



Kambala Rose Bay

Landscape Design Report
For SSDA
August 2020
Revision A

OCULUS

Kambala Design Report

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O C U L U S
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1.0

Introduction

1.1 Purpose of Report

Purpose of Report

This report has been prepared by OCULUS in support of the Architectural Design Report completed by AJ+C, and has been co-ordinated with the broader consultant team to reflect a holistic and considered landscape design response.

The landscape report communicates the design intent of all areas effected by the new architectural works on site, focusing on mediating between the existing conditions and new built form, while providing a significant increase in functional and flexible open space for the Kambala community.

Of particular concern in developing the landscape spaces is retaining or replacing significant tree species, increasing canopy cover (and vegetation generally), creating a clear and legible landscape across the campus and, crucially, unlocking previously unused or inaccessible spaces to support a modern teaching environment.

In addition to the above, this report outlines how the landscape proposal incorporates the Education SEPP Design Quality Principles included in the 'GANSW Better Design Schools' document (listed over leaf), provides the 'detailed landscape strategy' required by SEAR's (amongst other items relevant to landscape) and responds to comments made on the draft scheme by the GANSW office;

SEAR's Items

- 4. Built Form and Urban Design
 - Demonstrate consideration of opportunities for incorporation of: Green Roof, Cool Roof and / or Green Walls into the design of the new facilities. *Refer Section 6.1 Vertical Greening & Rooftop Planting*



IMAGE. Tivoli House
CREDIT. Oculus



IMAGE. Norfolk Island Palms
CREDIT. Oculus



IMAGE. Junior School
CREDIT. Oculus



IMAGE. Internal Courtyard
CREDIT. Oculus

1.2 GANSW Design Guide for Schools



Government Architect NSW 2018

Design Guide For Schools

This Design Guide and Better Placed: Better Placed is an integrated design policy for the built environment of New South Wales, developed by the Government Architect. It establishes the value of good design and identifies key concepts, good process, and objectives for good design outcomes.

Better Placed is part of a suite of documents intended to support better design and to enhance the quality of our built environment. The Design Guide for Schools is a part of this broader suite and is intended to be used as a best practice guide to support the delivery of good design for schools across NSW.

Education SEPP Design Quality Principles

The following section lists the Education SEPP Design Quality Principles to be used when designing new schools and school building upgrades. These principles are a set of values that enable a common understanding between school developers, design teams, school staff, students and the community when designing new school buildings or upgrades.

01. Context, amenity & character

Schools should be designed to respond to and enhance the positive qualities of their setting, landscape and heritage, including Aboriginal cultural heritage

The design and spatial organisation of buildings and the spaces between them should be informed by site conditions such as topography, orientation and climate

Landscape should be integrated into the design of school developments to enhance on-site amenity, contribute to the streetscape and mitigate negative impacts on neighbouring sites

02. Sustainable, efficient & durable

School design should consider future needs and take a whole-of-life- cycle approach underpinned by site wide strategic and spatial planning

Good design for schools should deliver high environmental performance, ease of adaptation and maximise multi-use facilities.

03. Accessible & inclusive

School buildings and their grounds should provide good wayfinding and be welcoming, accessible and inclusive to people with differing needs and capabilities

Note: Wayfinding refers to information systems that guide people through a physical environment and enhance their understanding and experience of the space)

Schools should actively seek opportunities for their facilities to be shared with the community and cater for activities outside of school hours.

05. Amenity

Schools should provide pleasant and engaging spaces that are accessible for a wide range of educational, informal and community activities, while also considering the amenity of adjacent development and the local neighbourhood

Schools located near busy roads or near rail corridors should incorporate appropriate noise mitigation measures to ensure a high level of amenity for occupants

Schools should include appropriate, efficient, stage and age appropriate indoor and outdoor learning and play spaces, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage and service areas.

04. Health & Safety

Good school development optimises health, safety and security within its boundaries and the surrounding public domain, and balances this with the need to create a welcoming and accessible environment.

06. Whole of life, flexible & adaptive

School design should consider future needs and take a whole-of-life-cycle approach underpinned by site wide strategic and spatial planning

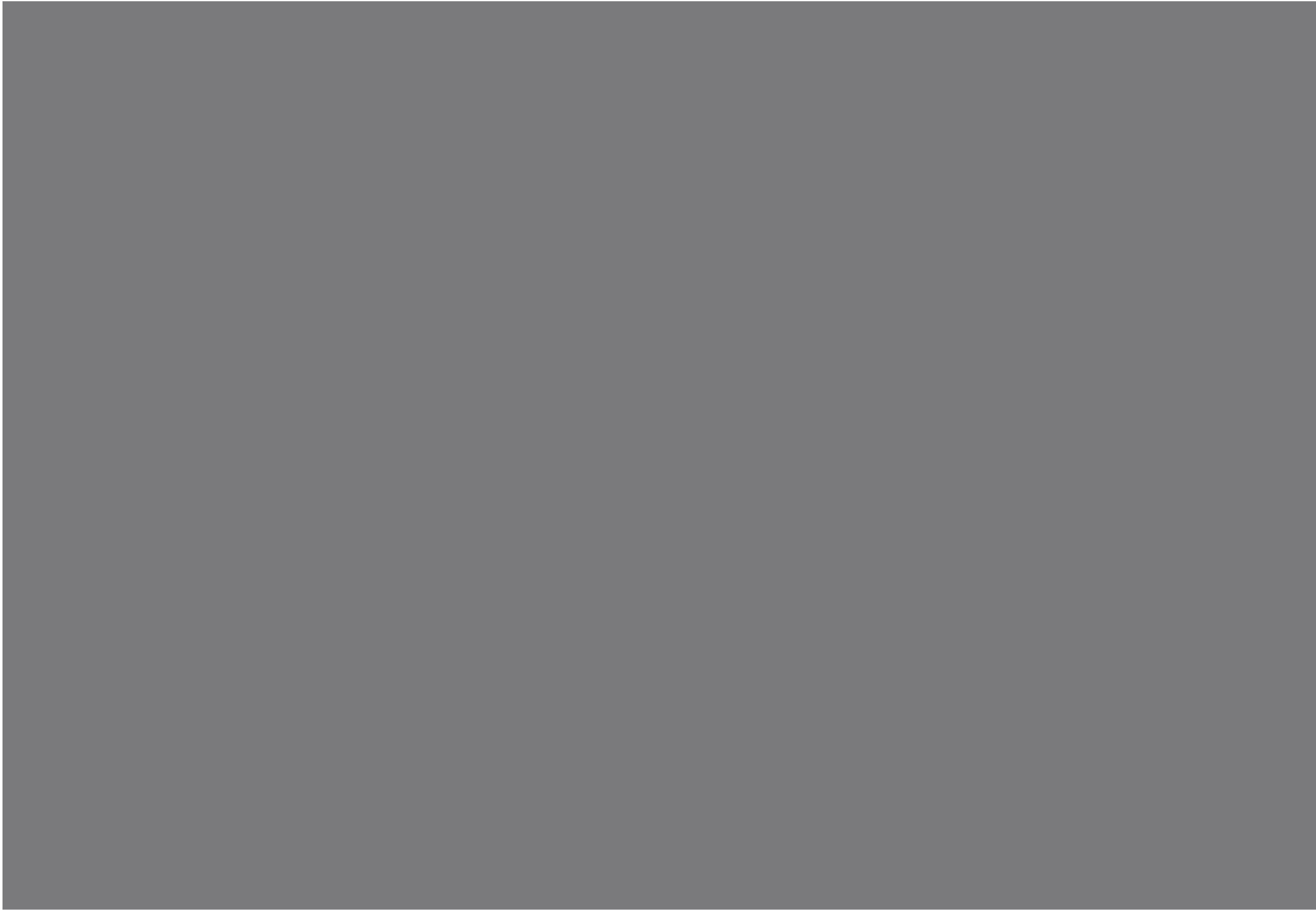
Good design for schools should deliver high environmental performance, ease of adaptation and maximise multi-use facilities.

07. Aesthetics

School buildings and their landscape setting should be aesthetically pleasing by achieving a built form that has good proportions and a balanced composition of elements.

Schools should respond to positive elements from the site and surrounding neighbourhood and have a positive impact on the quality and character of a neighbourhood.

The built form should respond to the existing or desired future context, particularly, positive elements from the site and surrounding neighbourhood, and have a positive impact on the quality and sense of identity of the neighbourhood.



2.0

Context

2.1 Location & Context

Site Location

Kambala is located in the suburb of Rose Bay in the Eastern Suburbs, 7 kilometres east of the Sydney CBD. Rose Bay is located both in the local government area of Waverly Council and the Municipality of Woollahra. Kambala sits within the Municipality of Woollahra.

The campus is connected to the Sydney CBD by buses along New South Head Road on the Sydney Buses network and by ferry from Rose Bay Ferry Wharf.

Context

The Woollahra Local Government Area (LGA) covers 12 km² and is located approximately 5km from the Sydney Central Business District. It is bounded by the Waverley LGA to the east, Randwick LGA to the south and the City of Sydney to the west. The municipality of Woollahra is a highly urbanised area comprising of commercial precincts and medium and high density residential areas.

Despite its relatively small land area, the Woollahra landscape is remarkably diverse, comprising a range of ecosystem elements. It is estimated that Woollahra has a total of 53.8 hectares of remnant vegetation (terrestrial and aquatic), representing 4.6% of its original extent. There are approximately 196 hectares of non-remnant/exotic vegetation in Woollahra.

The Woollahra Golf Club in the Rose Bay area is recognised as a key Habitat Area which is fundamental to the future viability of biodiversity in the Woollahra LGA. Paperbark swamps occurred on the peaty low lying areas stretching inland from Rose Bay (including the area currently occupied by Royal Sydney Golf Club and Woollahra Golf Club) all the way to the sand hills of Bondi (Benson and Howell, 1990).



2.2 Campus

Rose Bay

Rose Bay is an exclusive bayside neighbourhood with extensive harbour views, taking in the Opera House and Harbour Bridge from many vantage points. It has a beautiful bay area which includes two beaches, Bellamy Beach and Rose Bay Beach with a promenade connecting the two, lined by magnificent weeping figs. On the other side of New South Head road, there's a collection of boutique shops, café's and fine dining restaurants.

Rose Bay is connected by public transport from the Rose Bay Ferry Wharf and buses along New South Head Road. It also houses the Rose Bay Water Airport, which has been in operation since 1938 when seaplane flights to and from London began and terminated in Sydney Harbour on Rose Bay, making it Sydney's first international airport.

Lyne Park is highly valued by the people of Rose Bay as a place for passive recreation as well connecting a whole host of facilities including a dog park, sports field, tennis centre, sailing club, scouts hall, ferry wharf and Rose Bay Water Airport

Schools within the area include Kambala and Kincoppal Rose Bay, both catering for girls from pre-school to year 12, as well as Cranbrook prep school, McAuley Primary school, Rose Bay Secondary College and Rose Bay Public School.

Kambala

Kambala is an independent day and boarding school for girls located in Rose Bay. The school was established 1887 in Woollahra and moved in 1891 to a larger Bellevue Hull property called 'Kambala'. The school moved again in 1913 to its current site on New South Head Road in Rose Bay.

Kambala consists of a single campus encapsulating both a Junior School and Senior School as well as an Early Learning Centre. The school is perched on a headland overlooking the magnificent Sydney Harbour. The Campus is a short walk from Rose Bay Village Shops and sits directly off New South Head Road, an major road running though the Eastern Suburbs extending from Rushcutters Bay to Vaucluse. Many of the students disembark from buses of New South Head Road directly outside the schools front gates.



2.3 History

Indigenous Heritage

The Gadigal and Birrabirragal People have been the carers of the land for thousands of years before the European settlers landed. Woollahra is an Aboriginal word meaning camp, meeting ground or a sitting down place. The Woollahra Municipality was once rich in native flora and fauna and the Eora people would have enjoyed a wide selection of foods. Today it is possible to catch seafood in the harbour and see native trees, fruits and vegetation that would have sustained groups and families

Development of the School

The adjacent aerial images taken in 1943 and 2018 show the development of the campus with the purchase of adjacent residential houses increasing the land holdings and allowing the school to grow. It also shows some of the remnant trees particularly the Norfolk Island Palm outside Tivoli House and a second Norfolk Island Palm to the west off Tivoli Ave.

The images show that the layout of the campus has remained much the same, with a long road leading from New South Head Road to Tivoli House, large oval and adjacent tennis courts to the north, Tivoli house the centrepiece for the school and the academic core emerging to the south for the Senior School and the North-West for the Junior School.

The ad-hoc evolution of the campus over the years has, with the exception of the main oval and western lawn, resulted in a series of small, segmented courtyards providing the limited outdoor spaces for the school community. The new landscape works provide a much more diverse series of spaces which cater to the broad range of ages and user preferences found in a school spanning K-12.

The current school caters for both Preparatory- year 6 and years 7-12. There is a total of approximately 1000 students, including 80 boarders. There is also an Early Learning Centre on the campus which caters for children aged 0-5.



IMAGE. 1943 Aerial
CREDIT. Six Maps nsw.gov.au



IMAGE. 2020 Aerial
CREDIT. Nearmap.com



IMAGE. 1939 Miss Chadwick on campus near the front gates
CREDIT. Kambala



IMAGE. 1973 Tivoli House
CREDIT. Kambala

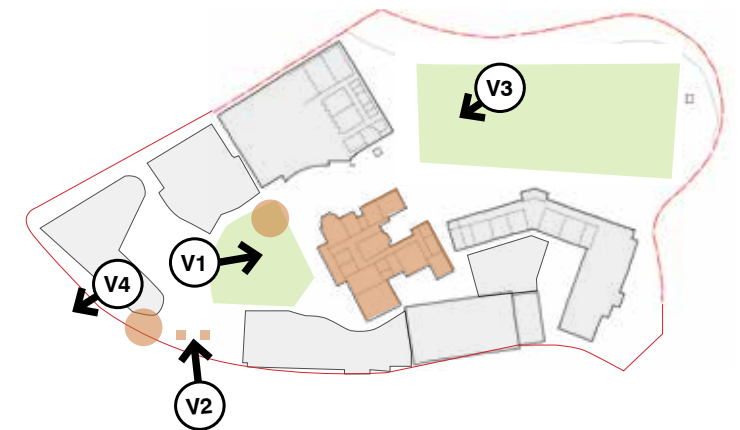
2.4 Built Heritage

Heritage Buildings

Kambala contains a heritage listed building named 'Tivoli', part of the original Tivoli Estate which was previously occupied by Captain William Dumaresq and later by merchant James Robinson Love. Originally constructed as a colonial stone cottage, a second storey was added as part of the major rebuilding by the notable architect John Horbury Hunt in 1881.

The heritage listing includes Tivoli House's interiors, gateposts, gates and flanking walls with railing facing Tivoli Avenue as well as 2 Norfolk Island Pines which were part of the original Tivoli Estate. Tivoli now houses the schools boarders from years 7-9.

Kambala also has extensive views towards the heritage-listed Sydney Harbour Bridge and the UNESCO World Heritage Listed Sydney Opera House.



Key Plan



Tivoli House

The building houses boarding students from years 7-9.



Tivoli Gates

Sandstone gates and flanking walls facing Tivoli Avenue are also part of the heritage listing.



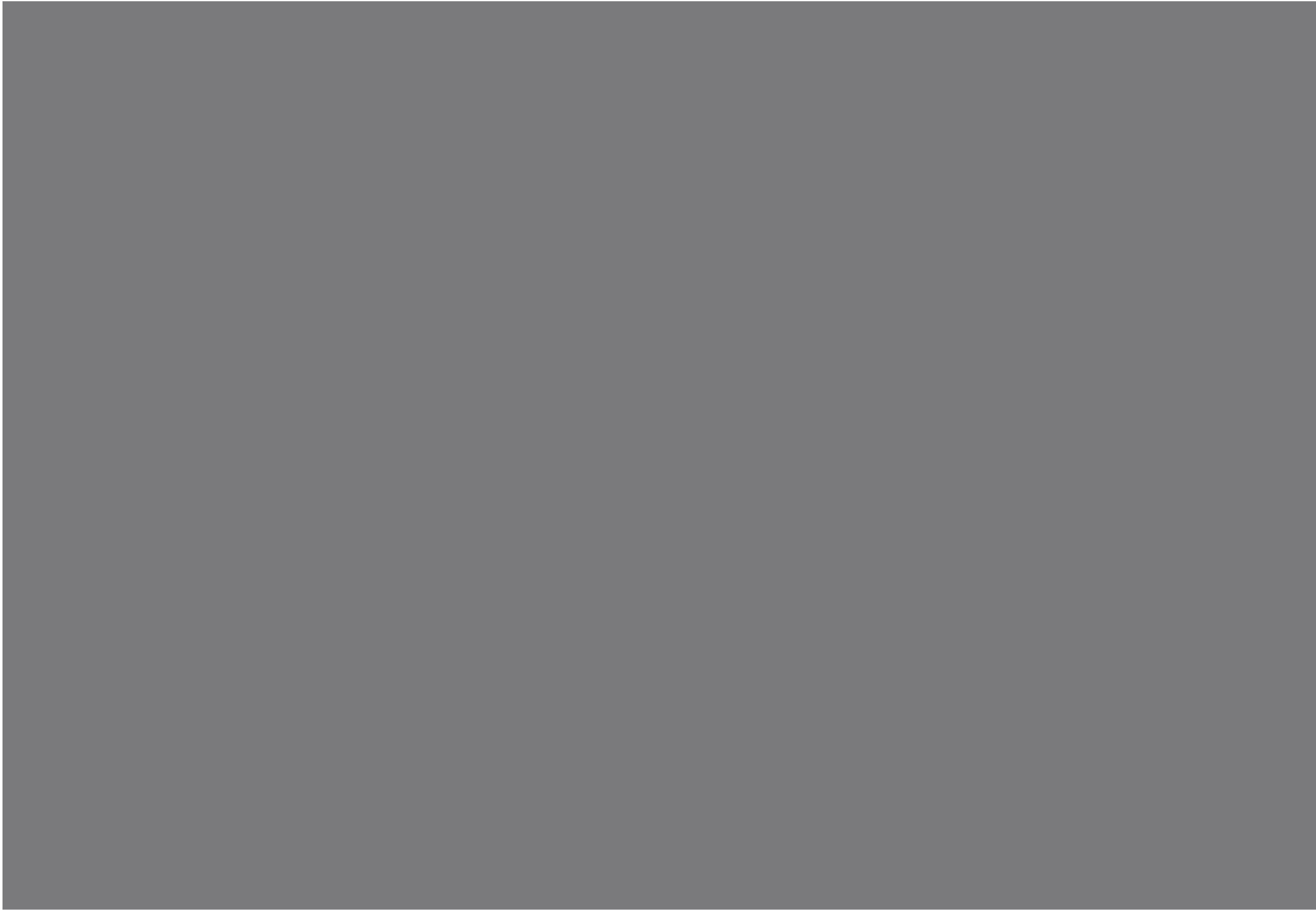
Norfolk Island Pines

Two Norfolk Island Palms stand tall on the campus and were part of the original Tivoli Estate.



Sydney Opera House and Harbour Bridge

Kambala has extensive views towards the heritage-listed Sydney Harbour Bridge and Sydney Opera House.



3.0

Analysis

3.1 Site Understanding

Analysis & Observations

Over multiple visits to Kambala and conversations with teaching and maintenance staff, OCULUS observed the daily life of the campus, aiming to ensure that any proposed landscape response improved the functionality of the site, and improved day to day experiences for all users.

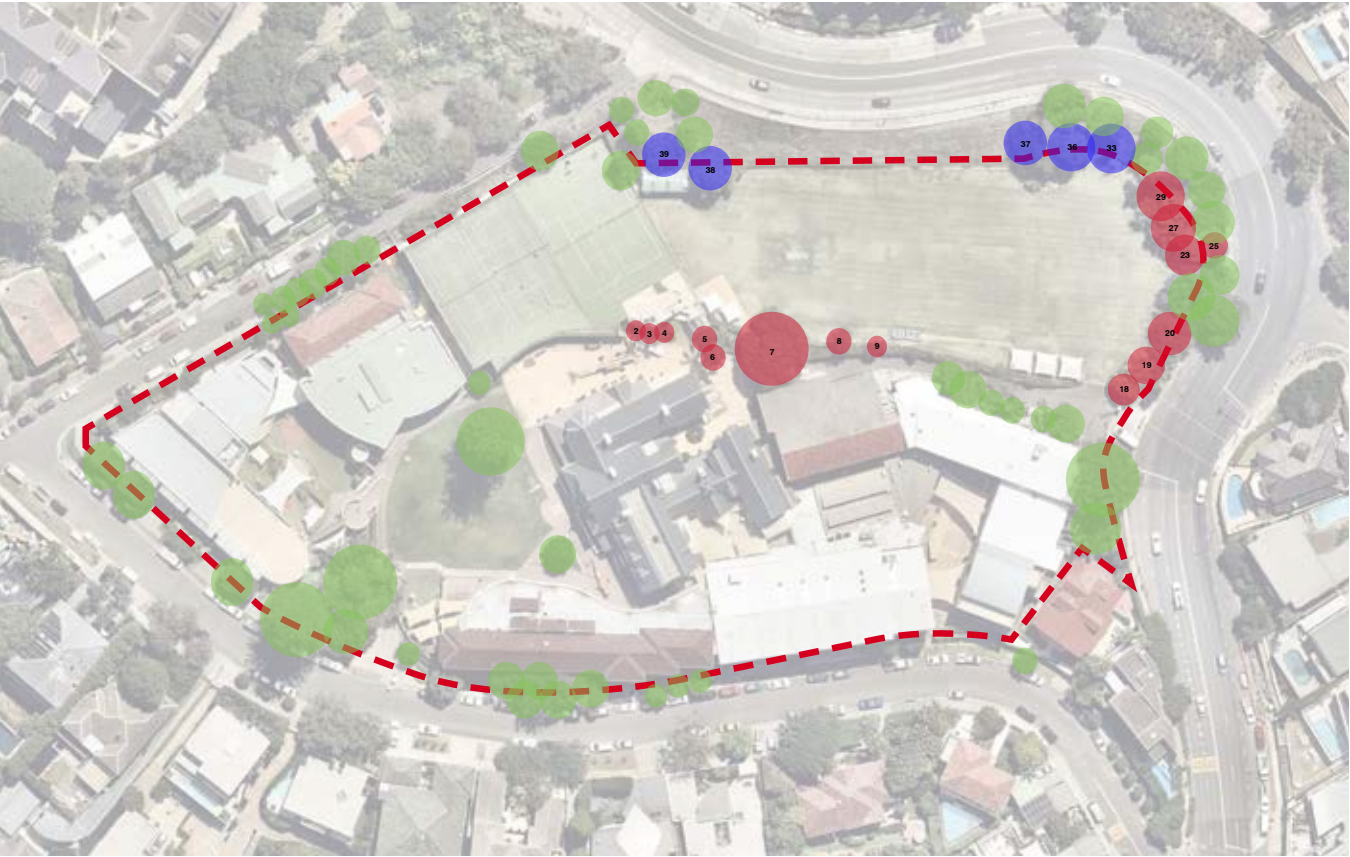
- Included in the observations and mappings of site, were items critical to the daily functions of the school;
- drop off and pick up points
 - public transport access
 - pedestrian movement through site
 - levels & equitable access

- The existing environment and uses of the campus were also taken into consideration;
- landscape typologies
 - landscape uses
 - existing trees




Observations

- Landscape spaces read as after thoughts to building
- Lack of diversity in outdoor spaces across senior school; hardscape, building apron, minimal soft landscaping, little amenity
- Legibility of campus, signage and wayfinding unclear,
- Lack of equitable access
- Concern with amount of trees noted for removal
- Monolithic application of landscape materials, almost exclusively sandstone paving
- Light coloured materials have high reflective values, increasing glare across landscape

Existing Trees



LEGEND

-  Existing Tree to be retained
-  Existing Tree proposed to be removed (15)
-  Existing Tree potentially to be removed (5)

15-20 trees will need to be removed with the new building works. Our landscape plans endeavour to introduce the largest possible number replacement trees throughout the campus.

The replacement of trees will be co-ordinated with the Kambala, AJ+C and Sydney Tree Solutions to ensure the largest available, like for like species are selected and appropriately sited across the staged development.

The below text (taken from Arboricultural Hazard Assessment) outlines the process and specific trees at risk;

In order to ensure all legal requirements are met when determining which trees can be retained or removed on this development site a number of Local Government Area (LGA) Policies and documents were reviewed:

- *Significance Tree Register – No listings for this site were found*
- *Heritage Tree Register – No listings for this site were found*
- *Threatened/Endangered species or communities onsite – No listings for this site were found.*
- *Local Government Area (LGA) Tree Preservation Order – Woollahra Council*

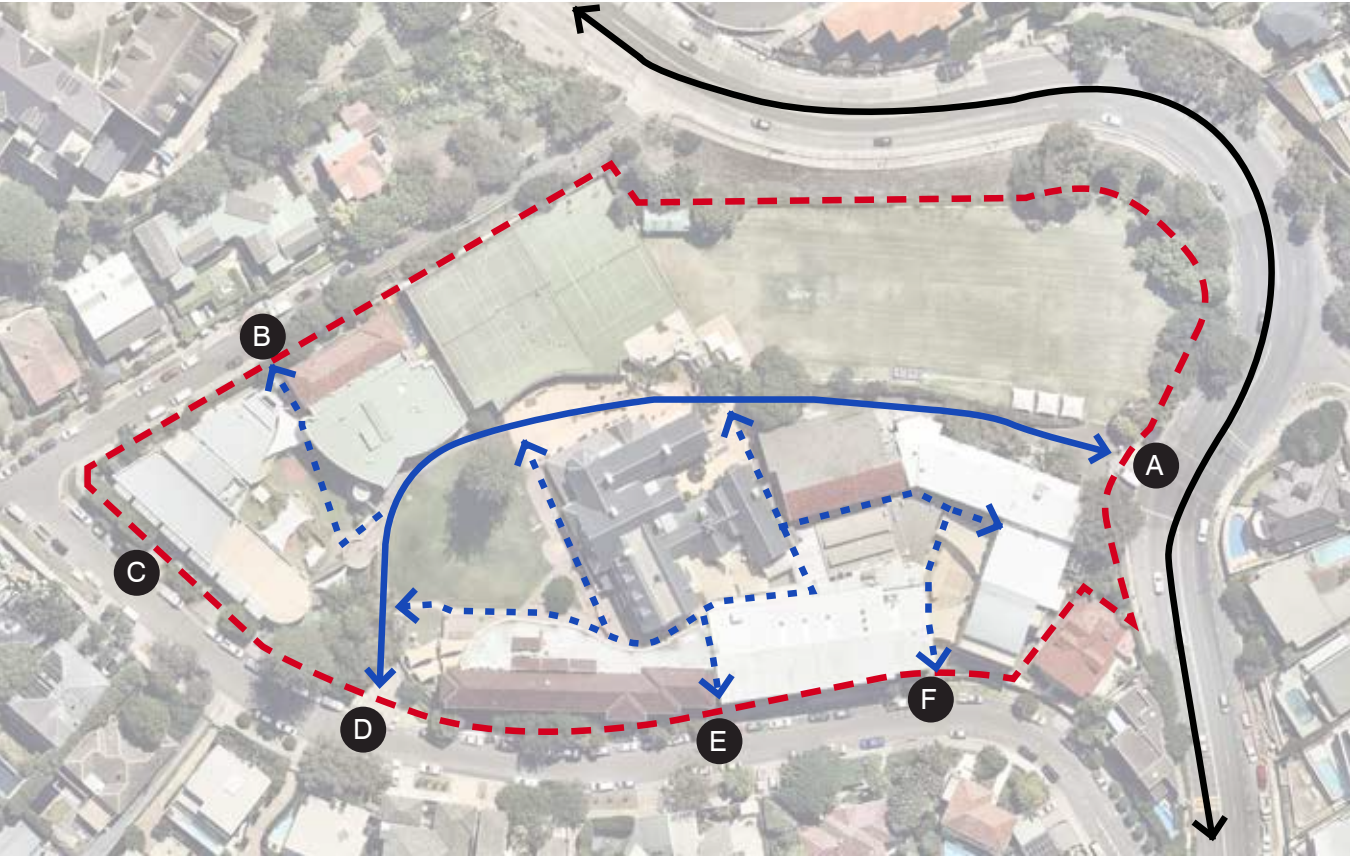
Trees to be removed

- *Trees 2,3&4 - Archontophoenix cunninghamiana (Bangalow Palm)*
- *Trees 5&6 -Syagrus romanzoffiana (Cocos Palm)*
- *Tree 7 - Ulmus parvifolia (Chinese Elm)*
- *Tree 8&9 - Callistemon sp.(Bottle Brush)*
- *Tree 18 - Robinia pseudoacacia (Robinia)*
- *Tree 19 - Lagerstroemia indica (Crepe Myrtle)*
- *Tree 20 - Quercus robur (English Oak)*
- *Tree 23 - Jacaranda mimosifolia (Jacaranda)*
- *Tree 25 - Glochidion ferdinandi (Cheese Tree)*
- *Tree 27 - Eucalyptus saligna (Sydney Blue Gum)*
- *Tree 29 - Corymbia maculata (Spotted gum)*






Possible Trees to be removed

- *Tree 33 - Eucalyptus botryoides (Bangalay gum)*
- *Tree 36 - Eucalyptus microcorys (Tallowwood)*
- *Tree 37 - Glochidion ferdinandi (Cheese Tree)*
- *Tree 38 - Pinus halepensis - (Aleppo pine)*
- *Tree 39 - Strelitzia reginae (Stand of Strelitzia)*

Entrance & Circulation



LEGEND

-  Arterial Road - New South Head Road
-  Major through-site pedestrian connection
-  Minor through-site pedestrian connection
-  Site Boundary
-  Entry Gate

Existing Levels



LEGEND

- +RL 39.50 Ground Level
- +TW 39.00 Top of Wall Level
- +BW 36.00 Bottom of Wall Level

Landscape Typologies



LEGEND

- Play
- Transition
- Courtyards
- Lawn
- Sport

School Zones



LEGEND

- ELC / Infants
- Junior School
- Senior School
- Sport
- Boarding

3.2 Key Constraints

The existing conditions of the site present a range of challenges to the new landscape proposal. Amongst others, the topographical nature of the campus and the relationship of architectural works to existing trees present two major constraints to the design; with equitable access, emergency vehicle circulation and opportunities to retain / replace new trees needing to be carefully considered in order to create a holistic landscape response.



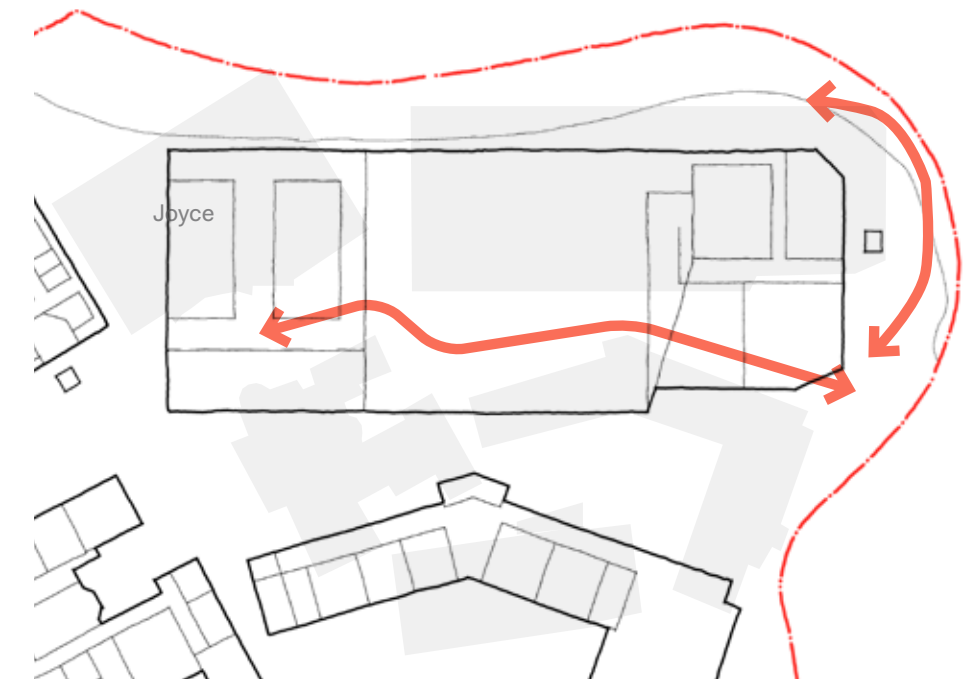
Thresholds

- Existing threshold levels will dictate the ramp levels required for landings.
- Proposed threshold levels will also dictate the design of the ramps and courtyard spaces



Ramp Requirements

- Maintenance ramp must have gradient no steeper than 1:21
- Main axis walkway will have the best outcome with a gradient no steeper than 1:21 to avoid the need for handrails.



EVA & Maintenance Vehicles

- Emergency Vehicle Access and Maintenance vehicles requiring access to the school dictate widths required along the main access.
- A width of 4m is required for EVA, as well as set-down locations and room for vehicles to turn

3.3 Opportunities

The development of the new sports precinct provides the school with a once in a generation opportunity to re-establish the importance of landscape spaces within the campus, which is lacking in meaningful outdoor amenity for the Kambala community.

A clear and legible pedestrian spine from New South Head Road to the centre of the campus forms the backbone of the campus, creating equitable connections to old and new buildings, while also unlocking a range of improved landscape spaces along it's length.

Key elements to be incorporated into the campus wide landscape proposal include;

- Creation of a legible entrance plaza at New South Head Road
- Reinforce the pedestrian axis from the entrance to the central heart of the campus
- Consider the campus a s network of open spaces, each complementing the other and providing a diversity of uses and experiences
- Increase both greenery and tree canopy throughout campus
- Strengthen visual and physical connections between class rooms and nature
- Provide opportunities for outdoor learning spaces



Legible Entrance

- Create entrance plaza reflective of formal school gates
- Mediate ground levels between entrance, east west axis, new entrance to sports facility and existing entrance to Minter
- Opportunity to replace trees and insert greenery



Reinforce Axis

- Reinforce east-west pedestrian axis from formal entrance to Tivoli House
- Improve legibility of the site for visitors
- Create DDA compliant routes
- Viewing nodes connecting with sports facilities
- Opportunity to replace trees and insert greenery



Network of Outdoor Spaces

- Create a range of spaces and experiences across campus
- Outdoor spaces of varying scale, program & amenity
- Flexible spaces for year level groups, classes, small groups
- Balance hard & soft spaces
- Provide appropriate spill out space for adjacent faculty uses



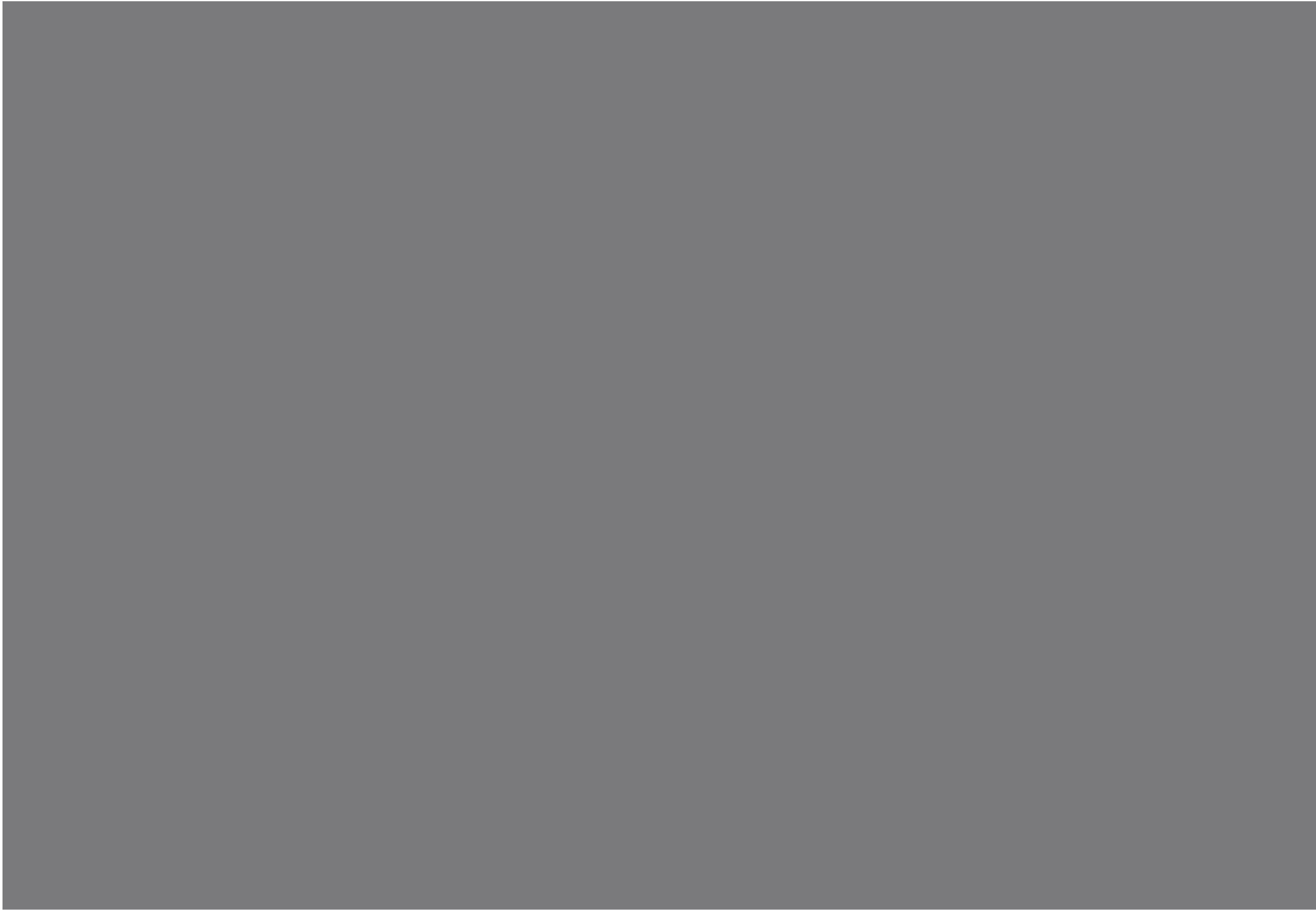
Re-distribute Trees & Connect to Nature

- Distribute replacement trees across new landscapes
- Increase tree canopy across campus
- Reduce heat island of hard spaces Increase soft landscape throughout campus
- Provide visual and physical connections to nature
- Provide moments of pause and respite amongst verdant planting



Outdoor Learning

- Outdoor learning environments aligned with teaching disciplines
- Embrace level change to create flexible use terraces
- Embed technology in learning spaces



4.0

Landscape Concept
Design

4.1 Campus Master Plan

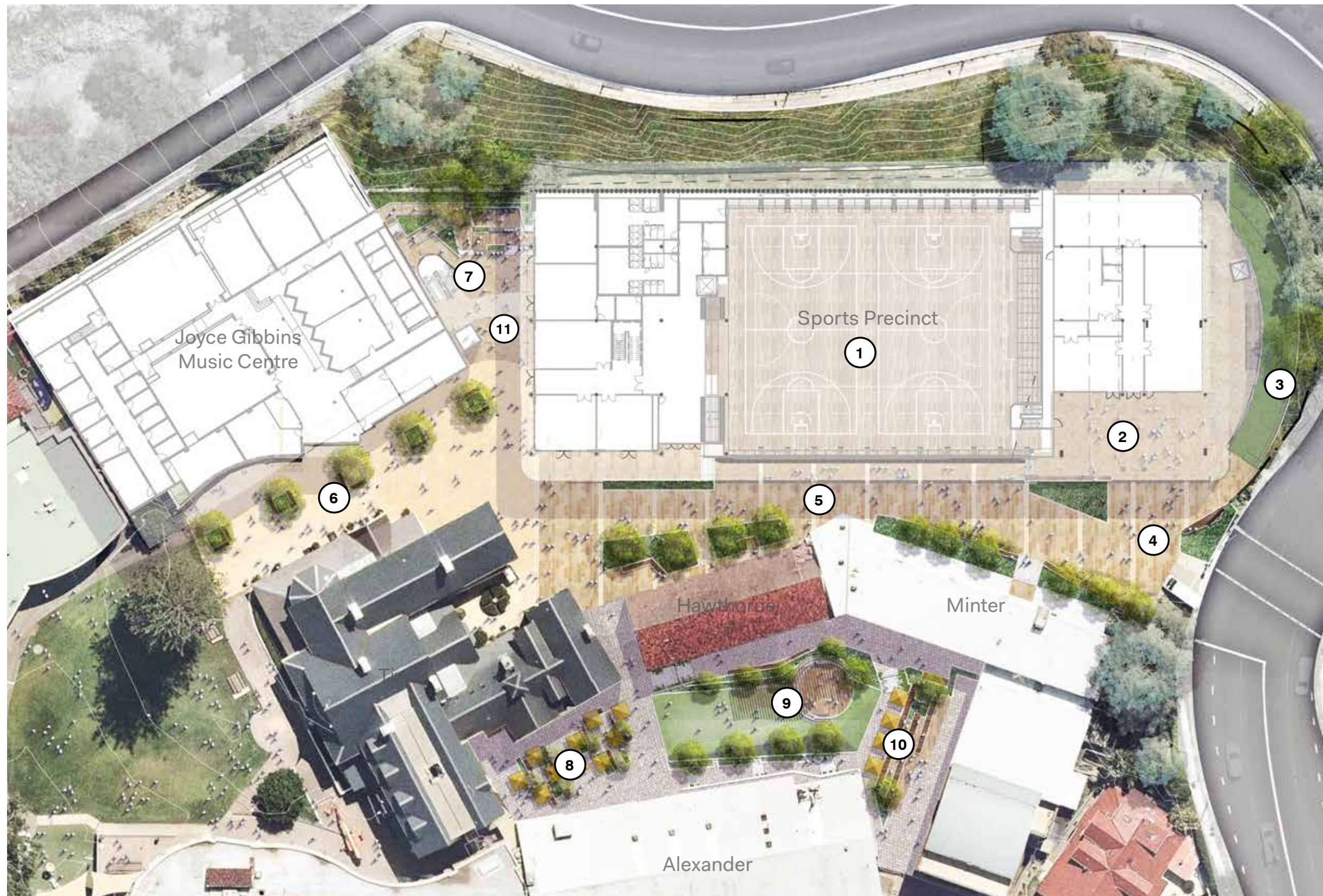
The Campus Landscape Master plan proposes a significant increase in green spaces throughout the campus, with a range of mature tree species and varied groundcovers providing additional canopy cover and seasonal changes throughout the campus.

The landscape works within the campus not only increase the area of outdoor spaces available to the students, but completely transform the campus into a functional, flexible and modern learning environment. Playing off the architectural improvements across the campus, the landscape works provide increased canopy coverage, low level planting, seating, enhanced pedestrian movement and improved opportunities for outdoor learning environments.

These shaded areas offer flexibility in the use of outdoor spaces, particularly throughout the warmer months, for students and teaches to actively engage with the landscape in a range of ways, both formal and informal.

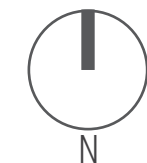


4.2 Senior School

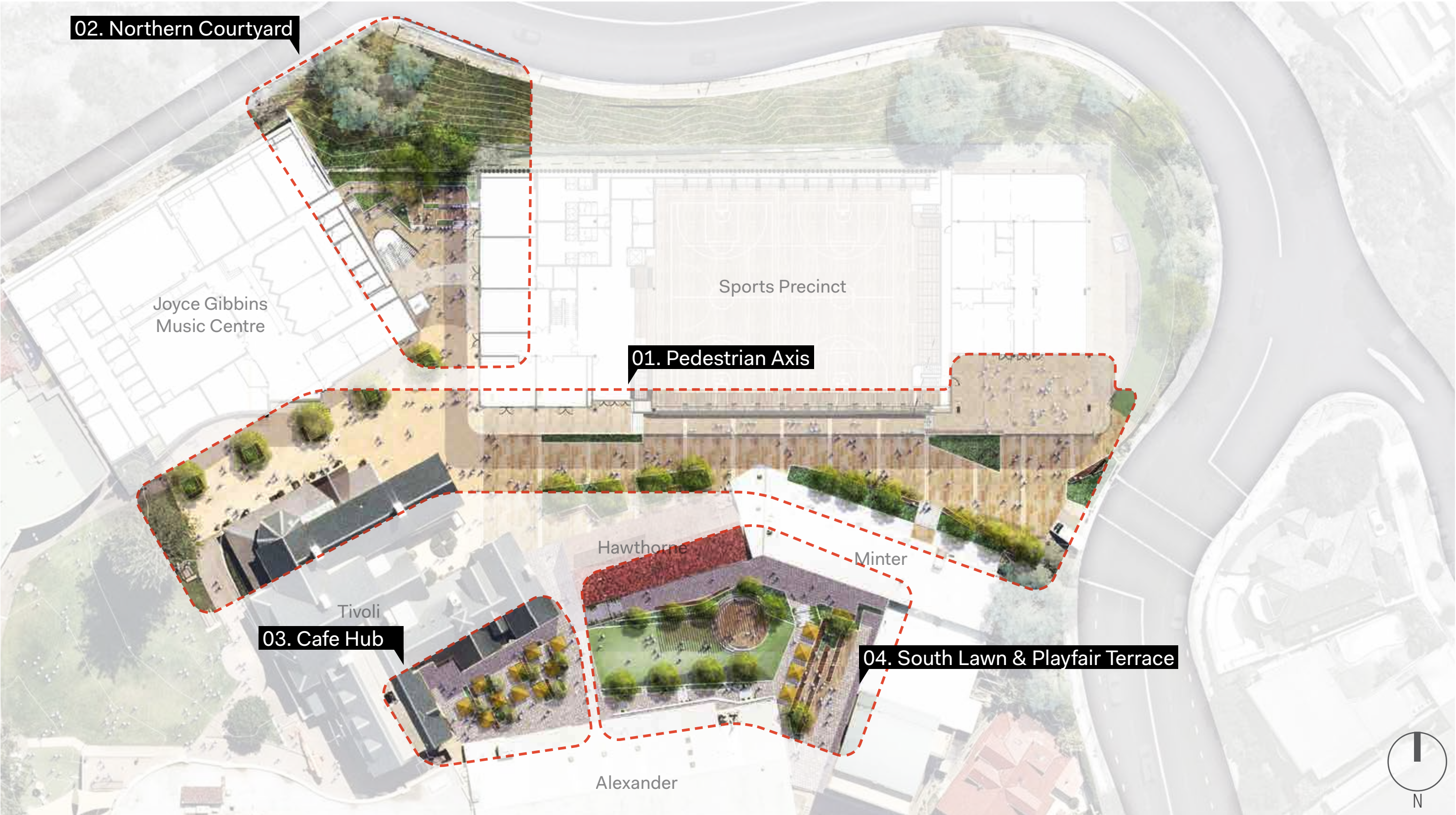


LEGEND

- 1 Sports Hall with field above
- 2 COLA
- 3 Maintenance Ramp
- 4 Entry Plaza
- 5 Pedestrian Axis / Tivoli Walk
- 6 Tivoli Plaza
- 7 Northern Courtyard
- 8 Cafe Hub
- 9 Southern Lawn
- 10 Playfair Terraces
- 11 Oculus



4.3 Key Landscape Spaces



4.4 Pedestrian Axis

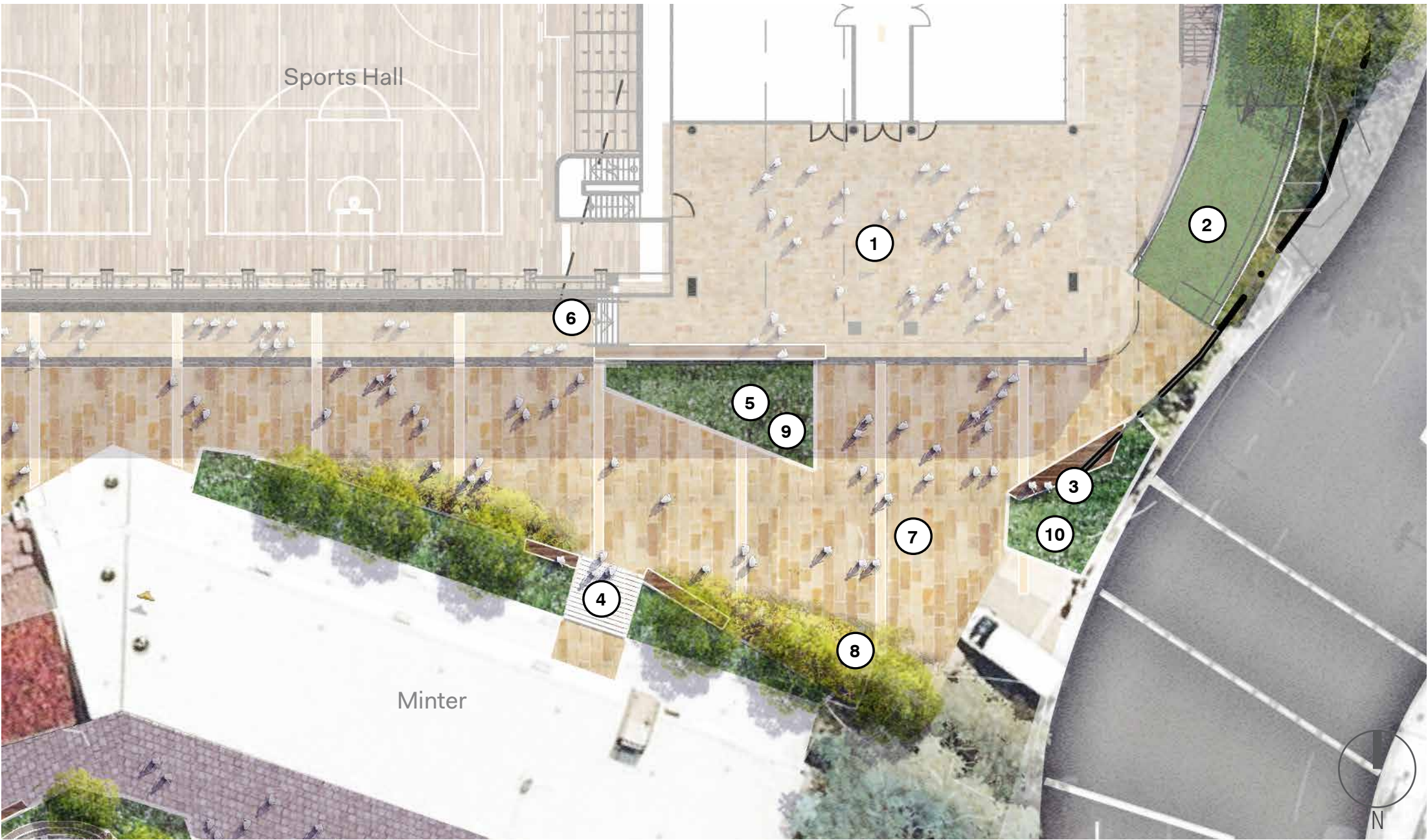


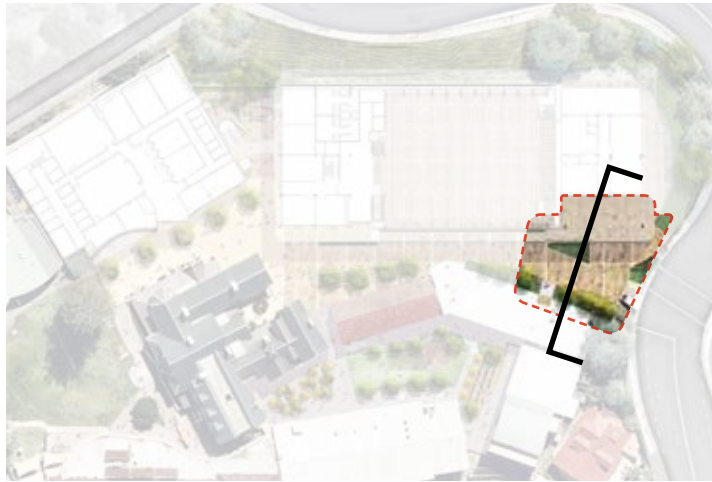
1.1. Entrance Plaza & COLA

The new Entrance Plaza is positioned at the formal entrance to the school on New South Head Road. This plaza proposes a simple, clear landscape space to complement the Centenary Gates and provide significant improvement to the entrance experience, wayfinding and legibility of the campus.

LEGEND

- 1 COLA
- 2 Maintenance Access to Sportsfield Above
- 3 Buffer Planting and seating to Perimeter
- 4 Stairs extended to match up to level of ramp
- 5 New Feature Planting
- 6 Concrete Steps
- 7 Entrance Plaza
- 8 Additional Planting and new balustrade fence
- 9 Relocated Fire Hydrant
- 10 Existing Fire Booster





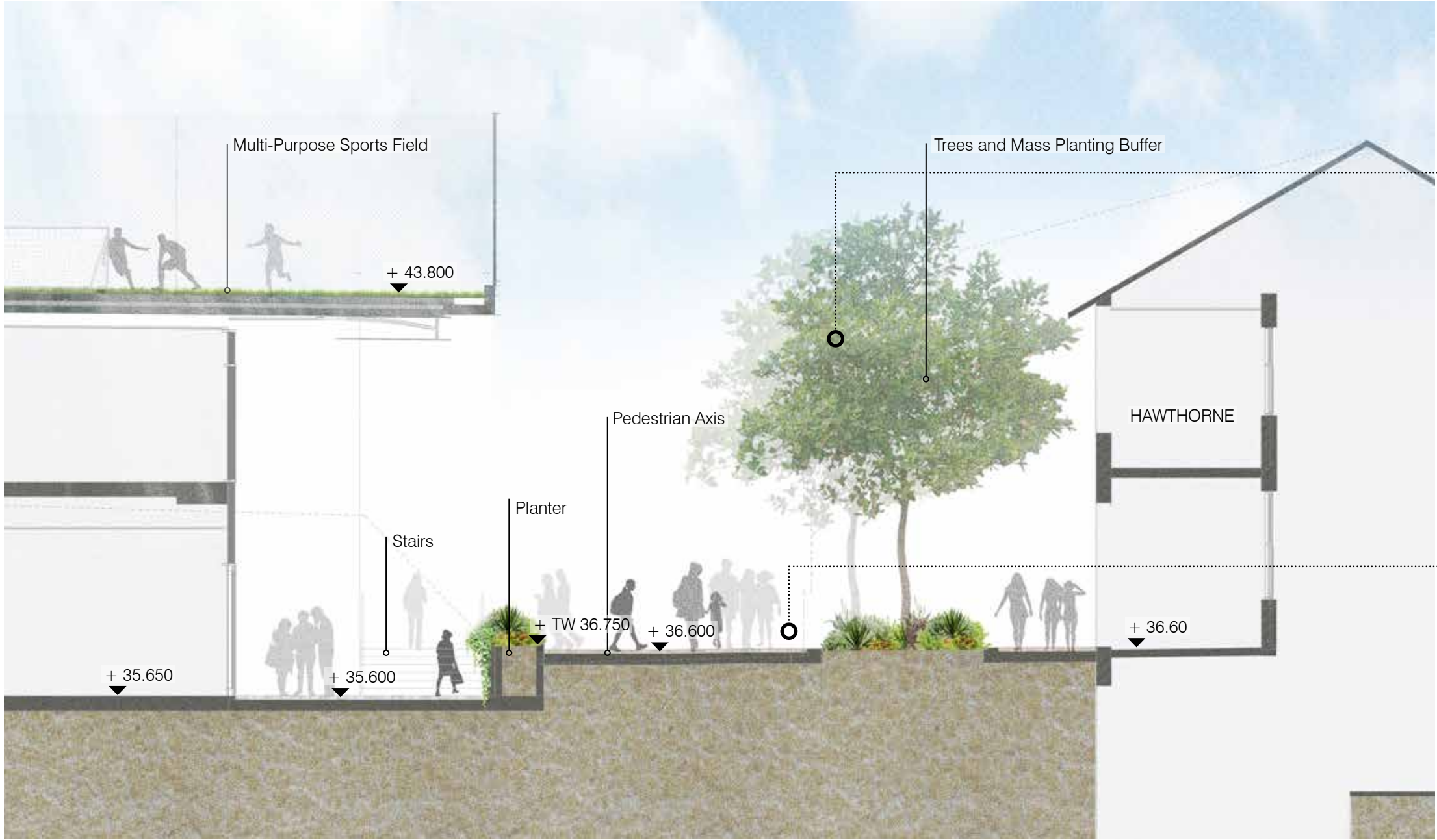
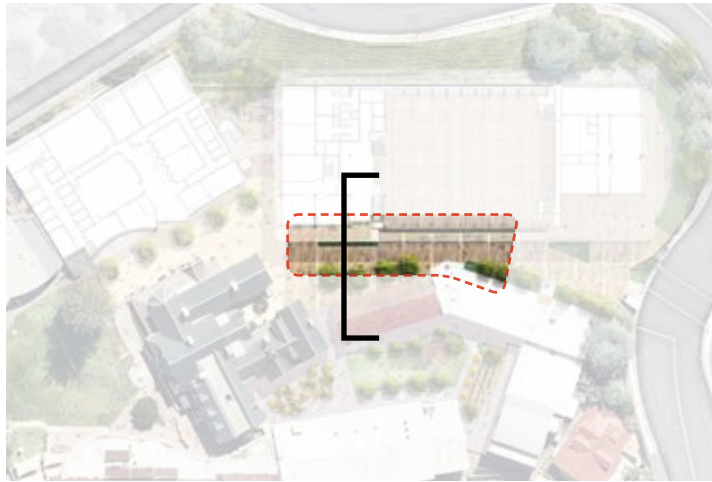
1.2. Transition Space

Trees are proposed to line the pedestrian axis increasing canopy cover and pedestrian amenity. The landscape works proposed in this area have deep soil zones, meaning there is great opportunity for soft landscaping and permeable paving in order to maximise the volume of water soaking back into the ground.

LEGEND

- 1 Accessible Pedestrian Ramp with a grade of 1:21
- 2 Linear Seating to address Sports Hall
- 3 Pavement Banding delineating Pedestrian Axis
- 4 At-grade mass planting
- 5 Tree Planting
- 6 Undercover Walkway
- 7 Timber seating to edges of planting
- 8 Additional Planting to conceal Wall mitigating level change



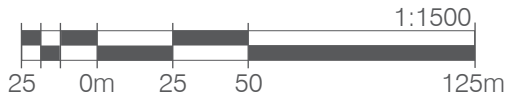


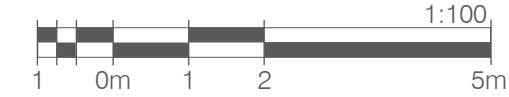
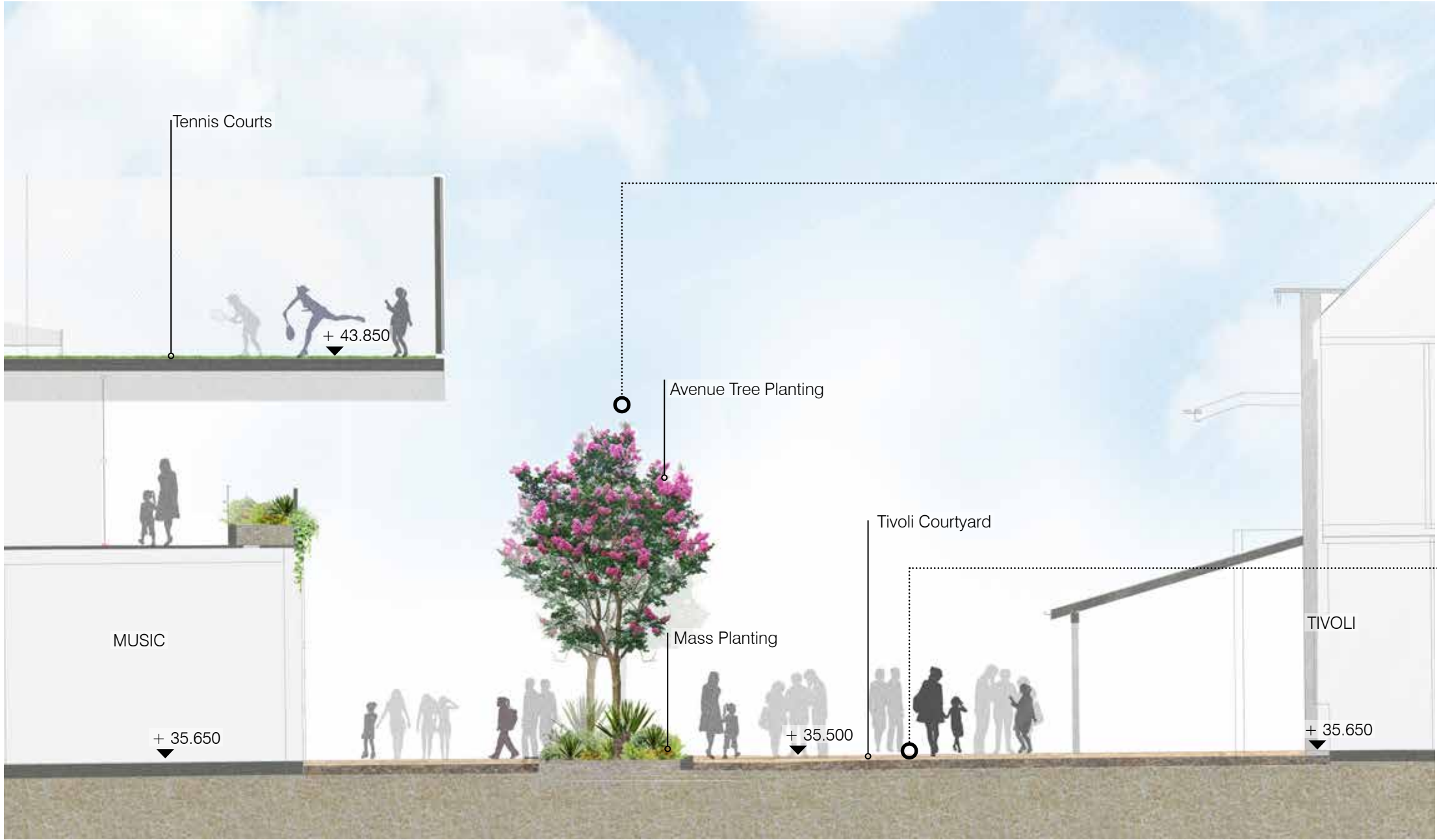
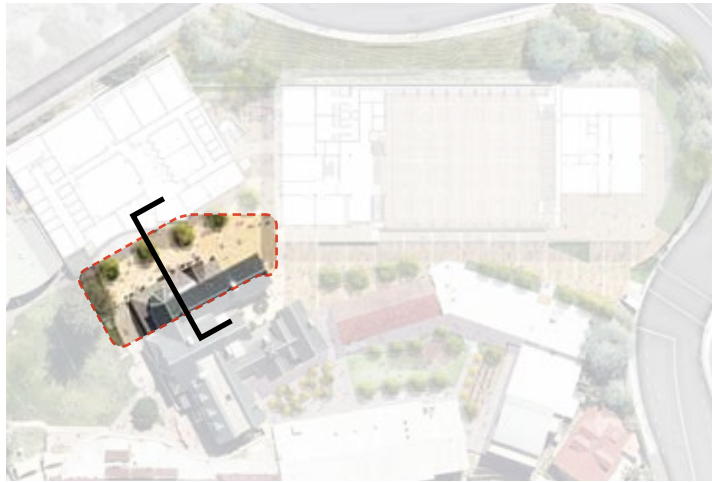
1.3. Tivoli Plaza

Tivoli Plaza pays appropriate respect to the curtilage of Tivoli House, proposing only improved paving and sympathetic planting in order to reduce glare and heat island effect in the large hardscape area.

LEGEND

- 1 Existing Paving Apron around Tivoli Building
- 2 Clear delineating between apron paving and pedestrian axis paving
- 3 Linear application of Trees
- 4 Timber bench seating
- 5 Pedestrian Axis paving continued
- 6 Mass Planting under Trees





4.5 Northern Courtyard

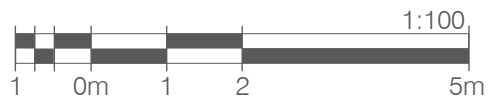
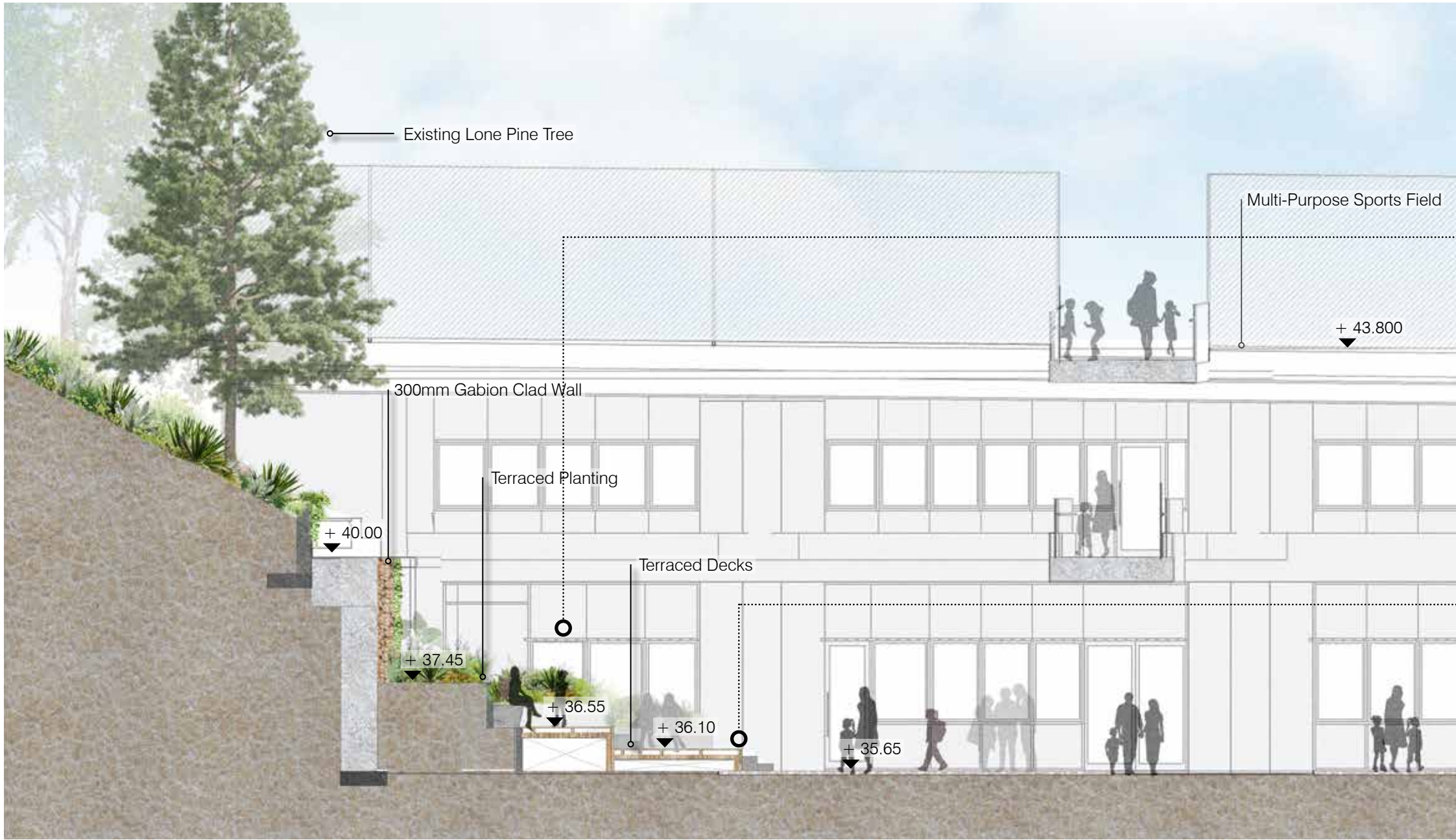
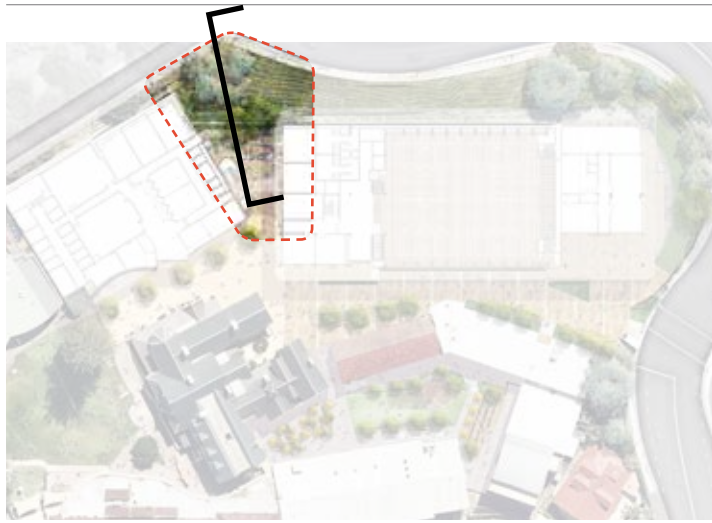
02. Northern Courtyard

The new northern courtyard is located between the school's wellness centre and music facility, and central to the senior school common areas. The courtyard provides heavily planted terraces and vertical greening (ensuring a close connection to nature), flexible use terraces catering to individuals, small groups or class room sizes (appropriate for senior study spill out) or, when considered as a collective series of terraces, the space becomes amphitheatre seating for whole of year level meetings or a stage for musical events.

LEGEND

- 1 Decking Platforms
- 2 Pedestrian Bridge Above
- 3 Planting mirroring shape of Oculus above
- 4 Ramp along side Music Building
- 5 Paved open courtyard space
- 6 Green Wall
- 7 Existing Lone Pine
- 8 Additional Tree Planting
- 9 Lush Terraced Planting





4.6 Southern Zone

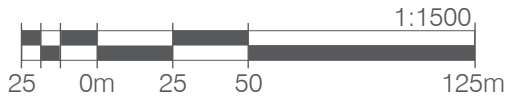
03. Cafe Hub

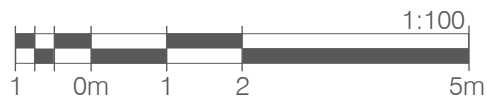
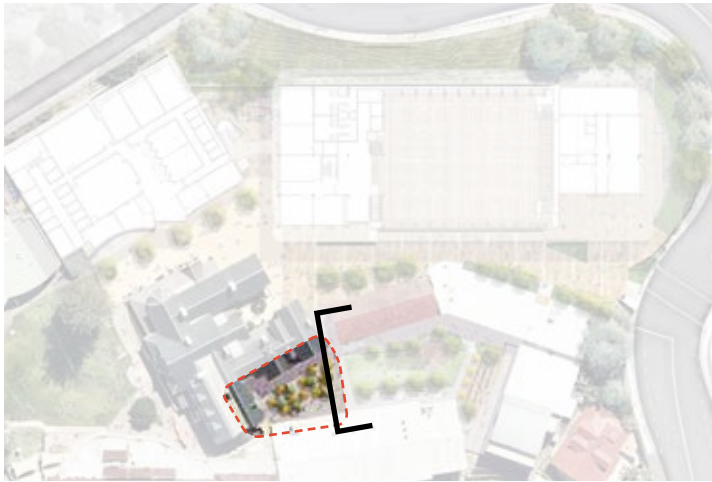
The cafe hub allows for flexible outdoor seating opportunities, outdoor umbrellas and linear benches complimented by mass planting.

The landscape works within the campus not only increase the area of outdoor spaces available to the students, but completely transform the campus into a functional, flexible and modern learning environment.

LEGEND

- 1 Outdoor Umbrellas
- 2 Linear Timber Benches
- 3 Flexible Outdoor Seating
- 4 Mass Planting
- 5 Cobbled Paving
- 6 Heritage Apron Paving



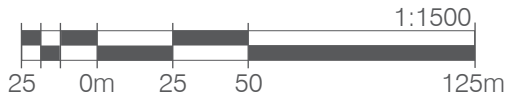
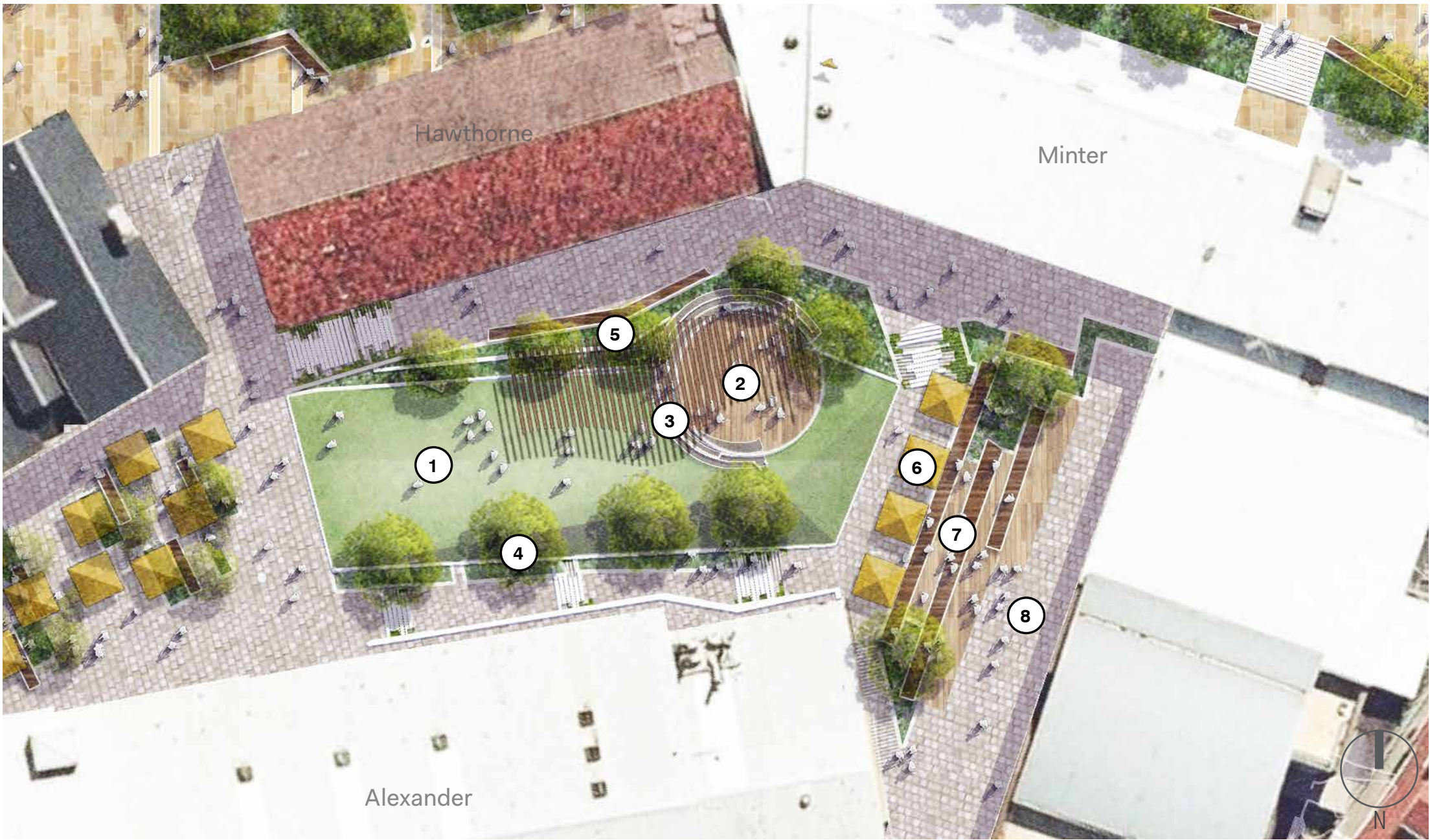


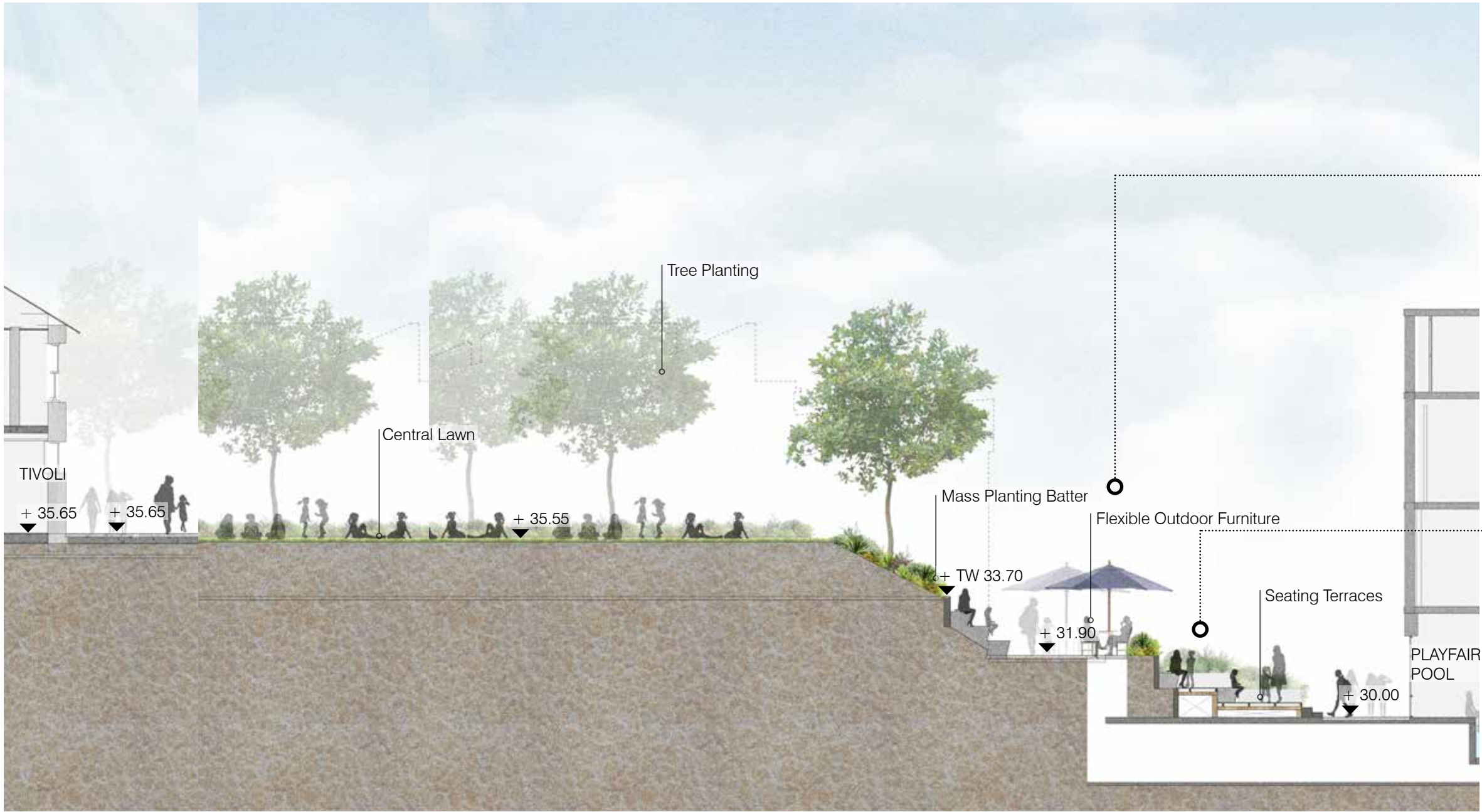
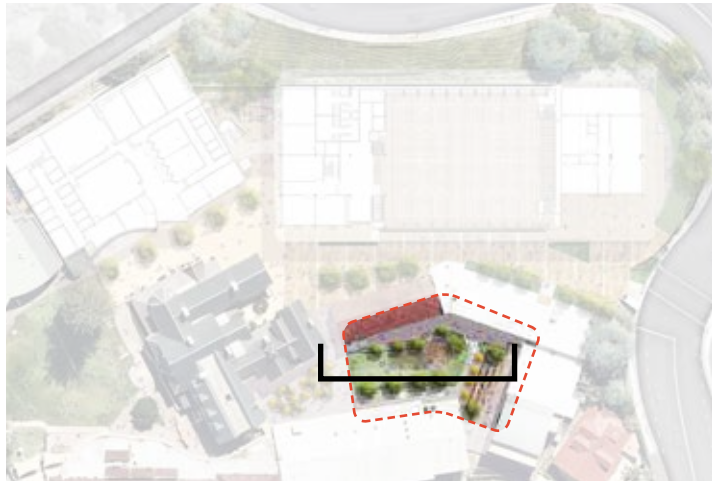
04. South Lawn and Playfair Terraces

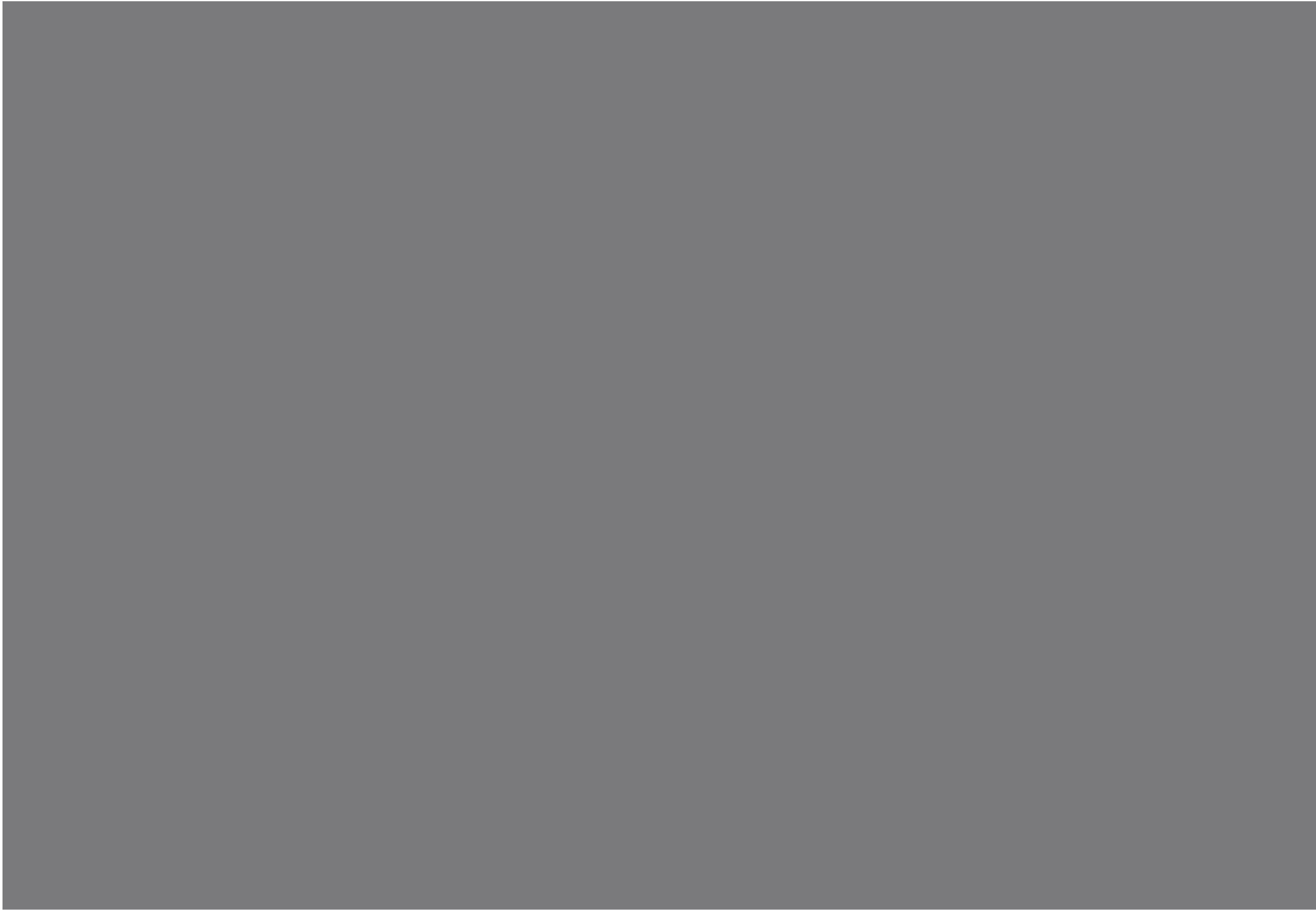
Expansive lawn lined with mature trees and extensive planting. Cascading planting terraced towards Hawthorne and Minter and integrated seating and planted areas terracing down towards Playfair Pool. The landscape works provide increased canopy coverage, low level planting, seating, enhanced pedestrian movement and improved opportunities for outdoor learning environments.

LEGEND

- 1 Open Lawn
- 2 Deck
- 3 Amphitheatre Seating
- 4 Linear Tree Planting
- 5 Terraced mass planting
- 6 Outdoor Umbrellas and Seating
- 7 Integrated planted and hardscape terraces
- 8 Consistent paving type across whole area







5.0

Indicative Schedules

5.1 Materials, Furniture & Fixtures Schedule

The material palette for landscape works throughout the campus is simple and robust, a complementary mix of natural stone paving of various sizes and finishes, concrete, sandstone, and steel walls and seasoned hardwood timbers working in unison with carefully selected planting species appropriate to their location and exposure to sun.

FENCE & WALLS



1.8m Security Perimeter Fence



Internal Balustrading



Corten Steel Retaining walls (up to 600mm)



Off-form Concrete Retaining walls



Corten Steel Terracing Retaining Walls

PAVING



Sandstone Paving



Large Format Stone Unit Pavers



Contrasting Large Format Stone Unit Paver

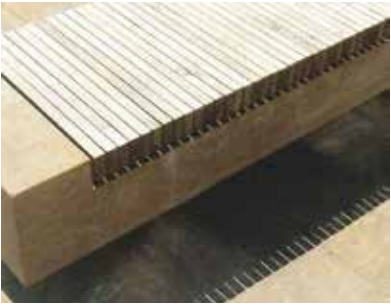


Sandstone Unit Paver- varying colour



Large Format Stone Unit Paver 600mm

FURNITURE



Timber Bench



Hardwood Timber Decking Platforms and Seating



Linear Timber Benches



Stainless Steel Handrails to AS1428



Outdoor Umbrellas

SOFTSCAPE



Vertical Gardening



At Grade Planting



Large Formal Lawn



Linear Tree Planting



Layered, Cascading Planting

5.2 Planting Schedule

Kambala Native Plant Schedule

Symbol	Botanic Name	Common Name	Size	Mature Ht and Sp	Density / SQ.m	% in Mix	Quantity
NATIVE TREES							
	<i>Tristaniopsis laurina</i>	Water Gum		6m x 3m			
	<i>Eucalyptus haemastoma</i>	Scribbly Gum		15m x 5m			
	<i>Banksia integrifolia</i>	Coast Banksia		5m x 3m			
	<i>Acmena smithii</i>	Lilly Pilly		8m x 5m			
	<i>Melaleuca quinquenervia</i>	Paperbark Tree		12m x 4m			
NATIVE SHRUBS - SMALL							
	<i>Correa alba</i>	White Correa		1.5 x 1.5m			
	<i>Melaleuca thymifolia</i>	Thyme honey myrtle		1.0 x 1.0m			
	<i>Melaleuca nodosa</i>	Prickly-leaved paperbark		1.5 x 1.5m			
	<i>Westringia fruticosa</i>	Coast Rosemary		1.5 x 1.5m			
	<i>Acacia myrtifolia</i>	Myrtle Wattle		1.0 x 1.0m			
	<i>Pimelea linifolia</i>	Rice Flower		0.5 x 0.5m			
	<i>Grevillea lanigera</i>	Wooly Grevillea		0.5 x 0.5m			
NATIVE SHRUBS - LARGE							
	<i>Banksia ericifolia</i>	Heath Banksia		3.0 x 3.0m			
	<i>Banksia serrata</i>	Old Man Banksia		4.0 x 4.0m			
	<i>Doryanthes excelsa</i>	Gynea Lily		2.0 x 1.2m			
	<i>Leptospermum laevigatum</i>	Coast Teatree		4.0 x 4.0m			
	<i>Melaleuca linariifolia</i>	Snow in Summer		8.0 x 4.0m			
NATIVE GROUND COVERS							
	<i>Carpobrotus glaucescens</i>	Pig Face		0.1 x 3.0m			
	<i>Actinotus helianthi</i>	Flannel Flower		0.3 x 0.5m			
	<i>Lomandra longifolia</i>	Spiny Headed Mat-rush		1.0 x 1.0m			
	<i>Dichondra repens</i>	Kidney Weed		0.1 x 2.0m			
	<i>Themeda triandra</i>	Kangaroo Grass		0.3 x 0.2m			
	<i>Isolepis nodosa</i>	Knobby Club Rush		0.7 x 3.0m			
	<i>Dianella congesta</i>	Coastal Flax Lilly		0.75 x 1.5m			
	<i>Adiantum aethiopicum</i>	Maidenhair Fern		0.3 x 1.0m			
	<i>Diets grandiflora</i>	Fairy Iris		0.8 x 0.8m			
	<i>Carex appressa</i>	Sedge		1.0 x 1.0m			
	<i>Pennisetum alopecuroides 'Nafray'</i>	Dwarf Fountain Grass		0.5 x 0.5m			
NATIVE CLIMBERS							
	<i>Hardenbergia violacea</i>	False Sarsaparilla		VARIABLES			
	<i>Hibbertia scandens</i>	Climbing Guinea Flower		VARIABLES			
	<i>Kennedia rubicunda</i>	Dusky Coral Pea		VARIABLES			

Kambala Exotic Plant Schedule

Symbol	Botanic Name	Common Name	Size	Mature Ht and Sp	Density / SQ.m	% in Mix	Quantity
TREES							
	<i>Ulmus parvifolia</i>	Chinese Elm	100L	25 x 18m			
	<i>Robinia pseudoacacia</i>	Golden Robbinia	100L	10 x 6.0m			
	<i>Pyrus calleryana 'Chanticleer'</i>	Callery pear	100L	11 x 6.0m			
SHRUBS							
	<i>Helichrysum petiolare</i>	Licorice Plant	150mm	0.4 x 1.4m			
	<i>Plectranthus argentatus</i>	Silver Plectranthus	150mm	0.3 x 1.0m			
	<i>Ctenanthe setosa 'Grey Star'</i>	Ctenanthe cultivar	150mm	1.0 x 1.5m			
	<i>Agave attenuata</i>	Foxtail Agave	300mm	0.6 x 0.6m			
	<i>Gaura lindheimeri,</i>	White gaura	150mm	0.5 x 0.5m			
GROUND COVERS							
	<i>Trachelospermum jasminoides</i>	Star Jasmine	150mm	0.3 x 0.3m			
	<i>Philodendron 'Xanadu'</i>	Philodendron cultivar	150mm	1.0 x 1.0m			
	<i>Rosmarinus officinalis 'Prostrate'</i>	Rosemary Prostate	150mm	0.3 x 1.0m			



Banksia integrifolia



Tristaniopsis laurina- Water Gum



Mel



Ulmus parvifolia -Chinese Elm



Correa Alba



Melaleuca thymifolia



Carex appressa



Doryanthes excelsa



Hibbertia scandens



Grevillea lanigera



Helichrysum petiolare



Philodendron 'Xanadu'



Acacia myrtifolia



Diets grandiflora



Carpobrotus glaucescens



Pennisetum alopecuroides 'Nafray'

6.1 Vertical Greening and Rooftop Planting

The western facade needs to cope with intense solar exposure and potential for planters to dry out. High solar access however, provides the opportunity to utilise visually striking, abundantly flowering plant species.

- Very robust (high rating to wind and heat tolerance)
- Arrangement of textured foliage with subtle contrasts in shades of blue-green
- Fine textured scramblers that sway in the wind
- Scrambling succulents to act as a living mulch

With increased shade, the southern facade provides challenges for achieving lush planting. Careful plant selection can ensure year round interest and seasonal accents.

- Shade tolerant (but still high ratings for wind and heat tolerance)
- Focus on foliage
- Highlights of pink and purple flowers in Spring and Summer
- Lush layering of contrasting green textures

Kambala Rooftop and Vertical Green Planting					
Symbol	Botanic Name	Common Name	Size	Mature Ht and Sp	Density / SQ.m
ROOFTOP - WESTERN FACADE					
	<i>Acacia cognata</i> 'Limelight'	River Wattle	300mm	0.1 x 1.2m	
	<i>Russelia equisetiformis</i> 'Tangerine Falls'	Tangerine Falls Russelia	150mm	1.5 x 2.0m	
	<i>Hardenbergia violacea</i>	False Sarsaparilla	150mm	VARIABLES	
	<i>Myoporum parvifolium</i>	Creeping Boobialla	150mm	0.2 x 2.0m	
	<i>Rosmarinus officinalis</i> 'Prostrate'	Rosemary Prostate	300mm	0.3 x 1.0m	
	<i>Westringia fruticosa</i>	Coast Rosemary	300mm	1.5 x 1.5m	
ROOFTOP - SOUTHERN FACADE					
	<i>Convolvulus sabatius</i> 'Two Moons'	Convolvulus Two Moons	150mm	0.6 x 1.0m	AREA
	<i>Cotoneaster dammeri</i>	Bearberry Cotoneaster		0.2 x 2.4m	
	<i>Hardenbergia violacea</i>	False Sarsaparilla	150mm	VARIABLES	
	<i>Juniperus conferta</i> 'All Gold'	Shore Juniper	150mm	0.15 x 2.5m	
	<i>Liriope muscari</i>	Liriope Evergreen Giant	150mm	0.3 x 0.5m	
	<i>Sansevieria trifasciata</i>	Mother-in-law's tongue	150mm	0.7 x 0.5m	
	<i>Viola hederacea</i>	Native Violet	150mm	0.2 x 1.5m	
VERTICAL GREENING					
	<i>Cissus antarctica</i>	Kangaroo Vine	150mm	0.3 x 4.0m	
	<i>Hardenbergia violacea</i>	False Sarsaparilla	150mm	VARIABLES	
	<i>Pandorea pandorana</i>	Wonga Wonga Vine	150mm	VARIABLES	
	<i>Pandorea jasminoides</i>	Bower Vine	150mm	VARIABLES	
	<i>Trachelospermum jasminoides</i>	Star Jasmine	150mm	VARIABLES	



Acacia cognata 'Limelight'



Russelia equisetiformis 'Tangerine Falls'



Hardenbergia violacea



Myoporum parvifolium



Rosmarinus officinalis 'Prostrate'



Convolvulus sabatius 'Two Moons'



Westringia fruticosa



Cotoneaster dammeri



Cissus antarctica



Sansevieria trifasciata



Pandorea jasminoides



Juniperus conferta 'All Gold'



Viola hederacea



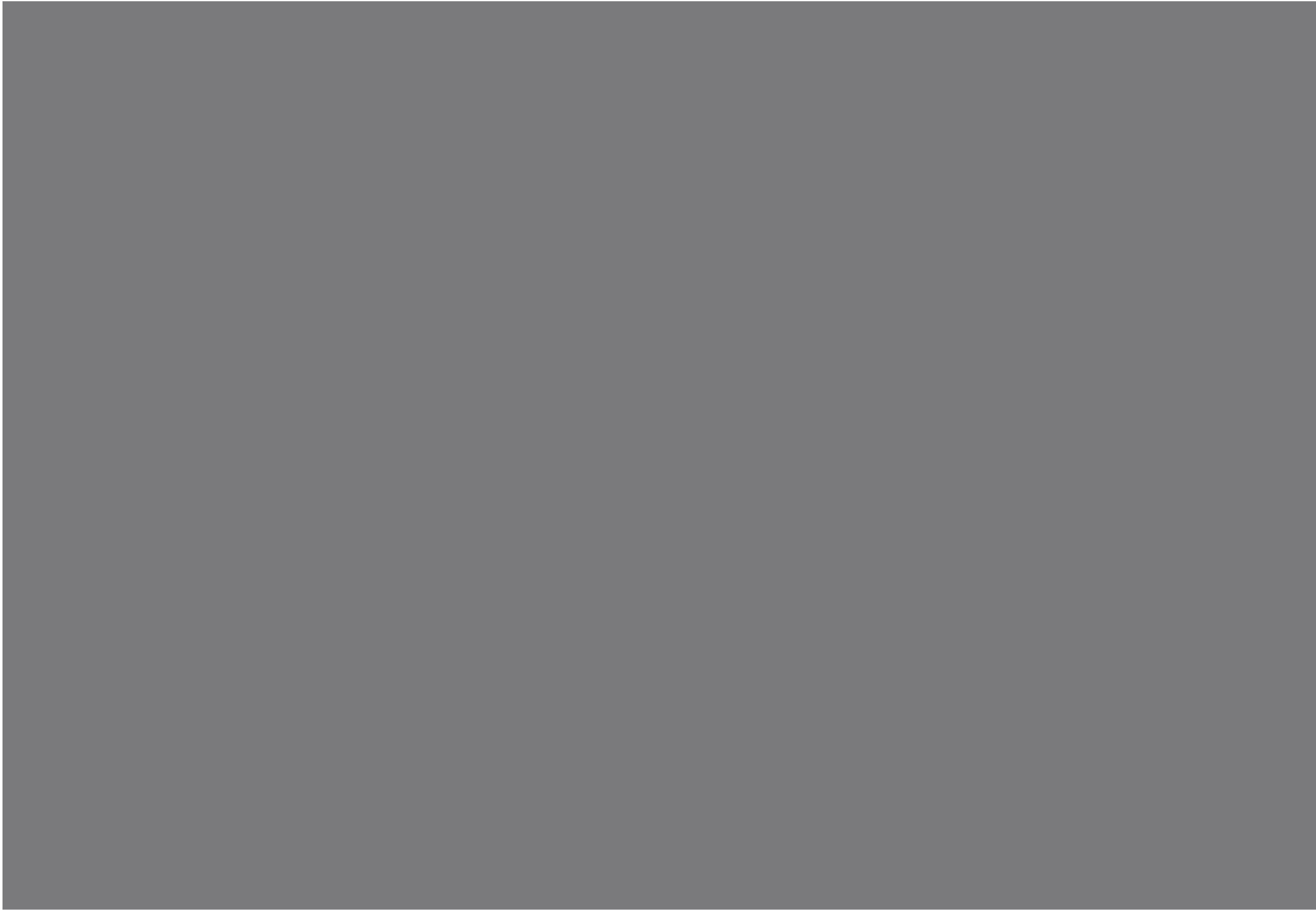
Pandorea pandorana



Trachelospermum jasminoides



Liriope muscari



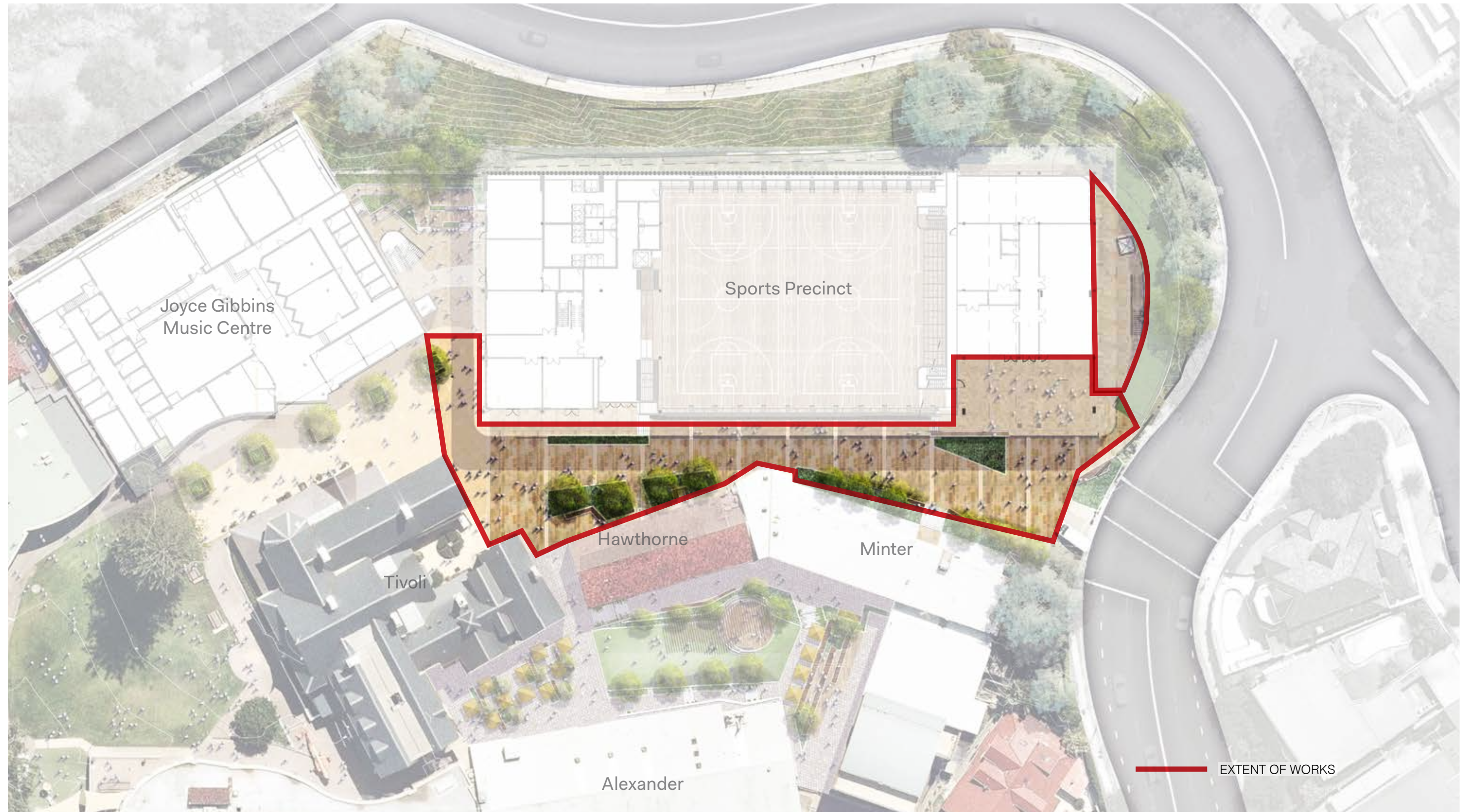
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Landscape Staging

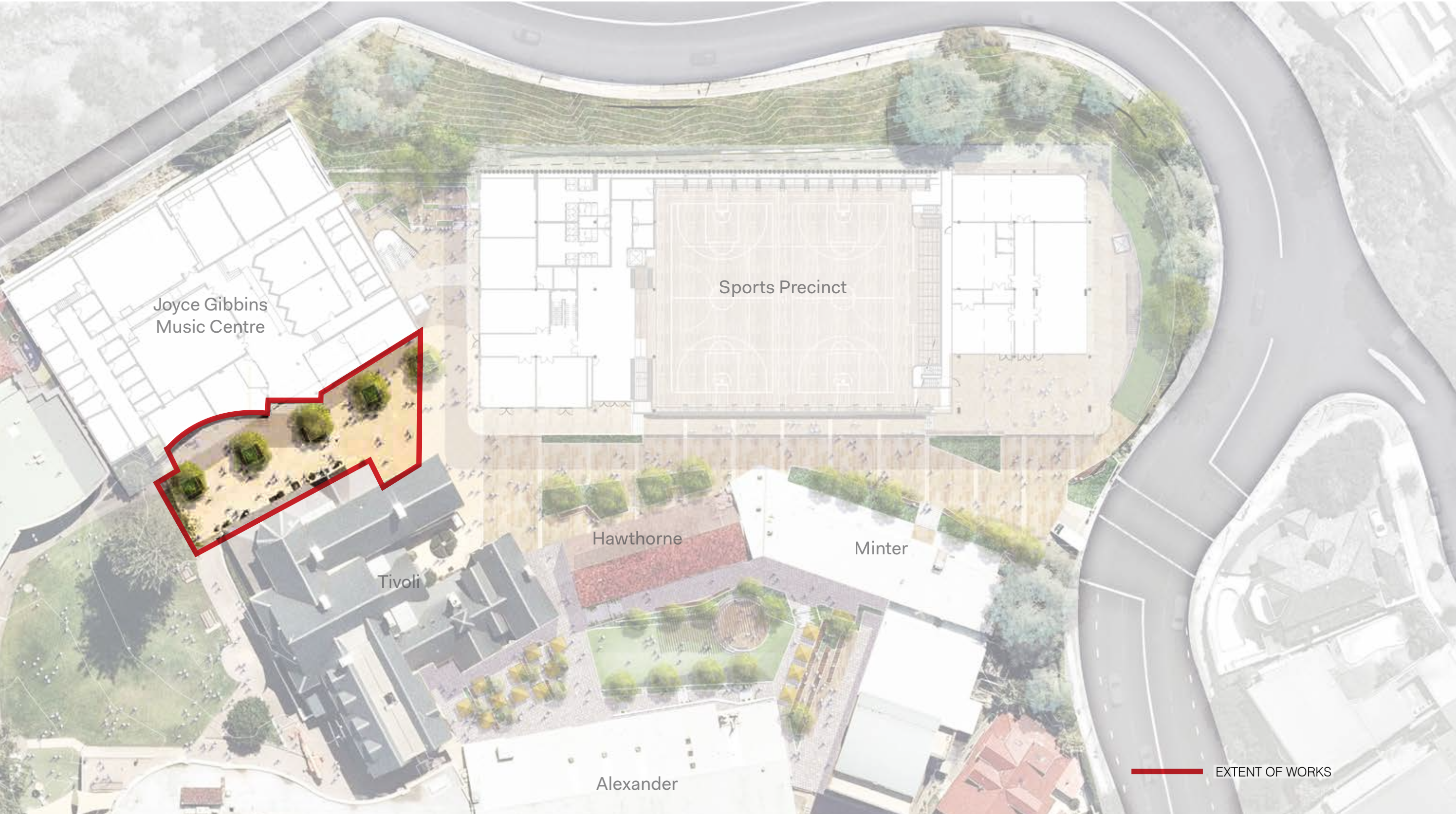
7.1 Stage 1



7.2 Stage 2C



7.3 Stage 2D



7.4 Stage 3



