental Plan (2014).*[3]

2.2.7 As required by Clause 2.3.2 of *Australian Standard 4970 Protection of Trees on Development Sites (2009)*, each of the trees and tree groups assessed has been allocated a Retention Value. TreeiQ allocates one of four Retention Value categories based on a combination of Landscape Significance and Useful Life Expectancy (ULE). The assessment of Landscape Significance and ULE involves a degree of subjectivity and there will be a range of tree quality and value within each of the Retention Value categories. The Retention Values do not consider any proposed development works and are not a schedule for tree retention or removal. The trees and tree groups have been allocated one of the following Retention Values:

- Priority for Retention
- Consider for Retention
- Consider for Removal
- Priority for Removal

2.2.8 The allocation of a Retention Value to each tree and tree group is a key step in the tree management process as it helps the architect, other project consultants and the consent authority identify which are the most valuable trees on site. It may not be possible to retain all existing trees on a development site. However, the proposal should demonstrate that the retention of the higher value trees have been prioritised within the design process.

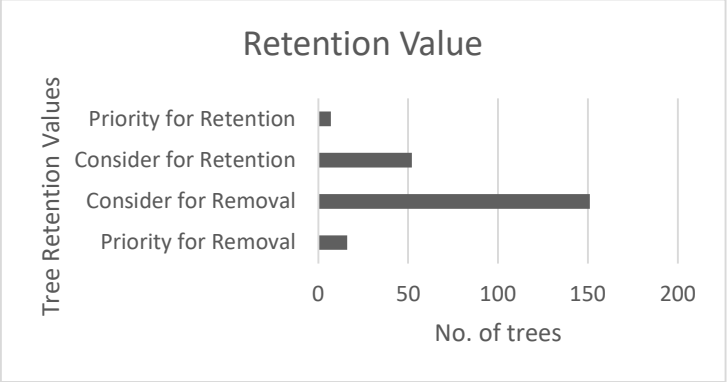
Refer to Chart 1 **(Retention Values)**

[2] Ryde Council (2014)
[3] Ryde Council (2014)

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2.2.9 Chart 1: Retention Values



3.0 ARBORICULTURAL IMPACT ASSESSMENT

3.1 Tree Removal

3.1.1 The supplied plans show that one hundred and seventy-three (173) trees and tree groups are to be removed as part of the proposed development. This includes one (1) tree with a Retention Value of *Priority for Retention*, twenty-eight (28) trees/tree groups with a Retention Value of *Consider for Retention,* one hundred and twenty-eight (128) trees/tree groups with a Retention Value of *Consider for Removal* and sixteen (16) trees with a Retention Value of *Priority for Removal.*

3.1.2 Table 2: Tree Removal

Impact	Priority for Retention	Consider for Retention	Consider for Removal	Priority for Removal
Development Footprint = 168	196	36, 123, 126, 128, 129, 130, 131, 132, 134, 136, 137, 138, 144, 146, 188, 189, 190, 192, 193, 201, 203, 205, 206, 207, 221, 228, 229 & 231	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 50, 51, 52, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 124, 125, 133, 143, 147, 149, 150, 151, 152, 153, 170, 182, 183, 184, 204 & 230	19, 25, 39, 48, 49, 53, 69, 83, 110, 139, 142, 180 & 191
APZ = 2			178 & 199	
Tree Quality= 3				1, 210 & 224
TOTAL = 173	**1**	**28**	**128**	**16**

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3.1.3 In addition to the above, approximately six (6) specimens from Tree Group 156 and four (4) specimens from Tree Group 222 and are to be removed as they are located within the development footprint. Approximately thirteen (13) specimens from Tree Group 226 are to be removed as they are located within the Asset Protection Zone (APZ). Only trees within these groups which fall within the development footprint or APZ should be removed within the remaining trees within the group retained and protected.

3.2 Tree Retention

3.2.1 The supplied plans show that fifty (50) trees and tree groups are to be retained as part of the proposed development. This includes six (6) trees with a Retention Value of *Priority for Retention*, twenty-four (24) trees trees/tree groups with a Retention Value of *Consider for Retention* and twenty (20) trees/tree groups with a Retention Value of *Consider for Removal.*

3.2.2 Table 4: Tree Retention

Impact	Priority for Retention	Consider for Retention	Consider for Removal	Priority for Removal
No works within TPZ =42	161, 177, 211 & 220	2, 141, 158, 162, 164, 166, 171, 172, 173, 175, 179, 181, 185, 186, 187, 202, 208, 212, 213, 218 & 219	154, 155, 157, 159, 160, 168, 174, 176, 194, 198, 209, 214, 215, 216, 217, 223 & 225	
Minor Encroachment = 7	165 & 197	140, 148 & 163	169 & 227	
Major Encroachment = 1			167	
TOTAL = 50	**6**	**24**	**20**	

3.2.3 In addition to the above, approximately five (5) specimens from Tree Group 156 and four-four (44) specimens from Tree Group 222 and nine (9) specimens from Tree Group 226 are to be retained and protected.

3.3 Minor Encroachment

3.3.1 The supplied plans show that works are proposed within the TPZ areas of Trees 140, 148, 163, 165, 169, 197 and 227. As the encroachment into each TPZ is less than 10% and outside of the Structural Root Zone (SRZ), the extent of works represents *Minor Encroachments* as defined by AS-4970. A *Minor Encroachment* is considered acceptable by AS-4970 when it is compensated for elsewhere and contiguous within the TPZ. The encroachments into TPZ should be compensated for by extending the TPZ in areas not subject to encroachment.

3.4 Major Encroachment

3.4.1 The supplied plans show that works are proposed with TPZ of Tree Group 167. As the encroachment into the individual TPZ of the northernmost tree is inside of the SRZ, the extent of work represents a *Major Encroachment* as defined AS-4970. Excavation for the installation of the new pavement (including any sub-base layer) should be undertaken by hand with either the finished levels adjusted, or the wearing/subbase course thinned to allow for the retention of roots (>25mmø). Some minor root pruning may be possible however this would need to be determined by the Project Arborist at the time of pavement installation.

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3.5 Other Works within TPZ

3.5.1 Demolition Works

Demolition works within TPZ areas should be supervised by the Project Arborist and utilise tree sensitive methods. Structures should be demolished in small sections ensuring demolition machinery/equipment does not come into contact with any part of the tree. Existing structures within the SRZ can contribute to tree stability by providing ballast to the root plate or act as a stop to the overturning of the root plate and should be retained in-situ if possible.

3.5.2 FRP Grating

The FRP grating footpath and stairs are indicative only. Where the structure is located within TPZ areas it should be supported on isolated pier footings (with all other parts of the structure positioned above existing ground levels). Excavation for the pier holes should be undertaken using tree sensitive methods (hand/hydrovac/airspade etc). Pier hole locations should be flexible to enable the retention of roots (>25mmø) as required by the Project Arborist. The structure should be designed to provide adequate setback from the trunks and branches and sufficient clearance should be provided for tree growth and movement in wind.

3.5.3 Building Footprint

Preliminary excavation and root pruning should be undertaken along the building line adjacent to TPZ areas prior to the commencement of bulk excavation works. No over-excavation, battering or benching should be undertaken within TPZ areas.

3.5.4 Fencing

The temporary site fencing/security fencing (where required) within the TPZ areas should be supported on isolated posts with all other parts of the structure installed above existing grade. Excavation for the installation of posts should be undertaken using tree sensitive methods (hand/hydrovac/airspade etc). The location of the posts should be adjusted to allow for the retention of roots (>25mmø).

3.5.5 Underground Services

The installation of new underground services should be routed outside of TPZ areas. Where this is not possible, trenches will need to be excavated using tree sensitive methods (i.e. hand/compact excavator or hydrovac excavation) which can be both time consuming and costly. The use of tree sensitive methods is achievable where pipe/conduit diameters are not overly large (<300mm dia. approx.) and trench depths do not require benching, battering or the use of shoring boxes. Alternatively, boring methods may be used for underground service installation where the obvert level is greater than 1200mm below existing grade. Excavations for starting and receiving pits for boring equipment should be located outside of the TPZ areas or located to avoid roots (>25mmø) as required by the Project Arborist.

3.5.6 Landscaping

The installation of plants within the TPZ should be undertaken using hand tools and roots (>25mmø) should be protected. There should be no modification to landscape levels, mechanical cultivation or ripping of soils within TPZ areas. Soil conditioners and turf underlay may be installed however should not increase existing soil levels within the TPZ by greater than 100mm and must not raise levels within 1m of the base of any tree.

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3.6 Pruning

3.6.1 The supplied plans show that Trees 2 and 159-165 located along the Julius Avenue frontage will need to be Selectively Pruned for building clearance. The pruning works will be carried out on one side of the trees' crowns only thereby reducing their visual symmetry. However, the appearance of the trees when viewed from the street will not be significantly impacted in the medium to long term.

Refer to Pruning Specification **(Appendix 5)**

3.6.2 In addition to the above, minor Reduction Pruning maybe required for the trees along eastern-side boundary. These works should be limited to branches less than 100mm to provide a 1.5m building clearance.

3.6.3 It should be noted that the assessment of pruning requirements was made from ground level with no set-out of the proposed footprints provided. During the construction phase of a project some additional minor pruning works may be required to provide building clearances and should be determined by the Project Arborist at the time of construction.

3.6.4 No scaffolding plan was reviewed in preparation of this AIA. Branches should be temporarily pushed or tied back in preference to pruning. Where branches cannot be pushed or tied back without damage, scaffolding/hoarding should be modified and constructed around branches (with appropriate branch protection installed as required). Additional pruning for scaffolding/hoarding should only be undertaken where no alternative is feasible.

3.6.5 Pruning works should be carried out by a Practising Arborist. The Practising Arborist should hold a minimum qualification equivalent (using the Australian Qualifications Framework) of Level 3 or above, in Arboriculture or its recognised equivalent. The Practising Arborist should have a minimum of 3 years' experience in practical Arboriculture. Pruning work should be undertaken in accordance with *Australian Standard 4373: Pruning of Amenity Trees (2007), Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)* and other applicable legislation and codes.

3.6.6 At the time of pruning, all deadwood greater 30mmø should be removed from the crowns of the trees in areas with high value targets.

4.0 CONCLUSION

4.1.1 Two hundred and twenty-six (226) trees and tree groups were addressed within this AIA. The trees comprise of a mix of locally indigenous, Australian-native and exotic species.

4.1.2 This SSDA seeks consent for the construction and operation of a data centre and associated infrastructure and amenities, identified as the Julius Avenue Data Centre.

4.1.3 The supplied plans show that one hundred and seventy-three (173) trees and tree groups are to be removed as part of the proposed development. In addition, approximately six (6) specimens from Tree Group 156, four (4) specimens from Tree Group 222 and thirteen (13) specimens from Tree Group 226 are to be removed as they are located within the development footprint/APZ. Only trees within these groups which fall within the development footprint/APZ should be removed within the remaining trees within the group retained and protected.

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4.1.4 The supplied plans show that fifty (50) trees and tree groups and tree groups are to be retained as part of the proposed development. In addition, approximately five (5) specimens from Tree Group 156, four-four (44) specimens from Tree Group 222 and nine (9) specimens from Tree Group 226 are to be retained and protected. Tree sensitive methods will be required for Tree Group 167 which is subject to a *Major Encroachment* from the proposed paving. Refer to Sections 3.4 and 3.5. The trees to be retained should be protected in accordance with the Tree Protection Specification **(Appendix 6)** and Typical Tree Protection Details **(Appendix 7).**

4.1.5 A Tree Protection Plan (TPP) has been included as **Appendix 2**. This should be updated following completion of the detailed design phase/construction certificate.

4.1.6 The supplied plans show that Trees 2 and 159-165 will need to be pruned to accommodate the proposed development. In addition, minor Reduction Pruning maybe required for the trees along eastern-side boundary. Pruning work should be undertaken in accordance with *Australian Standard 4373: Pruning of Amenity Trees (2007).*

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5.0 LIMITATIONS & DISCLAIMER

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This Report has been prepared for exclusive use by the client. This Report shall not be used by others or for any other reason outside its intended target or without the prior written consent of TreeiQ. Unauthorised alteration or separate use of any section of the Report invalidates the Report.

Many factors may contribute to tree failure and cannot always be predicted. TreeiQ takes care to accurately assess tree health and structural condition. However, a tree's internal structural condition may not always correlate to visible external indicators. There is no warranty or guarantee, expressed or implied that problems or deficiencies regarding the trees or site may not arise in the future. Information contained in this Report covers only the trees assessed and reflects the condition of the trees at the time of inspection. Additional information regarding the methodology used in the preparation of this Report is attached as Appendix 1. A comprehensive tree risk assessment and management plan for the trees is beyond the scope of this Report.

Reference should be made to any relevant legislation including Tree Management Controls. All recommendations contained within this Report are subject to approval from the relevant Consent Authority.

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6.0 BIBLIOGRAPHY & REFERENCES

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7.0 APPENDICES

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Appendix 1: Methodology

1.1 **Site Inspection**: This report was determined as a result of several site inspections during January and March 2025. The comments and recommendations in this report are based on findings from this site inspection.

1.2 **Visual Tree Assessment (VTA)**: The subject tree(s)was assessed using the Visual Tree Assessment criteria and notes as described in *The Body Language of Trees – A Handbook for Failure Analysis.*[4]The inspection was limited to a visual examination of the subject tree(s)from ground level only. No internal diagnostic testing was undertaken as part of this assessment. Trees outside the subject site were assessed from the property boundaries only.

1.3 **Tree Dimensions**: The dimensions of the subject tree(s) are approximate only.

1.4 **Tree Locations:** The location of the subject tree(s) was determined from the supplied plans. Trees not shown on the supplied plans have been plotted in their approximate location only.

1.5 **Trees & Development**: Tree Protection Zones, Tree Protection Measures and Sensitive Construction Methods for the subject tree were based on methods outlined in *Australian Standard 4970-2009 Protection of Trees on Development Sites*.

The *Tree Protection Zone* (TPZ) is described in AS-4970 as a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable.

The *Structural Root Zone* (SRZ) is described in AS-4970 as the area around the base of a tree required for the tree's stability in the ground. Severance of structural roots within the SRZ is not recommended as it may lead to the destabilisation and/or demise of the tree.

In some cases it may be possible to encroach into or make variations to the theoretical TPZ. A *Minor Encroachment* is less than 10% of the area of the TPZ and is outside the SRZ. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. A *Major Encroachment* is greater than 10% of the TPZ or inside the SRZ. In this situation the Project Arborist must demonstrate that the tree would remain viable. This may require root investigation by non-destructive methods or the use of sensitive construction methods.

1.6 **Tree Health**: The health of the subject tree(s) was determined by assessing:

I. Foliage size and colour
II. Pest and disease infestation
III. Extension growth
IV. Crown density
V. Deadwood size and volume
VI. Presence of epicormic growth

1.7 **Tree Structural Condition**: The structural condition of the subject tree(s) was assessed by:

I. Assessment of branching structure
(i.e co-dominant/bark inclusions, crossing branches, branch taper, terminal loading, previous branch failures)
II. Visible evidence of structural defects or instability
(i.e root plate movement, wounds, decay, cavities, fungal brackets, adaptive growth)
III. Evidence of previous pruning or physical damage
(root severance/damage, lopping, flush-cutting, lions tailing, mechanical damage)

1.8 **Useful Life Expectancy (ULE)**: The ULE is an estimate of the longevity of the subject tree(s) in its growing environment. The ULE is modified where necessary to take in consideration tree(s) health, structural condition and site suitability. The tree(s) has been allocated one of the following ULE categories (Modified from Barrell, 2001):

I. 40 years +
II. 15-40 years
III. 5-15 years
IV. Less than 5 years

[4]Mattheck&Breloer (2003)

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1.9 **Landscape Significance**: Landscape Significance was determined by assessing the combination of the cultural, environmental and aesthetic values of the subject tree(s). Whilst these values are subjective, a rating of high, moderate, low or insignificant has been allocated to the tree(s). This provides a relative value of the tree's Landscape Significance which may aid in determining its Retention Value. If the tree(s) can be categorized into more than one value, the higher value has been allocated.

Landscape Significance	Description
Very High	The subject tree is listed as a Heritage Item under the *Local Environmental Plan* with a local or state level of significance.
	The subject tree is listed on Council's Significant Tree Register or meets the criteria for significance assessment of trees and/or landscapes by a suitably qualified professional. The criteria are based on general principles outlines in the Burra Charter and on criteria from the Register of the National Estate.
High	The subject tree creates a 'sense of place' or is considered 'landmark' tree.
	The subject tree is of cultural or historical importance or is widely known.
	The subject tree is a prominent specimen which forms part of the curtilage of a heritage item with a known or documented association with that item.
	The subject tree has been identified by a suitably qualified professional as a species scheduled as a Threatened or Vulnerable Species for the site defined under the provisions of the NSW *Biodiversity Conservation Act (2016)* or the Commonwealth *Environmental Protection and Biodiversity Conservation Act* (1999).
	The subject tree is known to contain nesting hollows to a species scheduled as a Threatened or Vulnerable Species for the site as defined under the provisions of the NSW *Biodiversity Conservation Act (2016)* or the Commonwealth *Environmental Protection and Biodiversity Conservation Act* (1999).
	The subject tree is an excellent representative of the species in terms of aesthetic value.
	The subject tree is of significant size, scale or makes a significant contribution to the canopy cover of the locality.
Moderate	The subject tree makes a positive contribution to the visual character or amenity of the area.
	The subject tree provides a specific function such as screening or minimising the scale of a building.
	The subject tree is a good representative of the species in terms of aesthetic value.
Low	The subject tree is a known environmental weed species or is exempt under the provisions of the local Council's Tree Management Controls
	The subject tree makes little or no contribution to the amenity of the locality.
	The subject tree is a poor representative of the species in terms of aesthetic value.

1.10 **Retention Value**: Retention Value was based on the subject tree's Useful Life Expectancy and Landscape Significance. The Retention Value was modified where necessary to take in consideration the subject tree's health, structural condition and site suitability. The subject tree(s) has been allocated one of the following Retention Values:

I. Priority for Retention
II. Consider for Retention
III. Consider for Removal
IV. Priority for Removal

<table>
<tr><th>ULE</th><th></th><th colspan="4">Landscape Significance</th></tr>
<tr><td></td><td>Very High</td><td>High</td><td>Moderate</td><td>Low</td><td>Insignificant</td></tr>
<tr><td>40 years +</td><td rowspan="3">Priority for Retention</td><td colspan="2">Priority for Retention</td><td rowspan="3">Consider for Removal</td><td rowspan="3">Priority for Removal</td></tr>
<tr><td>15-40 years</td><td>Priority for Retention</td><td>Consider for Retention</td></tr>
<tr><td>5-15 years</td><td colspan="2">Consider for Retention</td></tr>
<tr><td>Less than 5 years</td><td>Consider for Removal</td><td colspan="4">Priority for Removal</td></tr>
</table>

The above table has been modified from the Footprint Green Tree Significance and Retention Value Matrix.

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Appendix 2: Plans

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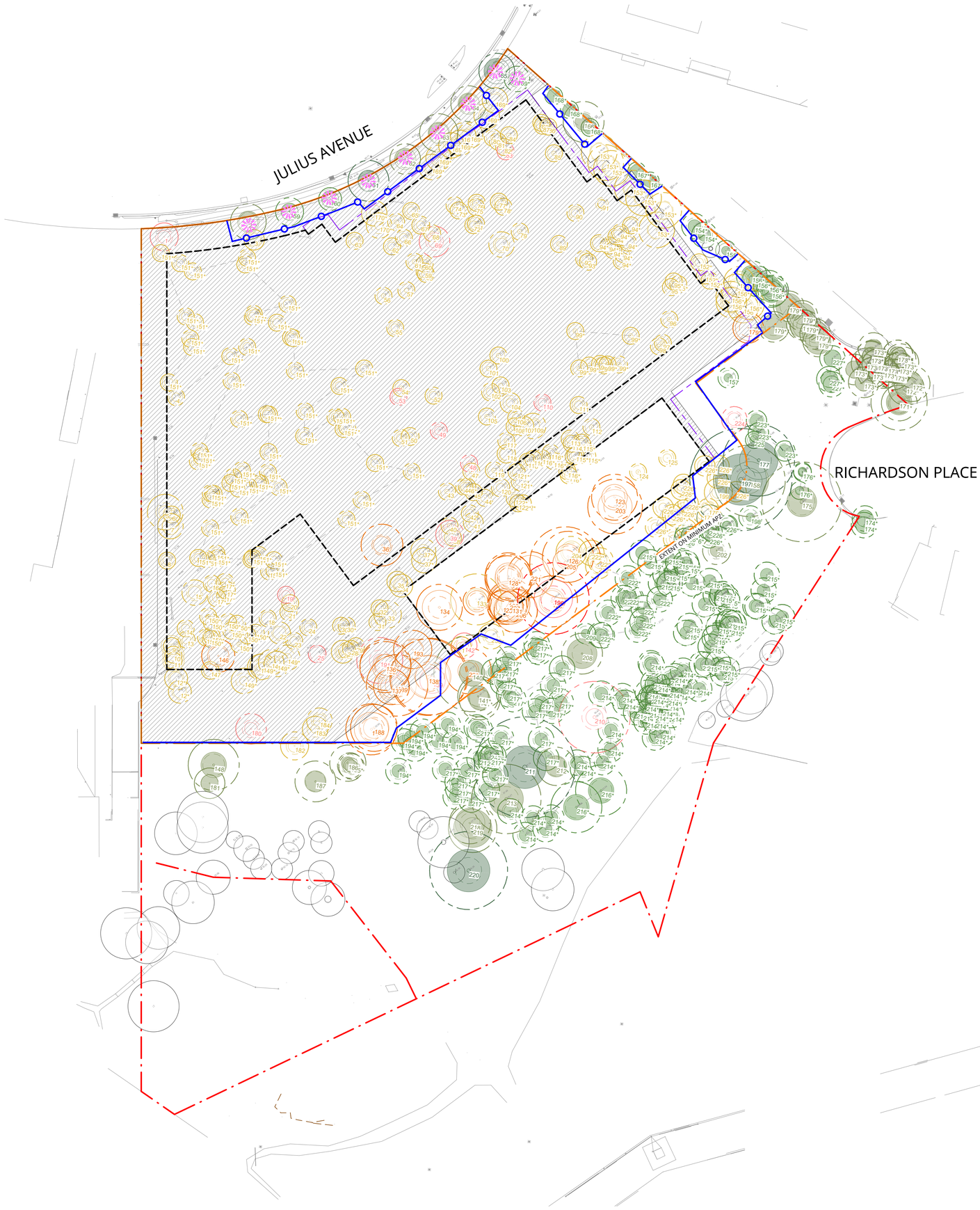
LEGEND

	QTY (INDIVIDUAL TREES)	QTY (TREES + TREE GROUPS)*
PROJECT BOUNDARY		
TREES TO BE RETAINED "Priority for Retention"	6	6
TREES TO BE RETAINED "Consider for Retention"	56	25
TREES TO BE RETAINED "Consider for Removal"	177	23
TREES TO BE REMOVED "Priority for Retention"	1	1
TREES TO BE REMOVED "Consider for Retention"	30	28
TREES TO BE REMOVED "Consider for Removal"	283	132
TREES TO BE REMOVED "Priority for Removal"	16	16
TREES TO BE RETAINED, NOT ASSESSED		
TOTAL INDIVIDUAL TREES BEING REMOVED	330	

* QUANTITY AS PER ARBORICULTURAL IMPACT ASSESSMENT TREE PROTECTION SPECIFICATION

trunk protection - refer to AIA

tpz fencing - refer to AIA



Pty Ltd. Use only figured dimensions. Any other required dimensions are to be referred to and supplied by the landscape architect. All discrepancies to be referred to the project manager and Arcadia Design Group Pty Ltd prior to construction. Ensure compliance with the Building Code of Australia and all relevant Australian Standards and Authority requirements.

Keypla
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[NOT FOR CONSTRUCTION]

Revision	Revision Description	Revision Date
D	Response to Submissions Draft	28/11/2025
C	30% Schematic Design	02/05/2025
B	WIP For Information	17/04/2025
A	10% Schematic Design	07/02/2025

Project

Julius Avenue Data Centre

6-8 Julius Ave North Ryde

Project Status

Schematic Design

Client

ISPT

Drawing No.

JADC-ALA-DR-LA-000001

Drawing Name

TREE RETENTION & REMOVAL PLAN

Job No. 24-1085

Issue D

Scale 1:500 @A1

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ARCADIA

Appendix 3: Tree Assessment Schedule

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
1	*Casuarina glauca* (Swamp She Oak)	275	8	3	Fair	Fair	Partially failed inclusion. Crown density 50-75%. Co-dominant inclusions, major. Remove tree.	Mature	<5	Low	Priority for Removal	Remove. Tree Quality.
2	*Platanus* x *acerifolia* (London Plane Tree)	350	9	5	Good	Good		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
3	*Acacia implexa* (Hickory)	200	8	3	Fair	No access to base. No rating.	Crown density 25-50%. Partially suppressed.	Late Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
4	*Platanus* x *acerifolia* (London Plane Tree)	150	4	2	Good	No access to base. No rating.		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
5	*Casuarina glauca* (Swamp She Oak)	350	7	3	Good	No access to base. No rating.	Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
6	*Casuarina glauca* (Swamp She Oak)	112	6	2	Good	No access to base. No rating.	Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
7	*Casuarina glauca* (Swamp She Oak)	250	8	4	Good	No access to base. No rating.	Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
8	*Banksia integrifolia* (Coastal Banksia)	150	4	2	Good	Good		Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
9	*Banksia integrifolia* (Coastal Banksia)	146	5	2	Good	Good	Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
10	*Banksia integrifolia* (Coastal Banksia)	141	6	2	Good	Good	Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
11	*Banksia integrifolia* (Coastal Banksia)	160	6	2	Good	Good	Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
12	*Banksia integrifolia* (Coastal Banksia)	225	7	3	Good	Good	Group of 2 trees (approx.).	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
13	*Casuarina glauca* (Swamp She Oak)	125	10	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
14	*Platanus* x *acerifolia* (London Plane Tree)	100	5	2	Good	Good	Group of 2 trees (approx.). Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
15	*Casuarina glauca* (Swamp She Oak)	250	11	3	Fair	Good	Crown density 50-75%.	Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
16	*Casuarina glauca* (Swamp She Oak)	150	10	2	Good	Poor	Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
17	*Casuarina glauca* (Swamp She Oak)	175	11	2	Good	Good	Group of 4 (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
18	*Eucalyptus pilularis* (Blackbutt)	150	5	3	Fair	Good	Crown densit 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
19	*Casuarina glauca* (Swamp She Oak)	150	9	2	Poor	Good	Crown density 25-50%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
20	*Casuarina glauca* (Swamp She Oak)	150	8	2	Fair	Good	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
21	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
22	*Casuarina glauca* (Swamp She Oak)	217	10	3	Good	Fair	Bark inclusion(s), minor.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
23	*Platanus* x *acerifolia* (London Plane Tree)	125	5	2	Good	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
24	*Casuarina glauca* (Swamp She Oak)	146	6	2	Fair	Good	Crown density 50-75%.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
25	*Acacia implexa* (Hickory)	175	5	4	Poor	Fair	Crown density 0-25%.	Senescent	<5	Low	Priority for Removal	Remove. Development footprint.
26	*Acacia fimbriata* (Brisbane Golden Wattle)	225	3	3	Good	Good	Partially suppressed.	Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
27	*Angophora costata* (Sydney Red Gum)	150	6	2	Good	Good		Semi-mature	40+	Low	Consider for Removal	Remove. Development footprint.
28	*Eucalyptus pilularis* (Blackbutt)	100	5	2	Good	Good	Partially suppressed. Phototrophic lean, slight.	Young	40+	Low	Consider for Removal	Remove. Development footprint.
29	*Eucalyptus pilularis* (Blackbutt)	100	4	2	Good	Good	Partially suppressed. Phototrophic lean, slight.	Young	40+	Low	Consider for Removal	Remove. Development footprint.
30	*Eucalyptus pilularis* (Blackbutt)	75	5	1	Fair	Good	Group of 2 trees (approx.). Small (<25mmø) epicormic growth in low volumes.	Young	15-40	Low	Consider for Removal	Remove. Development footprint.
31	*Casuarina glauca* (Swamp She Oak)	125	7	1	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
32	*Casuarina glauca* (Swamp She Oak)	146	7	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
33	*Casuarina glauca* (Swamp She Oak)	269	9	3	Good	Fair	Crown density 75-95%. Bark inclusion(s), major.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
34	*Casuarina glauca* (Swamp She Oak)	225	9	3	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
35	*Casuarina glauca* (Swamp She Oak)	200	8	3	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
36	*Allocasuarina torulosa* (Forest Oak)	409	11	4	Good	Good		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
37	*Casuarina glauca* (Swamp She Oak)	246	10	3	Good	No access to base. No rating.	Group of 2 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
38	*Eucalyptus pilularis* (Blackbutt)	125	5	2	Good	Good		Young	40+	Low	Consider for Removal	Remove. Development footprint.
39	*Casuarina glauca* (Swamp She Oak)	275	7	5	Fair	Poor	Partially failed root plate. Crown density 50-75%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
40	*Casuarina glauca* (Swamp She Oak)	125	8	1	Fair	Good	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
41	*Casuarina glauca* (Swamp She Oak)	195	11	2	Good	Fair	Crown density 50-75%. Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
42	*Casuarina glauca* (Swamp She Oak)	100	7	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
43	*Casuarina glauca* (Swamp She Oak)	106	5	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
44	*Casuarina glauca* (Swamp She Oak)	150	11	2	Fair	Good	Crown density 75-95%.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
45	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Fair	Crown density 50-75%. Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
46	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Fair	Group of 2 trees (approx.). Crown density 50-75%. Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
47	*Casuarina glauca* (Swamp She Oak)	125	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
48	*Casuarina glauca* (Swamp She Oak)	100	8	1	Poor	Good	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
49	*Casuarina glauca* (Swamp She Oak)	100	8	2	Poor	Fair	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
50	*Allocasuarina torulosa* (Forest Oak)	175	6	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
51	*Casuarina glauca* (Swamp She Oak)	100	6	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
52	*Casuarina glauca* (Swamp She Oak)	125	6	2	Fair	Good	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
53	*Casuarina glauca* (Swamp She Oak)	150	8	3	Poor	Good	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
54	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
55	*Casuarina glauca* (Swamp She Oak)	150	5	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
56	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
57	*Allocasuarina torulosa* (Forest Oak)	125	4	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
58	*Casuarina glauca* (Swamp She Oak)	150	6	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
59	*Casuarina glauca* (Swamp She Oak)	100	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
60	*Casuarina glauca* (Swamp She Oak)	106	5	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
61	*Casuarina glauca* (Swamp She Oak)	125	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
62	*Casuarina glauca* (Swamp She Oak)	112	5	2	Fair	Fair	Crown density 50-75%. Co-dominant inclusions, major.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
63	*Casuarina glauca* (Swamp She Oak)	125	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
64	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
65	*Casuarina glauca* (Swamp She Oak)	150	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
66	*Casuarina glauca* (Swamp She Oak)	150	11	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
67	*Casuarina glauca* (Swamp She Oak)	175	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
68	*Allocasuarina torulosa* (Forest Oak)	100	8	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
69	*Casuarina glauca* (Swamp She Oak)	300	5	3	Fair	Poor	Partially failed root plate. Crown density 25-50%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
70	*Casuarina glauca* (Swamp She Oak)	250	8	3	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
71	*Casuarina glauca* (Swamp She Oak)	125	8	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
72	*Casuarina glauca* (Swamp She Oak)	150	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
73	*Allocasuarina torulosa* (Forest Oak)	75	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
74	*Casuarina glauca* (Swamp She Oak)	125	10	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
75	*Casuarina glauca* (Swamp She Oak)	150	11	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
76	*Casuarina glauca* (Swamp She Oak)	150	11	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
77	*Casuarina glauca* (Swamp She Oak)	100	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
78	*Casuarina glauca* (Swamp She Oak)	125	9	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
79	*Casuarina glauca* (Swamp She Oak)	100	5	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
80	*Allocasuarina torulosa* (Forest Oak)	100	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
81	*Allocasuarina torulosa* (Forest Oak)	100	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
82	*Casuarina glauca* (Swamp She Oak)	75	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
83	*Casuarina glauca* (Swamp She Oak)	100	7	1	Poor	Good	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
84	*Casuarina glauca* (Swamp She Oak)	75	7	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
85	*Casuarina glauca* (Swamp She Oak)	100	11	1	Fair	Good	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
86	*Casuarina glauca* (Swamp She Oak)	125	12	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
87	*Casuarina glauca* (Swamp She Oak)	100	11	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
88	*Casuarina glauca* (Swamp She Oak)	100	12	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
89	*Melaleuca quinquenervia* (Broad Leaved Paperbark)	100	4	1	Good	Good		Young	5-15	Low	Consider for Removal	Remove. Development footprint.
90	*Casuarina glauca* (Swamp She Oak)	125	11	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
91	*Casuarina glauca* (Swamp She Oak)	100	5	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
92	*Casuarina glauca* (Swamp She Oak)	160	7	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
93	*Casuarina glauca* (Swamp She Oak)	125	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
94	*Casuarina glauca* (Swamp She Oak)	150	10	3	Fair	No access to base. No rating.	Group of 9 trees (approx.) growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
95	*Allocasuarina torulosa* (Forest Oak)	100	6	1	Fair	No access to base. No rating.	Group of 3 trees (approx.) growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
96	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	No access to base. No rating.	Growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
97	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	No access to base. No rating.	Growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
98	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	No access to base. No rating.	Growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
99	*Casuarina glauca* (Swamp She Oak)	100	7	1	Fair	No access to base. No rating.	Group of 8 trees (approx.) growing in swamp area. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
100	*Casuarina glauca* (Swamp She Oak)	90	5	1	Fair	Fair	Crown density 50-75%. Co-dominant inclusions, minor.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
101	*Casuarina glauca* (Swamp She Oak)	75	5	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
102	*Casuarina glauca* (Swamp She Oak)	175	9	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
103	*Melaleuca quinquenervia* (Broad Leaved Paperbark)	125	4	1	Good	Fair	Co-dominant inclusions, minor.	Young	5-15	Low	Consider for Removal	Remove. Development footprint.
104	*Casuarina glauca* (Swamp She Oak)	200	9	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
105	*Casuarina glauca* (Swamp She Oak)	125	8	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
106	*Casuarina glauca* (Swamp She Oak)	125	9	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
107	*Casuarina glauca* (Swamp She Oak)	195	10	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
108	*Casuarina glauca* (Swamp She Oak)	150	9	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
109	*Allocasuarina torulosa* (Forest Oak)	250	8	3	Good	Good	Crown density 75-95%.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
110	*Casuarina glauca* (Swamp She Oak)	160	8	2	Poor	Good	Crown density 0-25%.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.
111	*Casuarina glauca* (Swamp She Oak)	125	10	2	Fair	No access to base. No rating.	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
112	*Casuarina glauca* (Swamp She Oak)	100	8	1	Fair	No access to base. No rating.	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
113	*Allocasuarina torulosa* (Forest Oak)	175	9	2	Good	Good	Crown density 75-95%.	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
114	*Eucalyptus pilularis* (Blackbutt)	150	6	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
115	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Good	Group of 5 trees (approx.). Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
116	*Casuarina glauca* (Swamp She Oak)	150	12	2	Fair	Good	Group of 7 trees (approx.). Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
117	*Casuarina glauca* (Swamp She Oak)	125	10	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
118	*Casuarina glauca* (Swamp She Oak)	180	10	3	Fair	Fair	Crown density 50-75%. Co-dominant inclusions, minor.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
119	*Casuarina glauca* (Swamp She Oak)	100	6	1	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
120	*Casuarina glauca* (Swamp She Oak)	180	8	2	Fair	Good	Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
121	*Casuarina glauca* (Swamp She Oak)	125	7	2	Fair	Good	Group of 2 trees. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
122	*Casuarina glauca* (Swamp She Oak)	125	11	2	Fair	Good	Group of 3 trees. Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
123	*Eucalyptus sieberi* (Silver Top Ash)	450	10	6	Good	No access to base. No rating.	Crown density 75-95%. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
124	*Casuarina glauca* (Swamp She Oak)	150	10	1	Fair	No access to base. No rating.	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
125	*Casuarina glauca* (Swamp She Oak)	150	10	2	Fair	No access to base. No rating.	Crown density 25-50%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
126	*Eucalyptus sieberi* (Silver Top Ash)	500	10	6	Good	No access to base. No rating.	Small (<25mmø) & medium (25-75mmø) deadwood in low volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
127	No number allocated						No number allocated				No number allocated	No number allocated.
128	*Angophora costata* (Sydney Red Gum)	450	12	6	Fair	No access to base. No rating.	Group of 3 trees (approx.). Crown density 50-75%. Small (<25mmø) & medium (25-75mmø) deadwood in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
129	*Eucalyptus sieberi* (Silver Top Ash)	500	14	6	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
130	*Eucalyptus pilularis* (Blackbutt)	400	10	9	Good	No access to base. No rating.	Heavily suppressed. Poor form.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
131	*Eucalyptus pilularis* (Blackbutt)	400	10	5	Good	No access to base. No rating.	Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
132	*Eucalyptus pilularis* (Blackbutt)	300	10	5	Good	No access to base. No rating.	Partially suppressed. Termites.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
133	*Glochidion ferdinandi* (Cheese Tree)	300	7	5	Fair	No access to base. No rating.	Crown density 25-50%.	Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
134	*Angophora costata* (Sydney Red Gum)	500	15	8	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
135	No number allocated						No number allocated				No number allocated	No number allocated.
136	*Angophora costata* (Sydney Red Gum)	450	14	5	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
137	*Eucalyptus sieberi* (Silver Top Ash)	500	15	6	Fair	No access to base. No rating.	Crown density 50-75%. Small (<25mmø) & medium (25-75mmø) epicormic growth in high volumes. Partially suppressed.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
138	*Eucalyptus sieberi* (Silver Top Ash)	750	17	10	Good	No access to base. No rating.	Crown density 75-95%. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
139	*Strelitzia nicolai* (Giant Bird of Paradise)	250	6	2	Good	No access to base. No rating.		Mature	<5	Low	Priority for Removal	Remove. Development footprint.
140	*Eucalyptus sieberi* (Silver Top Ash)	750	15	6	Poor	No access to base. No rating.	Crown density 0-25%. Localised crown death. Termites.	Mature	5-15	Moderate	Consider for Retention	Retain. Minor encroachment, development footprint.
141	*Eucalyptus pilularis* (Blackbutt)	400	14	5	Good	No access to base. No rating.	Group of 2 trees (approx.).	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
142	*Eucalyptus pilularis* (Blackbutt)	250	10	2	Poor	No access to base. No rating.	Crown density 0-25%. Localised crown death.	Semi-mature	<5	Low	Priority for Removal	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
143	*Eucalyptus pilularis* (Blackbutt)	200	8	2	Good	No access to base. No rating.	Crown density 75-95%.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
144	*Angophora costata* (Sydney Red Gum)	500	15	8	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
145	No number allocated						No number allocated				No number allocated	No number allocated.
146	*Casuarina cunninghamiana* (River She Oak)	325	10	5	Good	Fair	Co-dominant inclusions, minor.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
147	*Acacia decurrens* (Green Wattle)	173	4	3	Fair	Good	Crown density 25-50%. Heavily suppressed.	Late Mature	5-15	Low	Consider for Removal	Remove. Development footprint.
148	*Eucalyptus resinifera* (Red Mahogany)	500	18	6	S s	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Retain. Minor encroachment, development footprint.
149	*Casuarina glauca* (Swamp She Oak)	250	11	2	Good	Good	Group of 6 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
150	*Casuarina glauca* (Swamp She Oak)	125	9	1	Good	Good	Group of 11 trees (approx.). Crown density 75-95%. Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
151	*Casuarina glauca* (Swamp She Oak)	150	9	2	Fair	Good	Group of 50+ trees (approx.). Crown density 50-75%.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
152	*Allocasuarina torulosa* (Forest Oak)	125	8	2	Good	Good	Group of 3 trees (approx.).	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
153	*Acacia binervia* (Coastal Myall)	350	5	4	Good	No access to base. No rating.	Group of 7 trees (approx.).	Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
154	*Allocasuarina torulosa* (Forest Oak)	250	5	3	Good	No access to base. No rating.	Group of 2 trees (approx.).	Mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
155	*Banksia integrifolia* (Coastal Banksia)	200	5	2	Good	Good		Mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
156	*Casuarina cunninghamiana* (River She Oak)	300	10	5	Good	No access to base. No rating.	Group of 11 trees (approx.), includes *Allocasuarina torulosa* 125mm DBH max.	Mature	15-40	Low	Consider for Removal	Remove individuals within footprint. Rest of group to be retained and protected.
157	*Casuarina glauca* (Swamp She Oak)	200	10	2	Good	No access to base. No rating.		Semi-mature	5-15	Low	Consider for Removal	Retain. No works within TPZ.
158	*Eucalyptus sieberi* (Silver Top Ash)	700	16	9	Good	No access to base. No rating.	Small (<25mmø) & medium (25-75mmø) deadwood in low volumes.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
159	*Platanus* x *acerifolia* (London Plane Tree)	275	7	4	Good	Good		Semi-mature	40+	Low	Consider for Removal	Retain. No works within TPZ.
160	*Platanus* x *acerifolia* (London Plane Tree)	225	7	4	Fair	Good	Crown density 75-95%. Small (<25mmø) epicormic growth in low volumes.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
161	*Platanus* x *acerifolia* (London Plane Tree)	400	8	5	Good	Good		Semi-mature	40+	Moderate	Priority for Retention	Retain. No works within TPZ.
162	*Platanus* x *acerifolia* (London Plane Tree)	300	9	5	Fair	Good	Crown density 75-95%. Small (<25mmø) epicormic growth in low volumes.	Semi-mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
163	*Platanus* x *acerifolia* (London Plane Tree)	375	8	5	Fair	Good	Crown density 75-95%. Small (<25mmø) epicormic growth in low volumes.	Semi-mature	15-40	Moderate	Consider for Retention	Retain. Minor encroachment, pavement.
164	*Platanus* x *acerifolia* (London Plane Tree)	350	8	5	Fair	Good	Crown density 75-95%. Small (<25mmø) epicormic growth in moderate volumes.	Semi-mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
165	*Platanus* x *acerifolia* (London Plane Tree)	350	10	6	Good	Good		Semi-mature	40+	Moderate	Priority for Retention	Retain. Minor encroachment, pavement.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
166	*Casuarina cunninghamiana* (River She Oak)	400	13	4	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
167	*Ulmus parvifolia* (Chinese Weeping Elm)	175	4	3	Good	No access to base. No rating.	Group of 2 trees (approx.). Crown density 50-75%.	Semi-mature	15-40	Low	Consider for Removal	Retain. Major encroachment, pavement.
168	*Ulmus parvifolia* (Chinese Weeping Elm)	175	4	3	Good	No access to base. No rating.	Group of 3 trees (approx.). Crown density 50-75%.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
169	*Acacia binervia* (Coastal Myall)	250	6	3	Good	No access to base. No rating.	Group of 9 trees (approx.). Crown density 75-95%. Partially suppressed.	Mature	15-40	Low	Consider for Removal	Retain. Minor encroachment, pavement.
170	*Casuarina glauca* (Swamp She Oak)	250	8	2	Good	No access to base. No rating.	Group of 2 trees (approx.). Crown density 50-75%.	Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
171	*Casuarina cunninghamiana* (River She Oak)	550	20	6	Good	Good	Small (<25mmø) & medium (25-75mmø) deadwood in low volumes.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
172	*Casuarina cunninghamiana* (River She Oak)	350	18	5	Good	Good	Group of 3 trees (approx.). Small (<25mmø) & medium (25-75mmø) deadwood in low volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
173	*Casuarina glauca* (Swamp She Oak)	300	18	4	Good	Good	Group of 22 trees (approx.). Small (<25mmø) & medium (25-75mmø) deadwood in low volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
174	*Glochidion ferdinandi* (Cheese Tree)	250	7	4	Good	Fair	Group of 2 trees (approx.). Bark inclusion(s), minor.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
175	*Erythrina* x *sykesii* (Coral tree)	781	10	7	Good	Good		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
176	*Casuarina glauca* (Swamp She Oak)	175	10	2	Good	Good	Group of 2 trees (approx.). Crown density 75-95%.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
177	*Eucalyptus sieberi* (Silver Top Ash)	700	16	9	Good	No access to base. No rating.	Small (<25mmø) & medium (25-75mmø) deadwood building	Mature	15-40	Prune	Priority for Retention	Retain. No works within TPZ.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
178	*Casuarina glauca* (Swamp She Oak)	200	14	3	Good	Good	Group of 2 trees (approx.). Partially suppressed.	Mature	15-40	Low	Consider for Removal	Remove. APZ.
179	*Casuarina cunninghamiana* (River She Oak)	300	14	6	Good	No access to base. No rating.	Group of 8 trees (approx.).	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
180	*Ligustrum lucidum* (Large Leaf Privet)	300	6	3	Good	No access to base. No rating.	Weed species.	Mature	<5	Low	Priority for Removal	Remove. Development footprint.
181	*Eucalyptus resinifera* (Red Mahogany)	300	12	4	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
182	*Allocasuarina torulosa* (Forest Oak)	275	9	3	Good	Good		Mature	15-40	Low	Consider for Removal	Remove. Development footprint.
183	*Eucalyptus resinifera* (Red Mahogany)	250	10	2	Fair	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
184	*Eucalyptus resinifera* (Red Mahogany)	250	10	3	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
185	*Corymbia gummifera* (Red Bloodwood)	250	9	3	Fair	Good	Group of 2 trees (approx.). Crown density 50-75%.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
186	*Corymbia gummifera* (Red Bloodwood)	355	11	3	Fair	Good	Crown density 50-75%.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
187	*Eucalyptus resinifera* (Red Mahogany)	400	13	5	Fair	Good	Crown density 50-75%. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
188	*Angophora costata* (Sydney Red Gum)	459	14	7	Fair	Good	Crown density 50-75%.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
189	*Eucalyptus pilularis* (Blackbutt)	602	15	9	Fair	Good	Crown density 50-75%. Small (<25mmø) & large (>75mmø) epicormic growth in moderate volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
190	*Angophora costata* (Sydney Red Gum)	500	14	6	Good	Good		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
191	*Cinnamomum camphora* (Camphor Laurel)	450	5	3	Fair	Poor	Coppice stool.	Mature	<5	Low	Priority for Removal	Remove. Development footprint.
192	*Eucalyptus pilularis* (Blackbutt)	750	16	10	Good	Good	Crown density 75-95%. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
193	*Angophora costata* (Sydney Red Gum)	375	12	5	Good	Good		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
194	*Eucalyptus pilularis* (Blackbutt)	250	10	3	Good	Good	Group of 9 trees (approx.). E. Pilularis and E. Sieberi all <250mm DBH.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
195	No number allocated						No number allocated				No number allocated	No number allocated.
196	*Eucalyptus pilularis* (Blackbutt)	700	20	9	Good	Fair	Small (<25mmø) & large (>75mmø) epicormic growth in low volumes. Termites.	Mature	15-40	High	Priority for Retention	Remove. Development footprint.
197	*Eucalyptus pilularis* (Blackbutt)	1000	20	12	Good	Good	Small (<25mmø) & large (>75mmø) deadwood in low volumes. Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	High	Priority for Retention	Retain. Minor encroachment, development footprint.
198	*Casuarina cunninghamiana* (River She Oak)	225	9	2	Good	Good		Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
199	*Banksia integrifolia* (Coastal Banksia)	275	8	3	Good	Good		Mature	15-40	Low	Consider for Removal	Remove. APZ.
200	No number allocated						No number allocated				No number allocated	No number allocated.
201	*Casuarina cunninghamiana* (River She Oak)	250	13	2	Good	Good	Crown density 50-75%.	Semi-mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
202	*Casuarina cunninghamiana* (River She Oak)	275	16	3	Good	Good		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
203	*Eucalyptus pilularis* (Blackbutt)	535	7	8	Fair	Fair	Localised crown death. Wound(s), various stages of decay.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
204	*Eucalyptus pilularis* (Blackbutt)	300	6	5	Fair	Fair	Crown consists mainly of epicormic growth. Heavily suppressed.	Semi-mature	5-15	Low	Consider for Removal	Remove. Development footprint.
205	*Eucalyptus pilularis* (Blackbutt)	700	13	6	Fair	Fair	Crown density 50-75%. Termites.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
206	*Eucalyptus pilularis* (Blackbutt)	425	12	10	Good	Good	Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
207	*Eucalyptus pilularis* (Blackbutt)	400	10	4	Fair	Poor	Wound(s), early signs of decay. Termites.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
208	*Eucalyptus pilularis* (Blackbutt)	400	12	7	Good	Good		Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
209	*Angophora costata* (Sydney Red Gum)	200	11	2	Good	Good	Co-dominant inclusions, minor.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
210	*Cinnamomum camphora* (Camphor Laurel)	700	6	4	Good	Fair	Coppice stool	Semi-mature	<5	Low	Priority for Removal	Remove. Tree Quality.
211	*Eucalyptus pilularis* (Blackbutt)	985	20	10	Good	No access to base. No rating.	Small (<25mmø) & large (>75mmø) epicormic growth in moderate volumes.	Mature	15-40	High	Priority for Retention	Retain. No works within TPZ.
212	*Angophora costata* (Sydney Red Gum)	375	14	5	Good	Good	Small (<25mmø) & medium (25-75mmø) epicormic growth in low volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
213	*Eucalyptus pilularis* (Blackbutt)	680	18	8	Good	Good	Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
214	*Casuarina glauca* (Swamp She Oak)	250	15	3	Good	Good	Group of 44 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
215	*Casuarina glauca* (Swamp She Oak)	250	15	3	Good	Good	Group of 40 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
216	*Erythrina x sykesii* (Coral Tree)	500	10	6	Good	No access to base. No rating.	Not covered by Council controls. Group of 2 (approx.). Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
217	*Eucalyptus pilularis* (Blackbutt)	250	8	3	Good	Good	Group of 33 trees (approx.). Including C.glauca	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
218	*Eucalyptus pilularis* (Blackbutt)	407	15	7	Good	Good	Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes. Co-dominant inclusions, minor.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
219	*Eucalyptus pilularis* (Blackbutt)	474	12	9	Good	Good	Small (<25mmø) & medium (25-75mmø) epicormic growth in moderate volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Retain. No works within TPZ.
220	*Eucalyptus pilularis* (Blackbutt)	763	22	10	Good	Fair	Small (<25mmø) & large (>75mmø) epicormic growth in low volumes. Co-dominant inclusions, major. Wound(s), various stages of decay. Termites.	Mature	15-40	High	Priority for Retention	Retain. No works within TPZ.
221	*Eucalyptus pilularis* (Blackbutt)	450	11	9	Good	Fair	Partially suppressed. Termites.	Mature	5-15	Moderate	Consider for Retention	Remove. Development footprint.
222	*Eucalyptus pilularis* (Blackbutt)	250	10	3	Good	Good	Group of 44 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove individuals within footprint. Rest of group to be retained and protected.
223	*Glochidion ferdinandi* (Cheese Tree)	200	6	3	Good	Good	Group of 3 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
224	*Syagrus romanzoffianum* (Cocos Palm)	250	9	3	Good	No access to base. No rating.	Not covered by Council controls.	Mature	<5	Low	Priority for Removal	Remove. Tree Quality.

Tree No.	Species	DBH comb. (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Condition Rating	Comments	Age Class	ULE (years)	L/Sign	Retention Value	Implication
225	*Glochidion ferdinandi* (Cheese Tree)	125	5	2	Good	Good	Partially suppressed.	Semi-mature	15-40	Low	Consider for Removal	Retain. No works within TPZ.
226	*Mixed scrub*	200	7	2	Good	No access to base. No rating.	Group of 22 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Remove individuals within APZ. Rest of group to be retained and protected.
227	*Acer negundo* (Box Elder)	250	8	4	Good	No access to base. No rating.	Not covered by Council controls. Group of 9 trees (approx.).	Semi-mature	15-40	Low	Consider for Removal	Retain. Minor encroachment, FRP footpath.
228	*Glochidion ferdinandi* (Cheese Tree)	275	9	5	Good	No access to base. No rating.		Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
229	*Eucalyptus pilularis* (Blackbutt)	450	14	4	Fair	No access to base. No rating.	Crown density 50-75%. Small (<25mmø) & large (>75mmø) epicormic growth in moderate volumes.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.
230	*Eucalyptus pilularis* (Blackbutt)	250	8	3	Good	No access to base. No rating.		Semi-mature	15-40	Low	Consider for Removal	Remove. Development footprint.
231	*Eucalyptus pilularis* (Blackbutt)	350	12	7	Good	No access to base. No rating.	Small (<25mmø) & large (>75mmø) epicormic growth in moderate volumes. Partially suppressed.	Mature	15-40	Moderate	Consider for Retention	Remove. Development footprint.

Appendix 4: Plates



Plate 1: Showing Trees 9-14 located on western boundary



Plate 2: Showing trees in central section of site, and windthrown tree due to shallow soil profile



Plate 3: Showing trees in central section of site, and waterlogging due to poor drainage



Plate 4: Showing trees located in southwestern section of the site



Plate 5: Showing Tree group 174 located on southeastern boundary



Plate 6: Showing Trees 159-164 located on northern boundary



Plate 7: Showing Trees located in southern section of the site



Plate 8: Showing Trees located in southern section of the site

Appendix 5: Pruning Specification



Tree 2: Crown lift/Reduction Plan branches less than 50mm for building



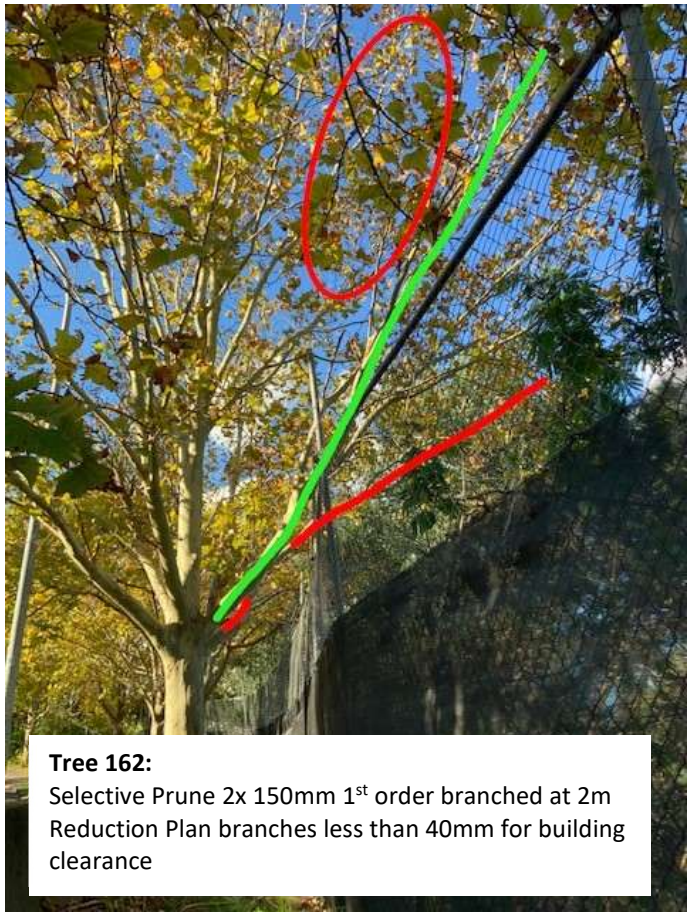
Tree 159: Crown lift/Reduction Plan branches less than 25mm for building clearance



Tree 160: Crown lift/Reduction Plan branches less than 30mm for building clearance



Tree 161:
Selective Prune 1x 100mm 2nd order branch at 2m
Selective Prune 1x 100mm 2nd order branch at 2.5m
Selective Prune 1x 100mm 2nd order branch at 3.5m
Reduction Plan branches less than 50mm for building clearance



Tree 162:
Selective Prune 2x 150mm 1st order branched at 2m
Reduction Plan branches less than 40mm for building clearance



Tree 163:
Selective Prune 2x 125mm 1st order branched at 2m
Reduction Plan branches less than 40mm for building clearance



Tree 164:
Selective Prune 1x 125mm 1st order branched at 2m
Reduction Plan branches less than 50mm for building clearance



Tree 165:
Selective Prune 1x 150mm 1st order branched at 2m
Reduction Plan branches less than 50mm for building clearance

Appendix 6: Tree Protection Specification

1.0 Appointment of Project Arborist

A Project Arborist shall be engaged prior the commencement of work on-site and monitor compliance with the protection measures. The Project Arborist shall inspect the tree protection measures and Compliance Certification shall be prepared by the Project Arborist for review by the Principal Certifying Authority prior to the release of the Compliance Certificate.

The Project Arborist shall have a minimum qualification equivalent (using the Australian Qualifications Framework) of NSW TAFE Certificate Level 5 or above in Arboriculture.

1.1 Compliance

Contractors and site workers shall receive a copy of these specifications a minimum of 3 working days prior to commencing work on-site. Contractors and site workers undertaking works within the Tree Protection Zone shall sign the site log confirming they have read and understand these specifications, prior to undertaking works on-site.

The Project Arborist shall undertake regular site inspections and certify that the works are being undertaken in accordance with this specification.

Compliance Documentation shall be prepared by the Project Arborist following each site inspection. The Compliance Documentation shall include documentary evidence of compliance with the tree protection measures and methods as outlined within this Specification. Upon the completion of the works, a final assessment of the trees shall be undertaken by the Project Arborist and future recommended management strategies implemented as required.

1.2 Tree & Vegetation Removal

Tree removal works shall be undertaken in accordance with the *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)* and other applicable codes and legislation.

Tree removal shall not damage the trees to be retained. Other vegetation to be removed within a TPZ shall be carefully lifted by hand/hand tools to avoid damaging roots (>25mmø) within the surrounding soil profile.

1.3 Tree Protection Zone

The trees to be retained shall be protected prior and during construction from activities that may result in an adverse effect on their health or structural condition. The area within the Tree Protection Zone (TPZ) shall exclude the following activities, unless otherwise stated: -

- Modification of existing soil levels, excavations and trenching
- Mechanical removal of vegetation
- Movement of natural rock
- Storage of materials, plant or equipment or erection of site sheds
- Affixing of signage or hoarding to the trees
- Preparation of building materials, refueling or disposal of waste materials and chemicals
- Lighting fires
- Movement of pedestrian or vehicular traffic
- Temporary or permanent location of services, or the works required for their installation
- Any other activities that may cause damage to the tree

NOTE: If access, encroachment or incursion into the TPZ is deemed essential, prior authorisation is required by the Project Arborist.

1.4 Tree Protection Fencing

TPZ fencing shall be installed as located on the Tree Removal Retention Plan **(Appendix 2)**. The final location of all TPZ fencing shall be confirmed through consultation between the Head Contractor/Project Manager and the Project Arborist prior to the commencement of works. Site hoarding may be accepted as TPZ fencing where it is located so that it correctly encloses and protects the TPZ, subject to approval from the Project Arborist.

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As a minimum, TPZ fencing shall consist of 1.8m-high wire mesh panels supported by concrete feet. Panels shall be securely fastened together and adequately supported to prevent movement or displacement. No damage to any retained tree is permitted during the installation of the TPZ fencing. On sloping ground or where concrete feet are not suitable, TPZ fencing may be secured using star pickets driven into stable ground, located to avoid tree roots, and installed in a manner that does not cause root damage, subject to approval by the Project Arborist. Fencing may be set back only where necessary to allow for demolition or construction access, and only where ground protection has been installed and approved by the Project Arborist. Refer to Section 1.8.

Refer to Typical Tree Protection Details (3) **(Appendix 7)**.

1.5 Signage

Signs identifying the TPZ should be placed around the edge of the TPZ and be visible from within the development site. The lettering on the sign should comply with *Australian Standard - 1319 (1994) Safety signs for the occupational environment*. The signage shall be installed prior to the commencement of works on-site and shall be maintained in good condition for the duration of the development period.

1.6 Site Management

Materials, waste storage, and temporary services shall not be located within the TPZ.

1.7 Works within the Tree Protection Zones

In some cases works within the TPZ may be authorized by the determining authority. **These works shall be supervised by the Project Arborist**. When undertaking works within the TPZ, care should be taken to avoid damage to the tree's root system, trunks and lower branches.

1.8 Ground Protection

Ground protection shall be installed to any unfenced areas of the TPZ as required by the Project Arborist. Vehicular and machinery access shall be restricted to areas of existing pavement or from areas of temporary ground protection such as ground mats or steel road plates. Refer to Typical Tree Protection Details (3) **(Appendix 7).**

1.9 Trunk Protection

Trunk protection shall be installed onto Trees 2, 159-165 and 169 or as required by the Project Arborist by wrapping padding (either carpet underlay or 10mm thick jute geotextile mat) around the trunk and first order branches to a minimum height of 2m. Timber battens (90 x 45mm) spaced at 150mm centres shall be strapped together and placed over the padding. Timber battens must not be fixed to the trees. Refer to Typical Tree Protection Details (3) **(Appendix 4)**. Branch protection shall be installed as deemed necessary by the Project Arborist.

1.10 Structure & Pavement Demolition

Demolition of existing structures/pavement within the TPZ shall be supervised by the Project Arborist. Machinery is to be excluded from the TPZ unless operating from the existing slabs, pavements or areas of ground protection (refer to Section 1.5). Machinery shall work in conjunction with a spotter to guide the machinery operator and ensure that the ground surface/tree roots beneath the structure/pavement are not disturbed/damaged by demolition works. Machinery should not contact any part of a tree. Wherever possible, footings or elements below grade shall be retained to minimise disturbance to roots. The Project Arborist shall assess any inground structures within the SRZ prior to their removal and determine if these structures may be contributing to the stability of the tree. Where required, inground structures should be retained in situ.

Small structures to be demolished within a TPZ shall be carefully broken up in small sections using a hand-operated pneumatic/electric breaker and waste material removed by hand/hand tools. Large structures to be demolished within the TPZ shall be undertaken within the footprint of the existing structure ('top down, pull back') and away from the trees.

When removing slab/pavement sections within TPZ, machinery shall work backwards out of the TPZ to ensure machinery remains on un-demolished sections of slab at all times. Existing sub-base materials within a TPZ shall remain in-situ and (and reused) where possible. If the existing sub-base is to be removed, these works shall be undertaken by hand/hand tools ensuring that tree roots are retained and protected.

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If roots (>25mmø) are encountered during the demolition works, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute geotextile fabric. The geotextile fabric shall be kept in a damp condition at all times. Where the Project Arborist determines that the tree is using underground elements (i.e footings, pipes, rocks etc.) for support, these elements shall be left in-situ.

1.11 Pavement/Kerb Installation

Installation of the pavements and sub-base within the TPZ shall be supervised by the Project Arborist. The new surfaces and sub-base materials shall be placed at (for areas of existing pavement only) or above grade to minimise excavations and retain roots (unless prior root mapping results show above sensitive construction to be unnecessary).

If roots (>25mmø) are encountered during the installation of the new sub-base and surfaces, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Adjustment of final levels and design shall remain flexible to enable the retention of structural roots (>25mmø) where deemed necessary by the Project Arborist. Compaction of the sub-base shall be consolidated with a pedestrian-operated plate compactor only. If possible, the pavement material shall be permeable.

Where required, new kerbs within the TPZ should be modified to bridge tree roots (>25mmø) unless root pruning is approved and undertaken by the Project Arborist.

1.12 Footings Installation

Footing installation within TPZ areas shall be supervised by the Project Arborist. Other than for the isolated piers, all other parts of the structure shall be installed above grade.

Drilling/piling machinery shall be excluded from the TPZ unless operating from an area where ground protection has been installed (refer to Section 1.8) or from the existing slabs or pavements. Drilling/piling machinery shall be of a suitable size to not damage the trees' roots, trunk, branches and crown. No clearance pruning is permitted to allow for machinery access. Machinery shall work in conjunction with an observer to ensure that adequate clearance from trees is maintained at all times.

1.13 Underground Services

Underground service installation within the TPZ shall be supervised by the Project Arborist.

The installation of underground services shall be located outside of the TPZ. Where this is not possible, they shall be installed using tree sensitive excavation methods (hand/hydrovac/airspade) with the services installed around/below roots (>25mmø, or as determined by the Project Arborist). Excavation using compact machinery fitted with a flat bladed bucket is permissible where approved by the Project Arborist. Excavation using compact machinery should be undertaken in small increments, guided by a spotter who is to look for and prevent damage to roots (>25mmø).

Alternatively, boring methods may be used for underground service installation where the obvert level (highest interior level of pipe) is greater than 1200mm below existing grade. Excavations for starting and receiving pits for boring equipment shall be located outside of the TPZ areas or located to avoid roots (>25mmø) as deemed necessary by the Project Arborist. OSD tanks (where required) should be located outside of the TPZ areas.

1.14 Basement/Basement Construction

Preliminary excavation and root pruning shall be undertaken along the building/basement line within and adjacent to the TPZ areas prior to the commencement of the bulk excavation works. No over-excavation, battering or benching shall be undertaken beyond the building footprint.

1.15 Excavations, Root Protection & Root Pruning

Excavations and root pruning within the TPZ shall be supervised by the Project Arborist. Excavations within the TPZ shall be avoided wherever possible.

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Excavations within the TPZ shall be undertaken by hand or using hydro vacuum excavation methods (or similar approved device) to protect tree roots. If there is any delay between excavation works and backfilling, exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute mat. The mat shall be kept in a damp condition at all times.

No over-excavation, battering or benching shall be undertaken beyond the footprint of any structure unless approved by the Project Arborist. Hand excavation and root pruning shall be undertaken along the excavation line prior to the commencement of mechanical excavation to prevent tearing and shattering damage to the roots from excavation equipment.

Roots (>25mmø) shall be pruned by the Project Arborist only. Roots (<25mmø) may be pruned by the Principal Contractor. Root pruning shall be undertaken with clean, sharp secateurs or a pruning saw to ensure a smooth wound face, free from tears.

Damaged roots shall be pruned behind the damaged tissues with the final cut made to an undamaged part of the root.

1.16 Soft Landscaping

Planting of new trees, shrubs and ground covers and the installation of turf within the TPZ areas shall be undertaken using hand tools and roots (>25mmø) shall be protected. No mechanical cultivation/ripping of soils shall be undertaken within TPZ areas. Soil conditioners and turf underlay may be installed however existing soil levels shall not be increased within the TPZ by greater than 100mm and must not raise levels within 1m of the base of any tree.

Landscape planting shall be completed in the final stage of the development works and tree protection fencing and trunk protection shall remain in place until these works are due to commence.

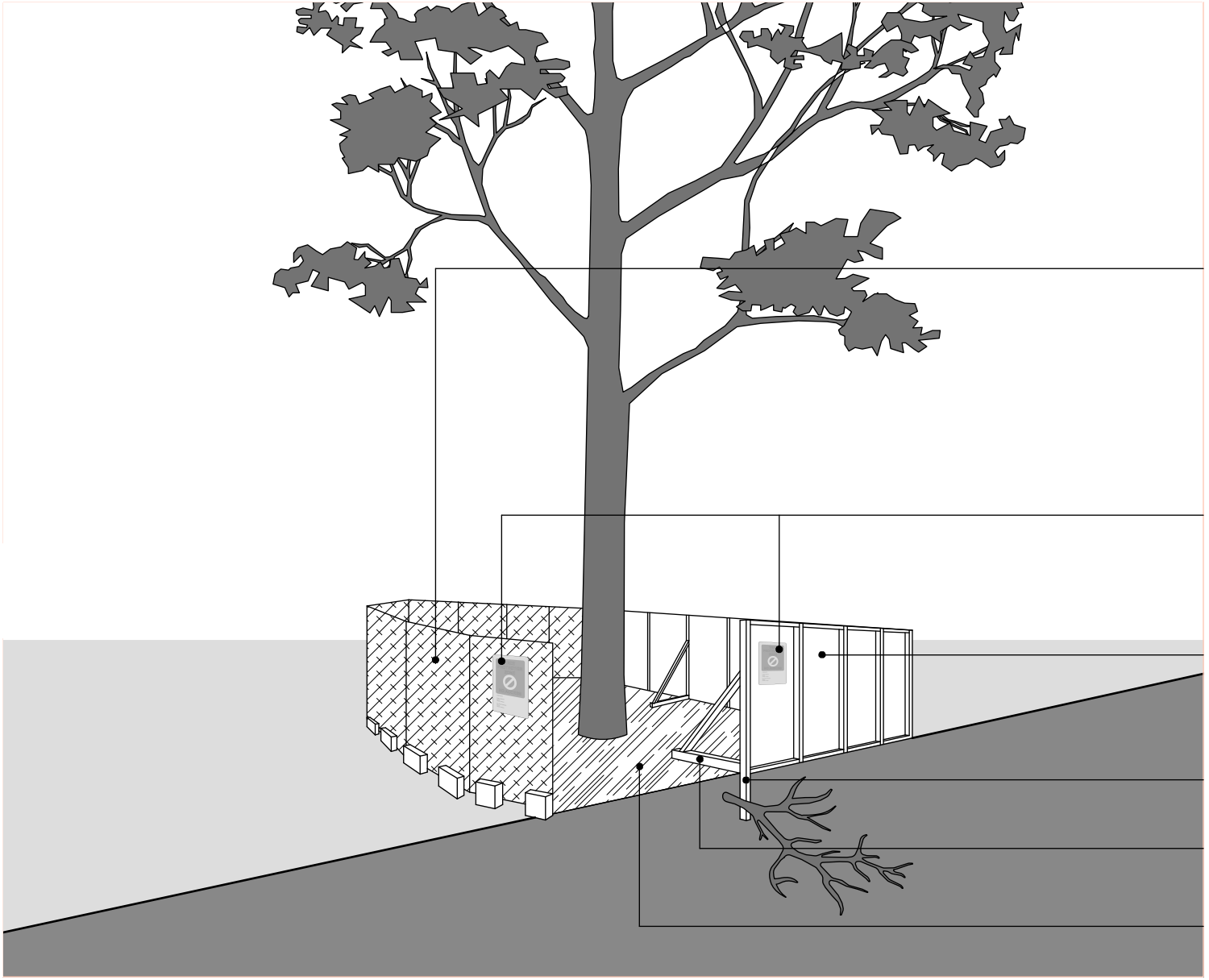
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Appendix 7: Typical Tree Protection Details

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Note:
No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.

Option 1 - Fencing
1.8m high chain wire mesh panels with shade cloth attached (if required), held in place with concrete feet.

Tree Protection Zone (TPZ) sign

Option 2 - Fencing
Plywood or wooden panel paling fence. This type of fencing material also prevents building materials or soil entering the TPZ.

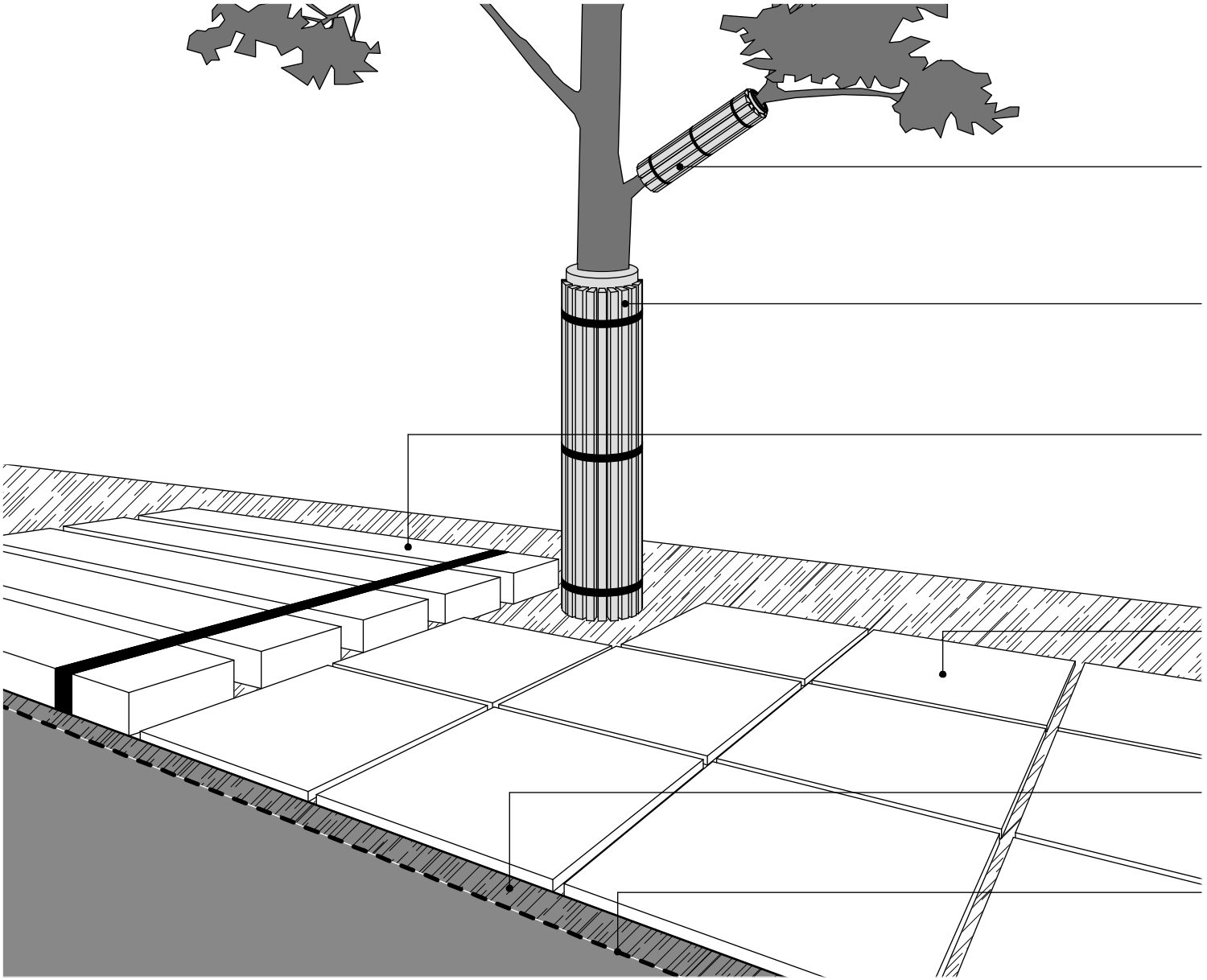
Installation of supports should avoid damaging roots.

Bracing is permissible within the TPZ.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer installed across surface of TPZ.

03 Tree Protection Fencing

Not to Scale



Branch Protection - use boards and padding to prevent damage to bark on branch. Boards are to be strapped, not screwed or nailed to the branch.

Trunk Protection - use boards and padding to prevent damage to bark (minimum 2m). Boards are to be strapped, not screwed or nailed to the trunk.

Ground Protection - use device strapped over mulch or aggregate layer. Ground protection device should be of a suitable thickness to prevent soil compaction and root damage.

Steel plates (or approved equivalent) with or without mulch or aggregate layer below.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer.

Geotextile fabric underneath mulch or aggregate layer.

04 Examples of Branch, Trunk and Ground Protection

Not to Scale



Branches may require pruning to erect scaffolding. Pruning may be subject to local regulations. Flexible branches should be tied back in preference to pruning.

Minimum 1.8m high hoarding. Temporary fencing may be incorporated into scaffolding as either containment screening or as hoarding.

Note:
If excavation is required for installation of support post for fencing, the Project Arborist should assess any pruning of roots greater than 20mm diameter.

Scaffold planks

Boards or plywood to be installed over mulch or aggregate layer for any areas requiring access within the TPZ.

Soleplate over geotextile. No excavation for soleplate within TPZ.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer within TPZ.

Geotextile fabric

05 Indicative Scaffolding within a Tree Protection Zone (TPZ) Not to Scale