BERRY & HOLDSWORTH

SITE 16 & 17 - 12-20 BERRY ROAD & 11-19 HOLDSWORTH AVENUE ST LEONARDS NSW 2065

LANDSCAPE CONCEPT
[DA- DESIGN REPORT]
PR151284-1

MAKING COMPLEX EASY

REVISION	DATE	PREPARED BY	APPROVED BY
[DA - RFI RESPONSE]	21/12/2022	AJ	SH
[DA SUBMISSION]	29/08/2022	VB	VB
[DA SUBMISSION]	16/06/2022	ML	ML
[50% CONCEPT]	02/02/2022	ML	MD
[PRE DA]	23/02/2022	ML	MD
[A]	17/12/2021	ZL	MD

Prepared for:
ALTIS PROPERTY PARTNERS

Site Location:
SITE 16 & 17 - 12-20 BERRY ROAD & 11-19 HOLDSWORTH AVENUE ST LEONARDS NSW 2065

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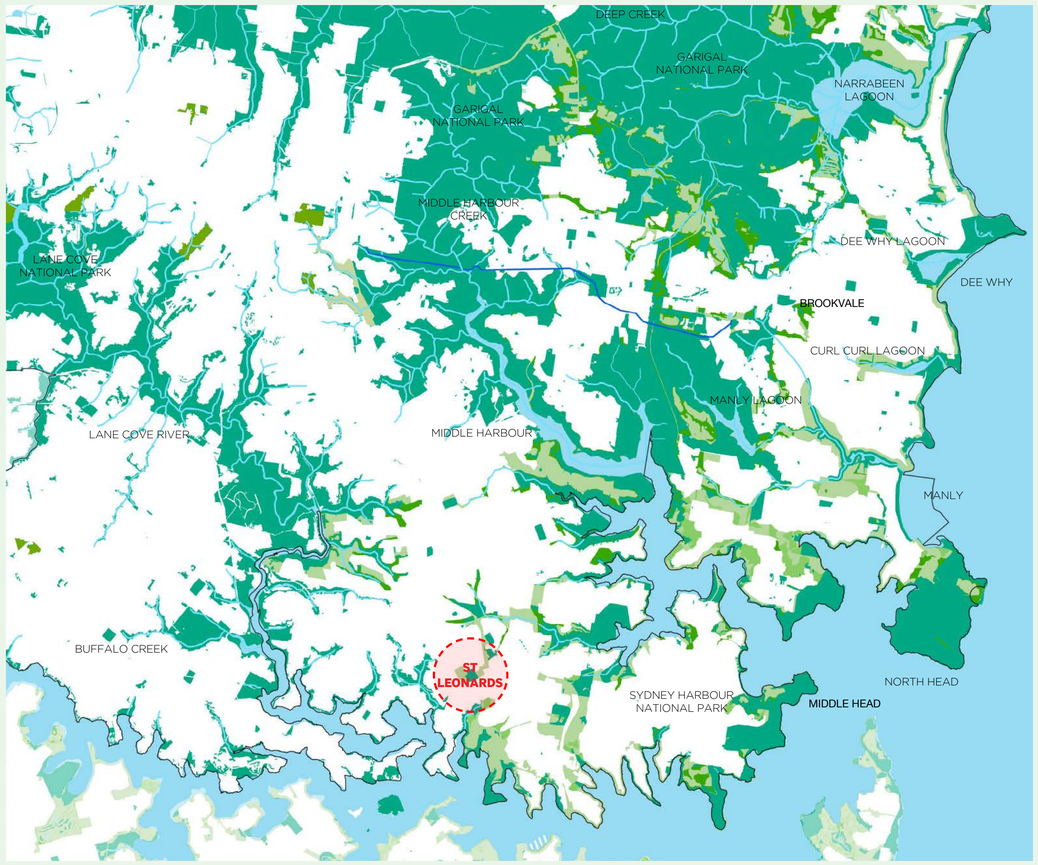
CONTENTS

We respectfully acknowledge the Traditional Custodians of the land we work on, the Cammeraygal people pay respect to their Elders past, present and emerging.

1.0 SITE UNDERSTANDING

1.1 SITE DESCRIPTION AND REFERENCE DOCUMENTS

SYDNEY GREEN GRID PLAN



ST LEONARDS SOUTH PRECINCT

The St Leonards South Precinct has significant strategic potential in terms of increased densities and the application of sustainable planning principles of integrating residential and employment land use and transport, given its proximity to the St Leonards Strategic Centre and the rail-bus hub around St Leonards Station and the future Sydney Metro Crows Nest Station The St Leonards South precinct was planned to provide for high residential density based on transit-orientated development principles. Urban planning, traffic, transport and economic studies were undertaken to support the plan. The Master Plan envisages the Landscape Master Plan to be an important feature of the community's amenit

DESIGN EXTENT

The Development Application reflects the development as described below:

- Public and private open space on ground
- Terrace / Facade Planting
- Roof level private open space

LANDSCAPE COMPLIANCE STATEMENT - APARTMENT DESIGN GUIDELINES

"Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, coordinating water and soil management, solar access, microclimate, tree canopy, habitat values, and preserving green networks. Optimising usability, providing privacy and opportunities for social interaction, equitable access and respect for neighbours' amenity, provides for practical establishment, long term management and will determine the overall success of a space"

REFERENCE DOCUMENTS

The following development application has been prepared with reference to the following documents:

Site Level

- St Leonards South Landscape Master Plan (2020)
- St Leonards South Development Control Plan - Parts A + B (2020)

Local Level

- Local Strategic Planning Statement (2020)
- Sustainability Action Plan 2016-2021 (2016)
- The Natural Environment of Lane Cove - 2nd Edition (2017)

State Level

- Apartment Design Guidelines (2015)
- St Leonards and Crows Nest 2036 Plan (2019)
- Draft Greener Places Policy - Issue no. 03 (2020)
- Sydney Green Grid - North District (2017)

SOIL GUIDELINES

Mature Size	Height	Canopy Width	Soil Volume	Soil Area	Min Depth
Turf & Grasses	0.2 -1.0m	-	-	-	200 - 450mm
Shrubs	1-3m	-	-	-	500- 600mm
Small tree	6-8m	4m	9 m^3	3.5 x 3.5m	800mm
Medium tree	8-12m	8m	35m^3	6 x 6m	1000mm
Large tree	12-18m	16m	150m^3	10 x 10m	1200mm

1.2 LOCAL CONTEXT

IMAGERY DATE: 2020

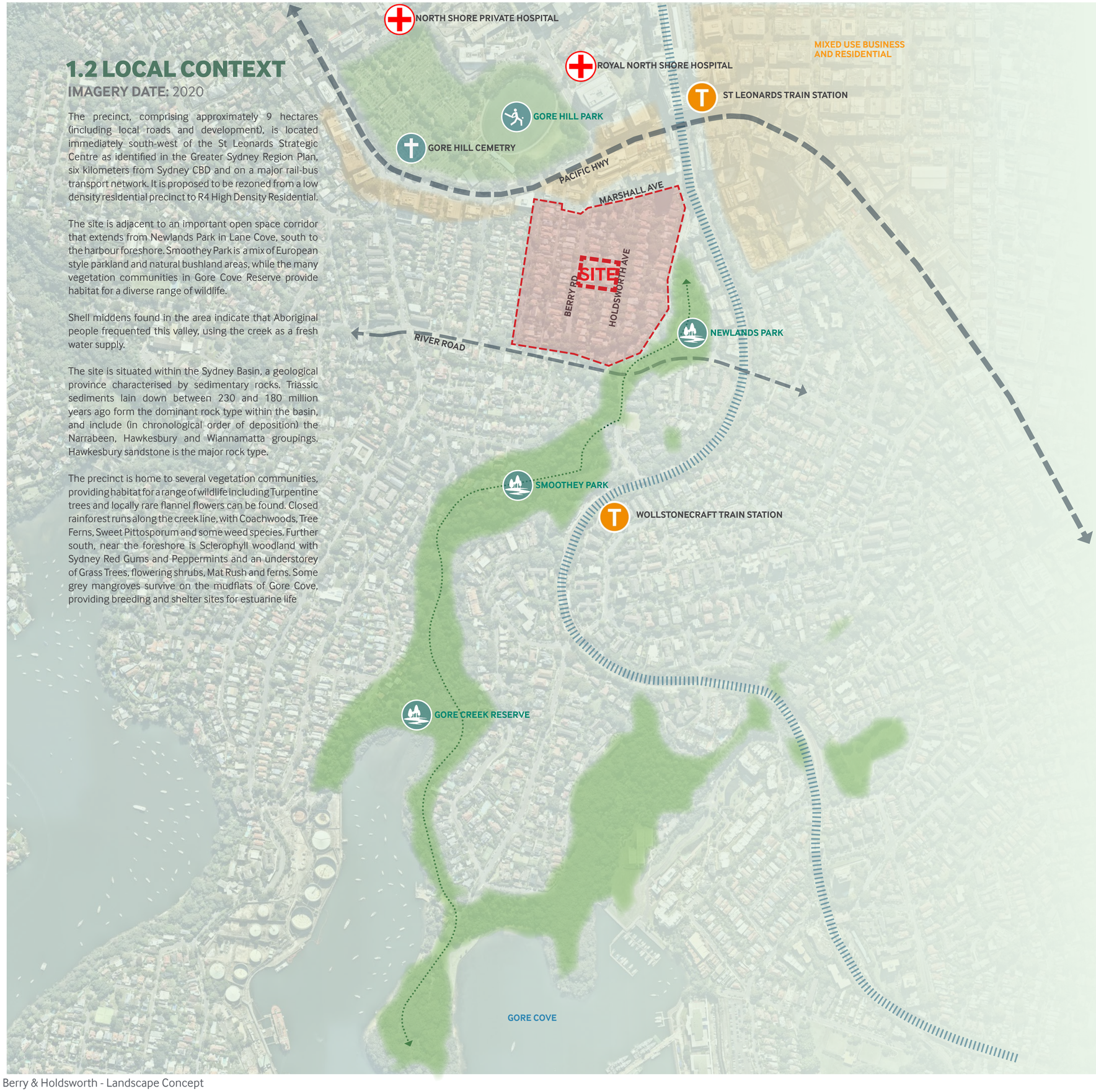
The precinct, comprising approximately 9 hectares (including local roads and development), is located immediately south-west of the St Leonards Strategic Centre as identified in the Greater Sydney Region Plan, six kilometers from Sydney CBD and on a major rail-bus transport network. It is proposed to be rezoned from a low density residential precinct to R4 High Density Residential.

The site is adjacent to an important open space corridor that extends from Newlands Park in Lane Cove, south to the harbour foreshore. Smoothey Park is a mix of European style parkland and natural bushland areas, while the many vegetation communities in Gore Cove Reserve provide habitat for a diverse range of wildlife.

Shell middens found in the area indicate that Aboriginal people frequented this valley, using the creek as a fresh water supply.

The site is situated within the Sydney Basin, a geological province characterised by sedimentary rocks. Triassic sediments lain down between 230 and 180 million years ago form the dominant rock type within the basin, and include (in chronological order of deposition) the Narrabeen, Hawkesbury and Wiannamatta groupings. Hawkesbury sandstone is the major rock type.

The precinct is home to several vegetation communities, providing habitat for a range of wildlife including Turpentine trees and locally rare flannel flowers can be found. Closed rainforest runs along the creek line, with Coachwoods, Tree Ferns, Sweet Pittosporum and some weed species. Further south, near the foreshore is Sclerophyll woodland with Sydney Red Gums and Peppermints and an understorey of Grass Trees, flowering shrubs, Mat Rush and ferns. Some grey mangroves survive on the mudflats of Gore Cove, providing breeding and shelter sites for estuarine life

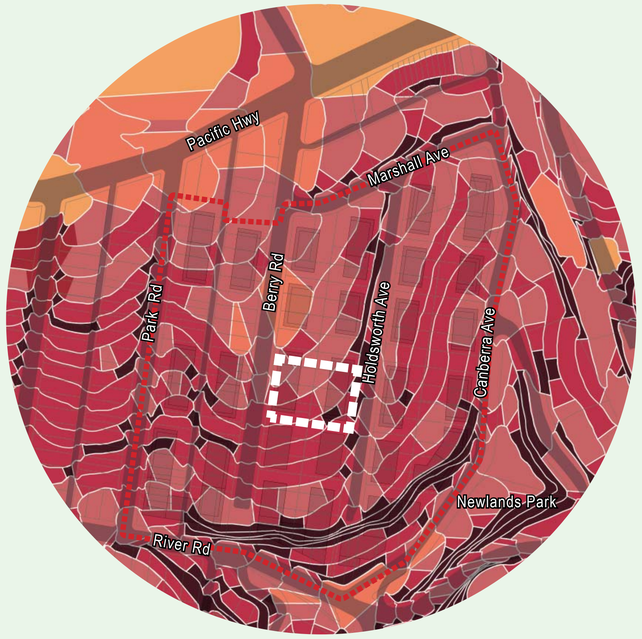


1.3 SITE ANALYSIS

Existing trees:
- road reserve / public domain
- private property

EXISTING VEGETATION

- Mature street trees define the character of the area;
- Trees have been greatly impacted by overhead wires on one side of streets due to pruning;
- Generally native with a few exceptions dotted throughout such as Jacarandas and Crepe Myrtles;
- Holdsworth Avenue has the strongest street tree character with generous verges and mature Brushbox tree planting creating a strong avenue;- please note trees to Holdsworth and Berry are under review by Council
- Park Road Melaleucas are well established, however in poor condition on the eastern side due to pruning to clear overhead wires;
- Berry Road has less well established street trees;
- Canberra Avenue has Eucalypt species on the west side but a number of these have failed or had to be removed;
- There are numerous existing trees in backyards of varying sizes/species including several large Eucalypt species;
- There are several significant trees located in front yards, including several along the south side of Marshall Avenue.



Grade:
- <1:5
- 1:5 - 1:10
- 1:10 - 1:20
- 1:20 - 1:50
- >1:50

GRADES

The existing site topography falls from the Pacific Highway north south to River Road and also west-east to Canberra Avenue and Newlands Park. Grades are generally steep with the majority of the site being between 1:20 and 1:5 with localised slopes exceeding 1:5, particularly in the south part of the site.

The existing topography presents a number of issues in relation to the master plan including accessibility, solar access and how the built form responds to the often steep grade changes.

Transport:
- Cycle route Lane Cove Bike Plan 2019
- Train line
- Train station
- On street parking
- Bus stops

TRANSPORT NETWORKS

The site lies in close proximity to the rail-bus hub around St Leonards Station and the future Sydney Metro Crows Nest Station.
The steep topography rising from south to north makes pedestrian and cycle access to public transport centred around the station from the south part of the site more difficult.

The current access to the station from the south side of the Pacific Highway is also not ideal with a degree of back-tracking required due to the current location of signalised crossings in relation to the station and Canberra Avenue. The proposed public plaza over the railway lines south of the Pacific Highway may assist with access to the station by allowing pedestrians to cross over the railway from the west side and access the existing underpass on the east.

A number of cycle routes pass through or adjacent to the site (as identified in the Lane Cove Bike Plan 2019) including several east-west routes including along River Road, and north-south along all of the precinct's roads to connect with Herbert St or via Marshall Ave to connect to Reserve Rd.

The existing streets all typically have on-street car parking although this is somewhat limited by driveways.

1.4 UNDERSTANDING THE LOCAL ENVIRONMENT

The Lane Cove municipality has approximately 90 hectares of bushland under the care, control and management of Council. The municipality consists of a series of ridges and gullies bounded by the Lane Cove River to the south. Lane Cove's bushland is generally located along the creeks and the river foreshores in long, narrow reserves which also thread through and separate various suburbs along the bushland lines. Lane Cove bushland offers a diverse array of flora and fauna. There are around 625 species of indigenous plants among them a number of vegetation types such as wet and dry sclerophyll forest, heath land, mangroves and tidal flats.

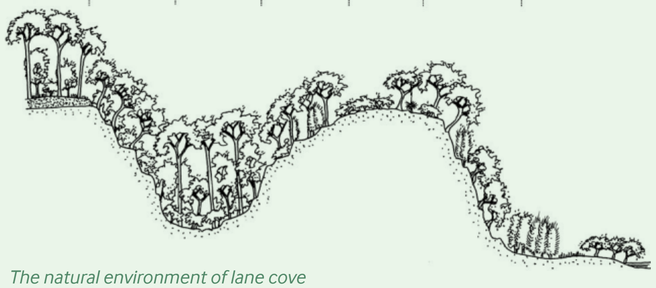
The bushland of Gore Creek Reserve which is located to the south of Berry and Holdsworth covers an area of 5.8 Hectares. From Bushland Park in the north, the creek enters Gore Creek Reserve and tumbles over Lilly Pilly Falls and then on through the valley and into the bay

The landscape design of Berry and Holdsworth will reflect Gore Creeks Vegetation Communities including the Littoral Rainforest, Sandstone Moist Forestand Sandstone Sheltered Forests which are home to a number of key species such as: *Acmena Smithii* - Lilly pilly, *Ceratopetalum apetalum* - Coachwood, *Glochidion ferdnandi* - Cheese Tree and *Angophora costata* - Sydney Redgum.

The extension of these vegetation communities into Berry and Holdsworth will help promote urban biodiversity and create a stronger fauna and flora corridor through to Gore Creek.

Lane Cove Vegetation Communities

Wet Sclerophyll Forest	Dry Sclerophyll Forest	Wet Sclerophyll Forest	Dry Sclerophyll Forest	Tall Heath	Dry Sclerophyll Forest	Wetlands
Sydney Blue Gum Blackbutt Turpentine	Sydney Red Gum Sydney Peppermint Red Bloodwood	Turpentine Blackbutt Red Mahogany Coachwood	Sydney Red Gum Sydney Peppermint Red Bloodwood	Tick Bush (Kunzea) Heath-leaved Banksia	Sydney Red Gum Sydney Peppermint Scribbly Gum	Swamp Oak Saltmarsh Mangroves (originally only in some places)
Grassy understory, now parkland	Flowering shrub understory	'Rainforest' understory	Flowering shrub understory		Dry flowering shrub understory	



The natural environment of lane cove

1.5 DESIGNING WITH COUNTRY

RPS and Silvester Fuller are working together with WSP and Michael Hromek to further explore the opportunities of connecting to country. Please refer to the connecting to Country report prepared by WSP for further information.

RPS acknowledges that it is situated on Gameraygal land and that the Gameraygal people are the Traditional and Spiritual Custodians of this land. The Lane Cove area has been home to Aboriginal peoples since time immemorial. Prior to the arrival of the First Fleet, the area in which Lane Cove is situated was inhabited by the Gameraygal Group of the Ku-ring-gai Aboriginal Tribe. The group, which inhabited the north shore of Port Jackson, was one of the largest in the Sydney area.

The Gameraygal people lived primarily along the foreshores of the extensive river systems and the harbour, they fished and hunted in the waters and hinterlands of the area and harvested food from the surrounding bush whilst moving through their country in accordance with the seasons. Connection to the land was lived through a complex ritual life – language, customs, spirituality and lore.

The valley provided a wide range of food for a number of Aboriginal communities. Midden heaps along the Lane Cove River indicate that Aboriginal peoples occupied the area for thousands of years. The estuaries provided foods such as oysters, fish, crabs and waterfowl, while the forests would have provided possum, kangaroos, bandicoots and other animals and there are still sites in the Lane Cove area containing rock carvings.

The intial landscape design looks to celebrate the Indigenous culture of the Gameraygal people and the Gameraygal land.

THROUGH THE SEASONS - A LANDSCAPE JOURNEY

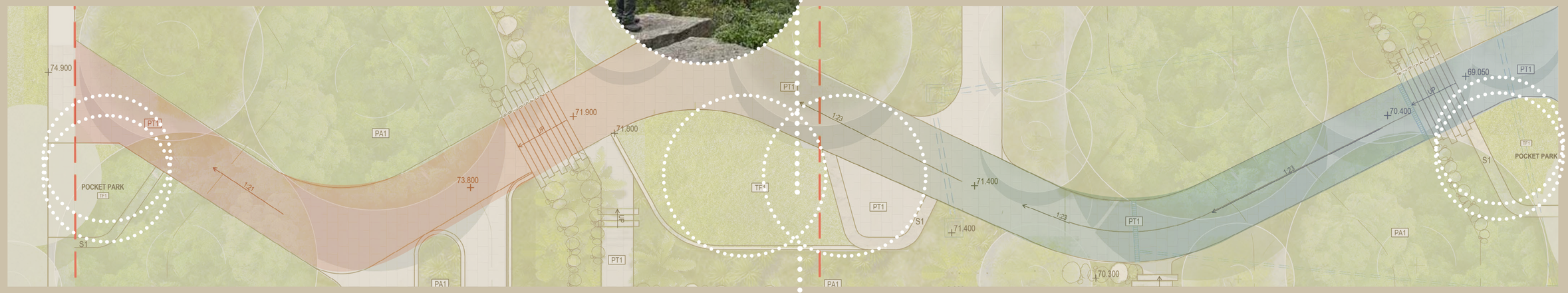
After a number of conversations with local indigenous elder Uncle Dennis Foley, RPS has been inspired by stories of the indigenous calendar. Instrically tied to the local flora and fauna the changes in seasons are signified by the movement patterns of the rainbow lorikeet, mullet and fruiting of the Lilly pilly.

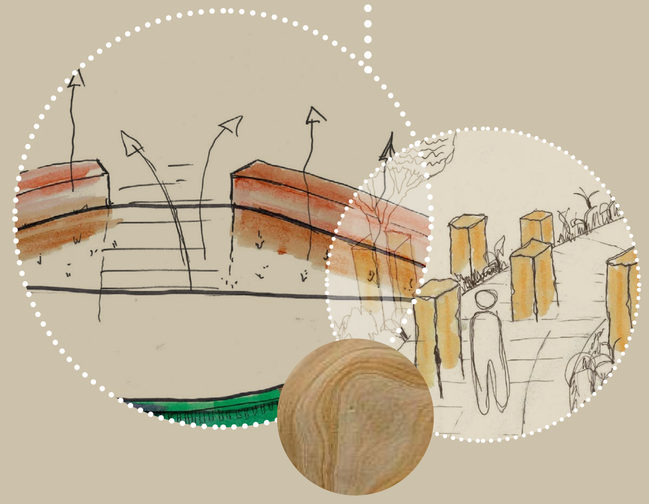
The vision is to represent these seasonal milestones through abstract landscape interventions in an attempt to connect residents and visitors alike to a sense of place.

CELEBRATION OF THE SEASONS

REFLECTION & SURVEILLANCE

The central through link allows for an outlook over Country, allowing for contemplation of indigenous bushland and a strong connection to the sky, land and water. Cues to traditional practices help tie the landscape narrative together. A combination signage showing the landscape pre-masterplan as well as depictions of pre-settlement land, prompting thought of the impacts and wonders of human development.





OF THE EARTH

Rammed earth seating, a feeling of rising from the ground & undeniable linking to site. Clear soil horizons visible, break up of surrounding surface treatment.

1.6 UNDERSTANDING THE MASTER PLAN

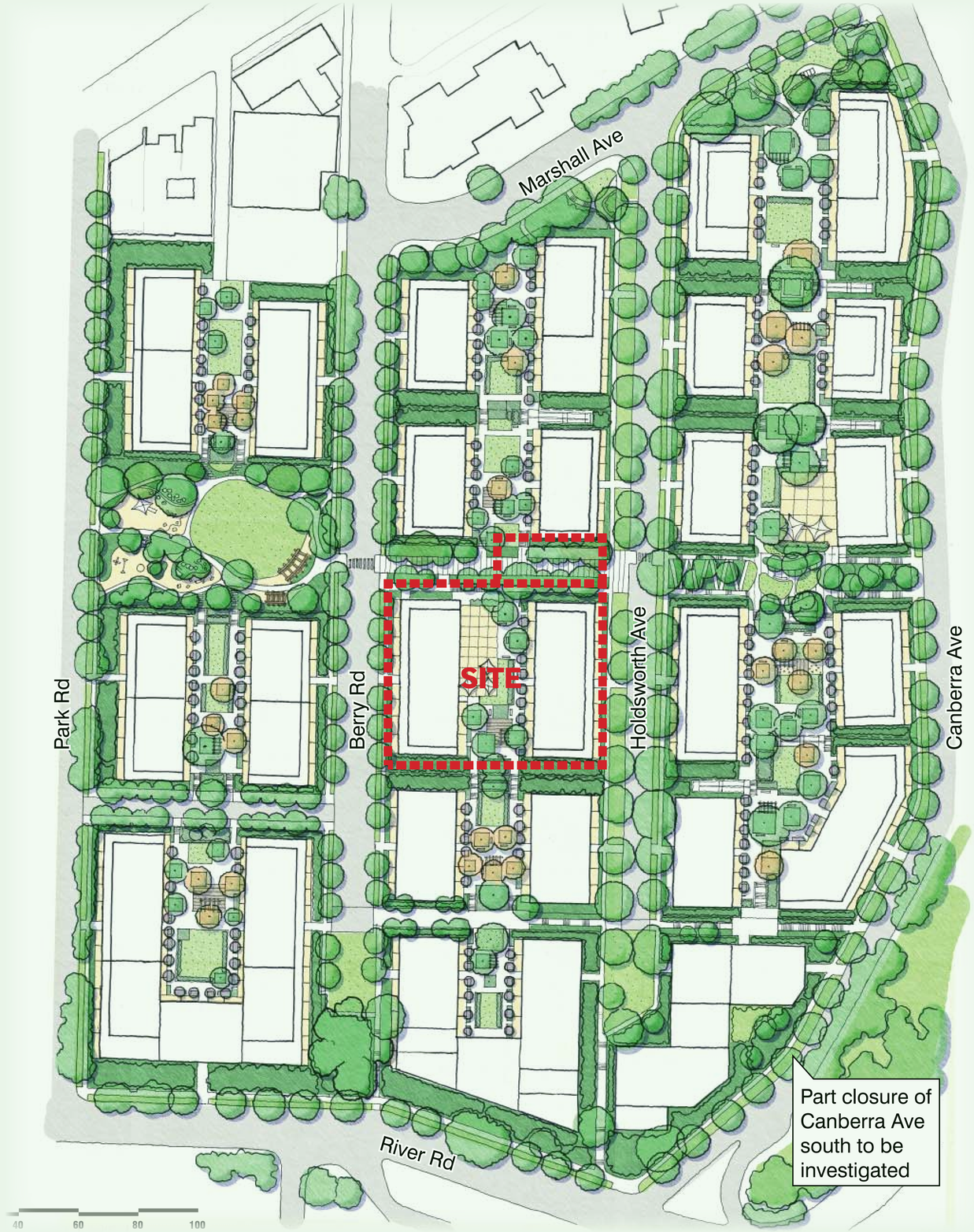
As per the St Leonards Master Plan prepared by Oculus the overall master plan is focused on the following drivers;

- **This master plan (shown on the right) takes elements from the formal (urban) and informal (natural) approaches to allow for a clear distinction between the private communal spaces and the public domain.**

- **The public spaces are in keeping with the existing native / informal character of the area and surrounding parks, tying together the overall development.**

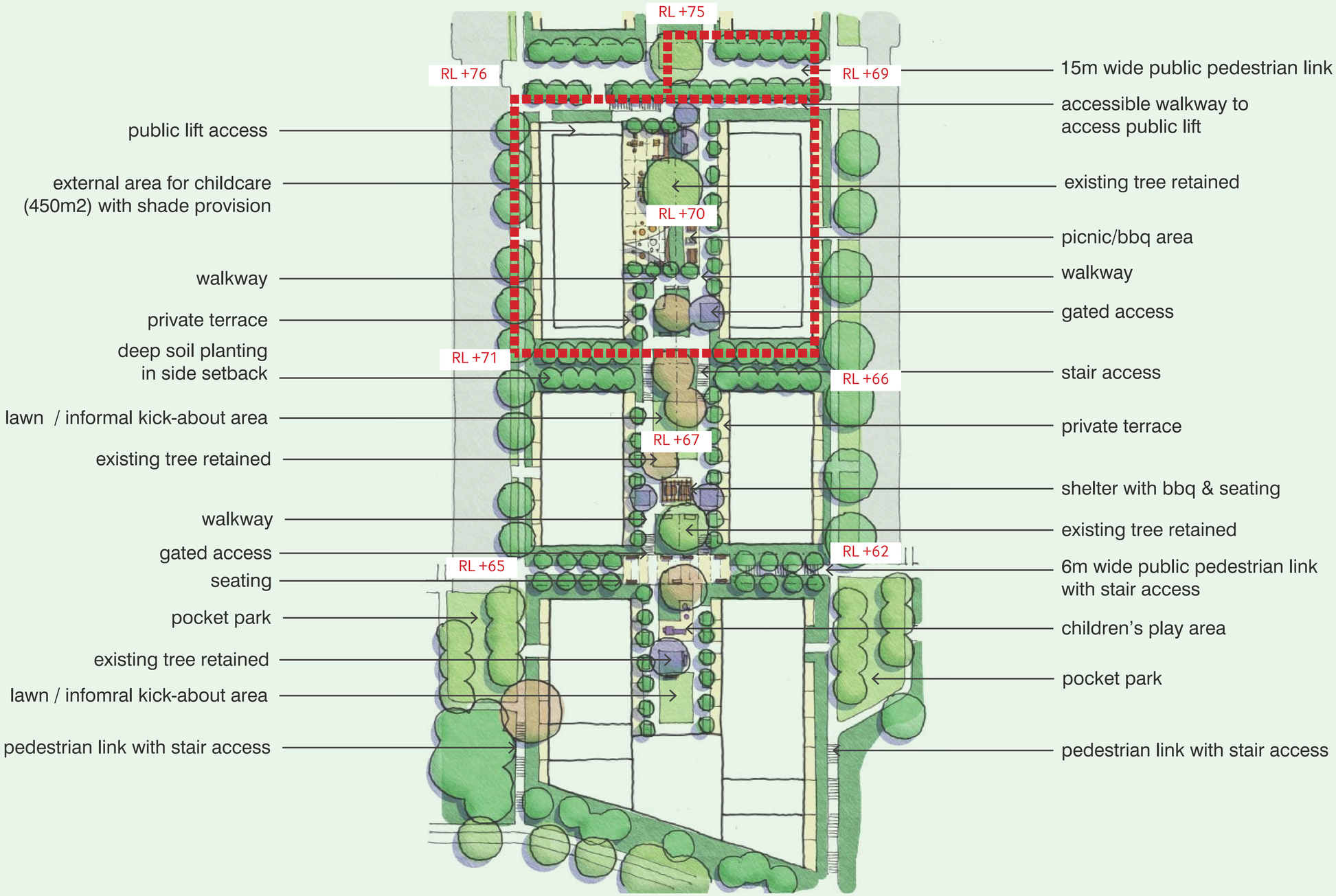
- **There is greater flexibility within the communal open spaces (green spines) which allow for more individual expression between developments.**

- **Material palettes to be high quality and robust while providing a distinction between public and private areas.**



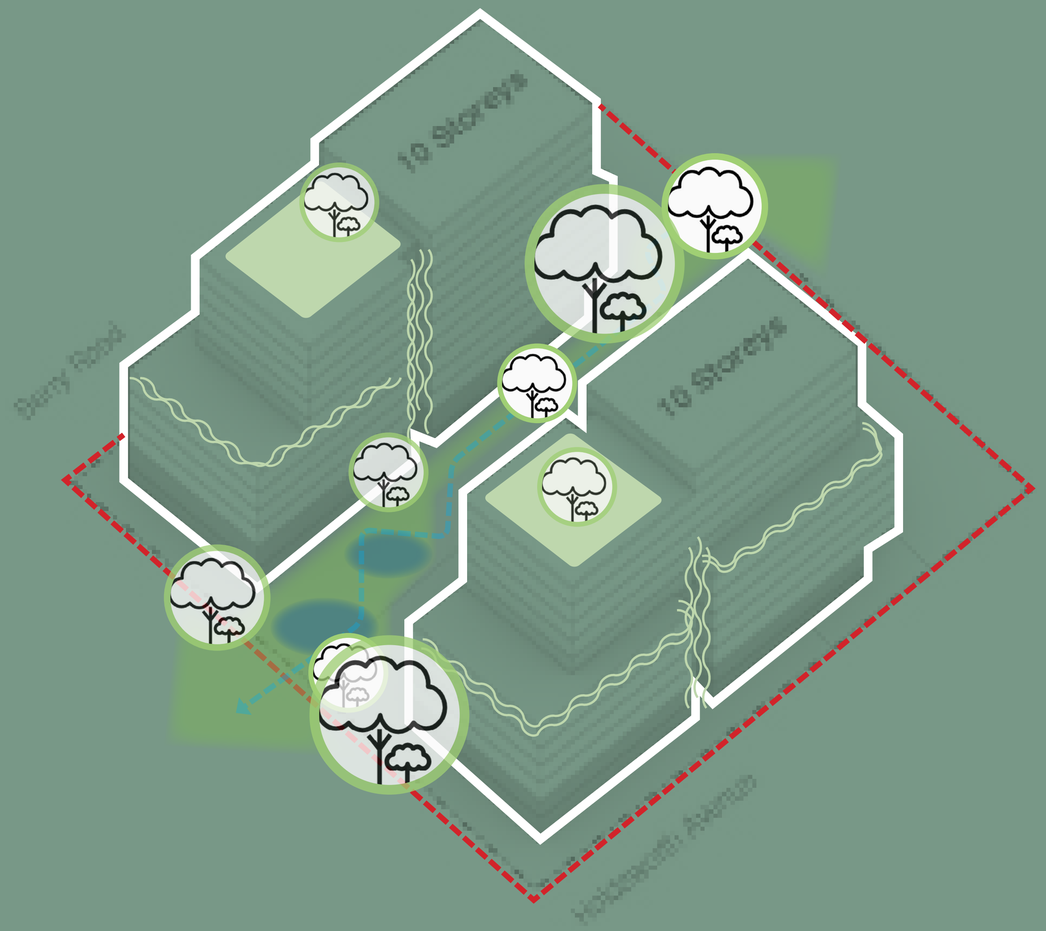
ST LEONARDS SOUTH MASTER PLAN - OCULUS 2020

1.7 UNDERSTANDING THE MASTER PLAN - SITES 15-20



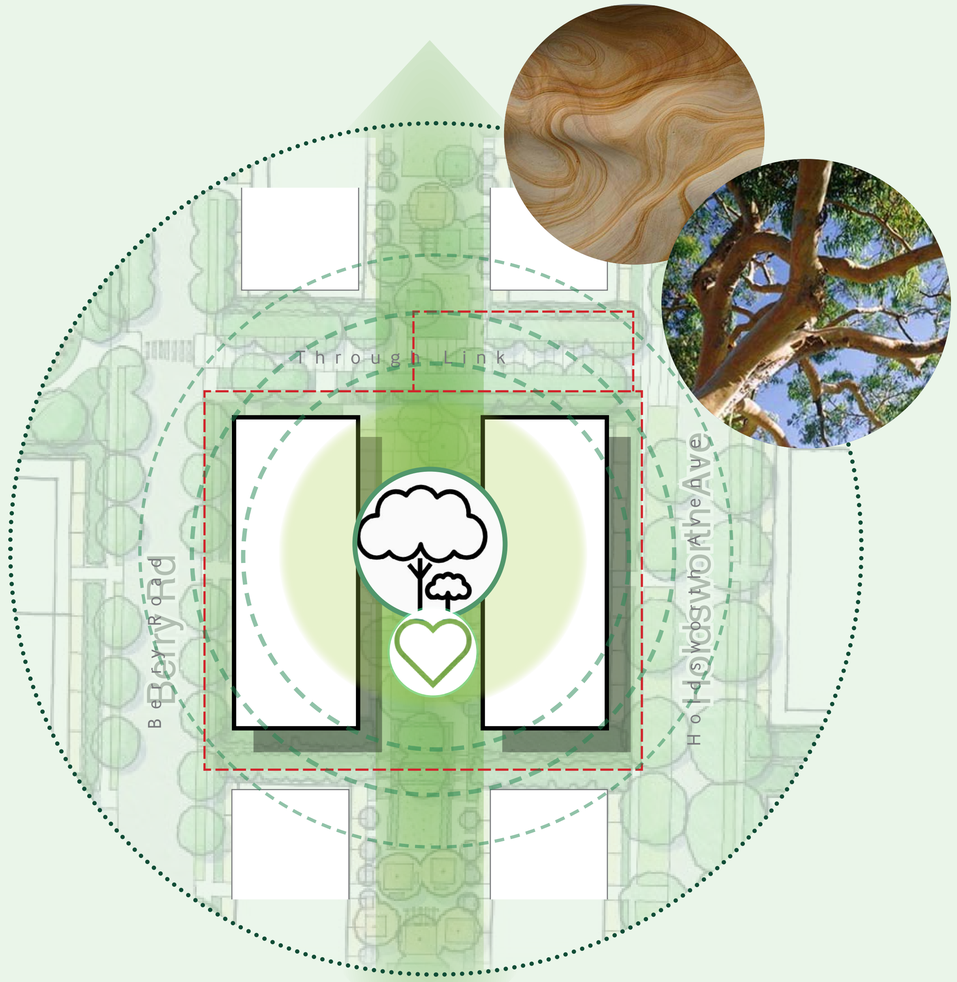
2.0 DESIGN VISION

2.1 DESIGN VISION STATEMENT

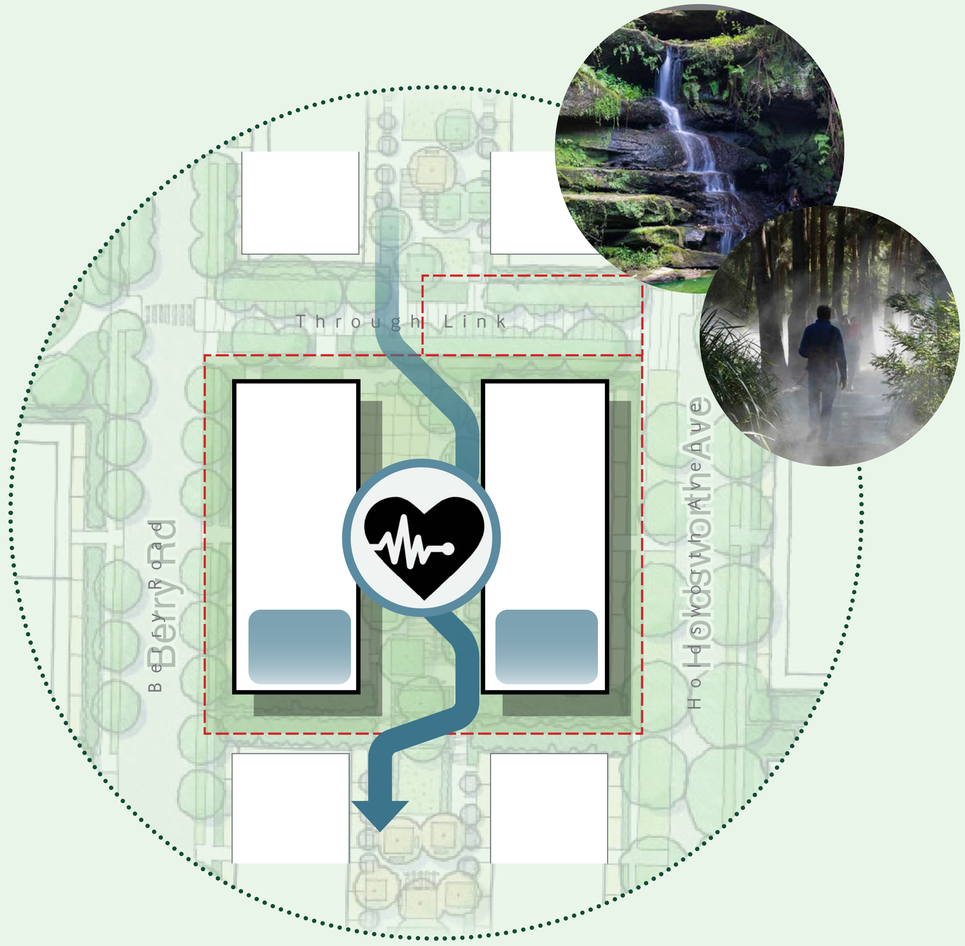


LOCATED AT THE HEART OF ST LEONARDS SOUTH, BERRY AND HOLDSWORTH WILL CELEBRATE THE LITTORAL RAINFORESTS OF GORE CREEK WITH A STRONG CONNECTION TO NATURE. RESIDENTS WILL EXPERIENCE A LANDSCAPE THAT PROMOTES HEALTH, HEALING AND WELL-BEING.

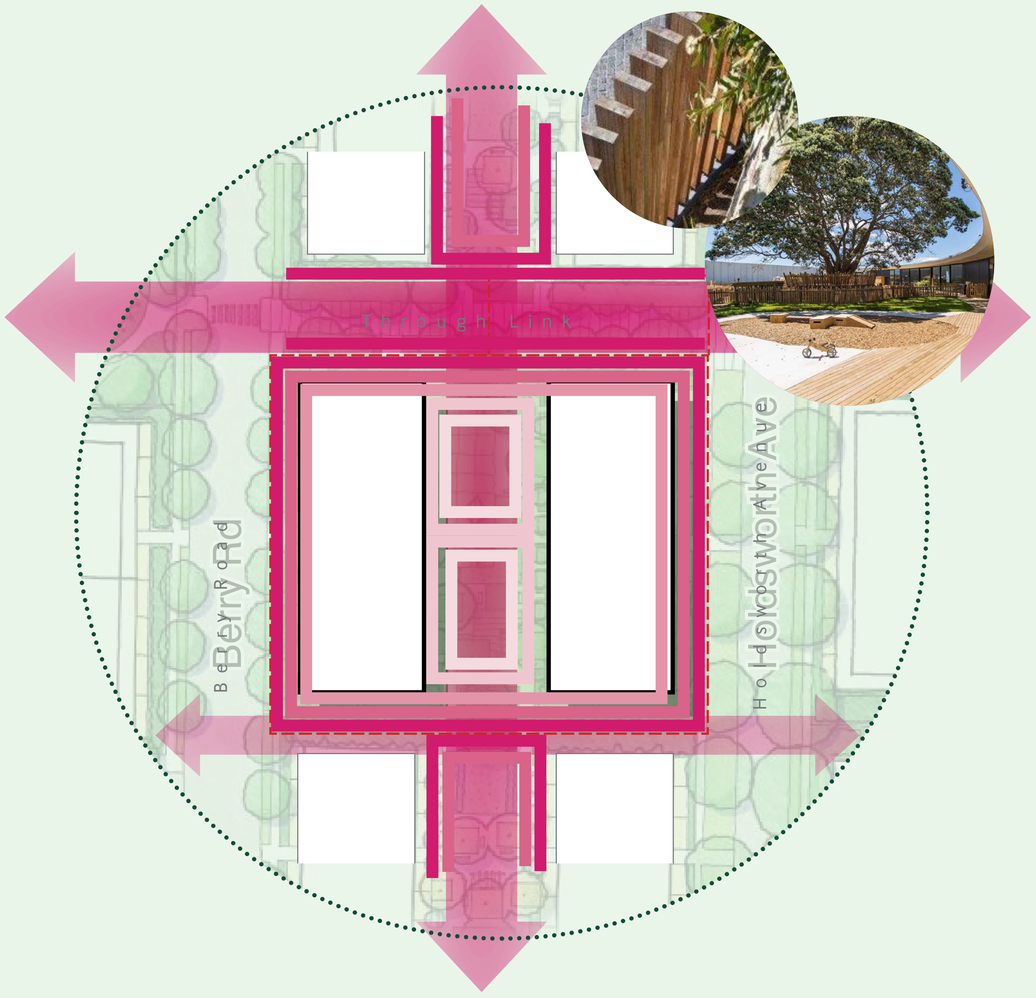
2.2 DESIGN PRINCIPLES



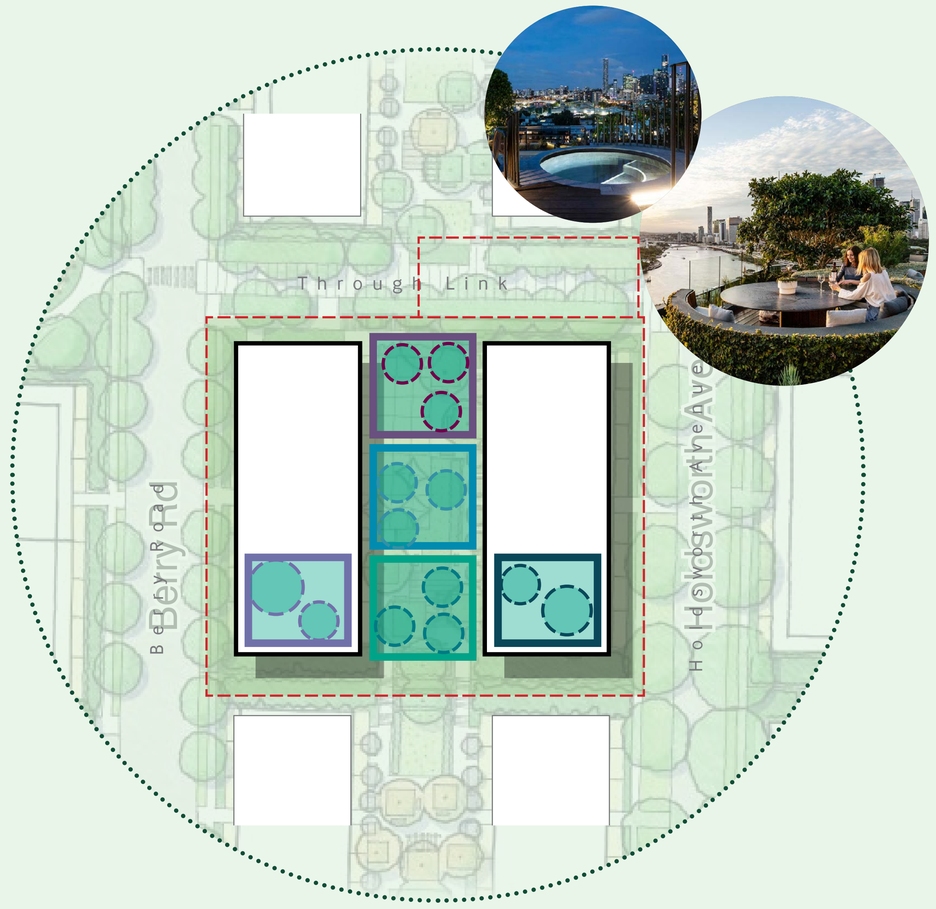
A CONNECTION TO NATURE & CELEBRATION OF COUNTRY



A PLACE FOR HEALING , RESPITE & TRANQUILLITY



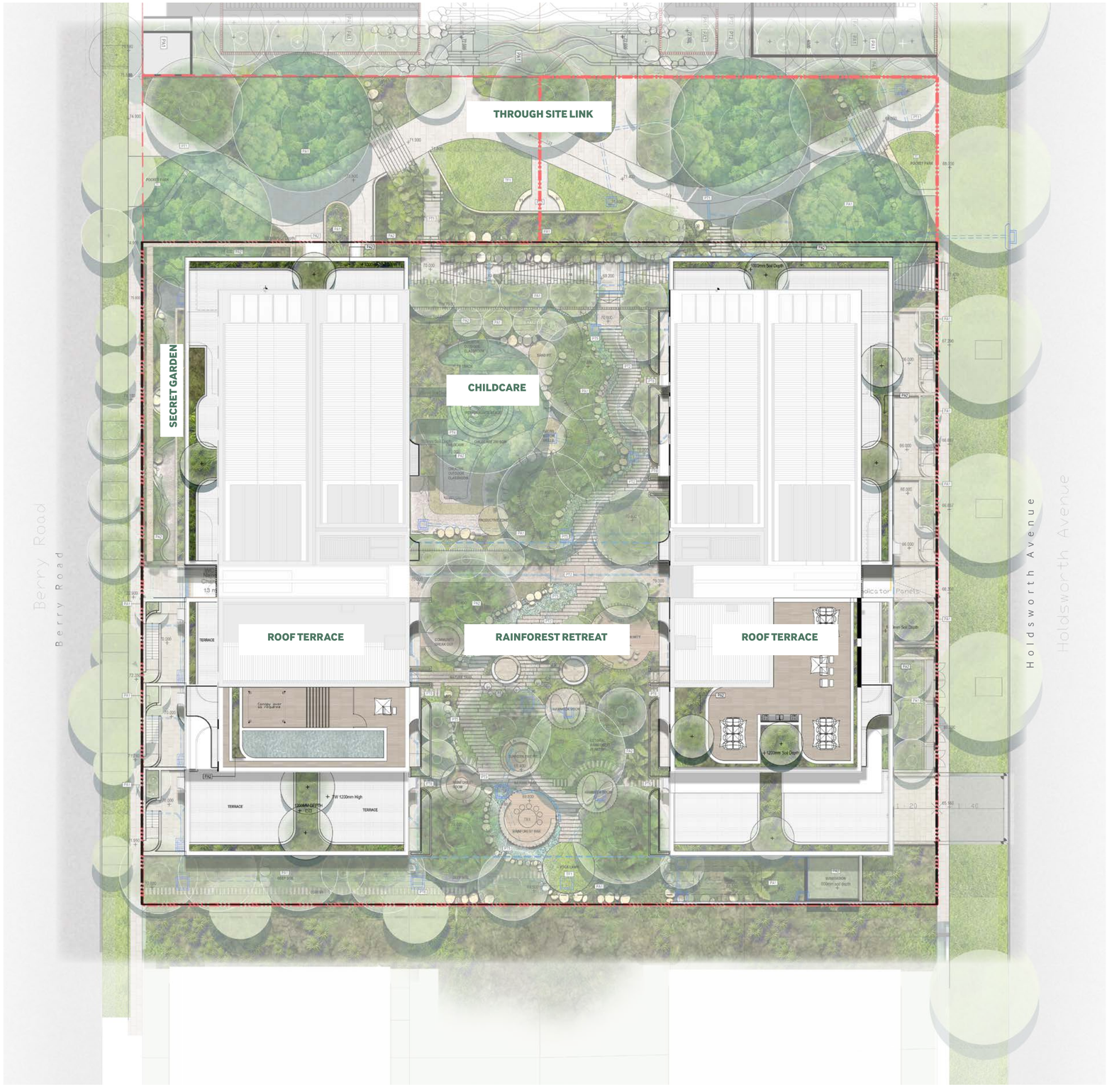
INTEGRATION OF EDGES & BLURRED BOUNDARIES



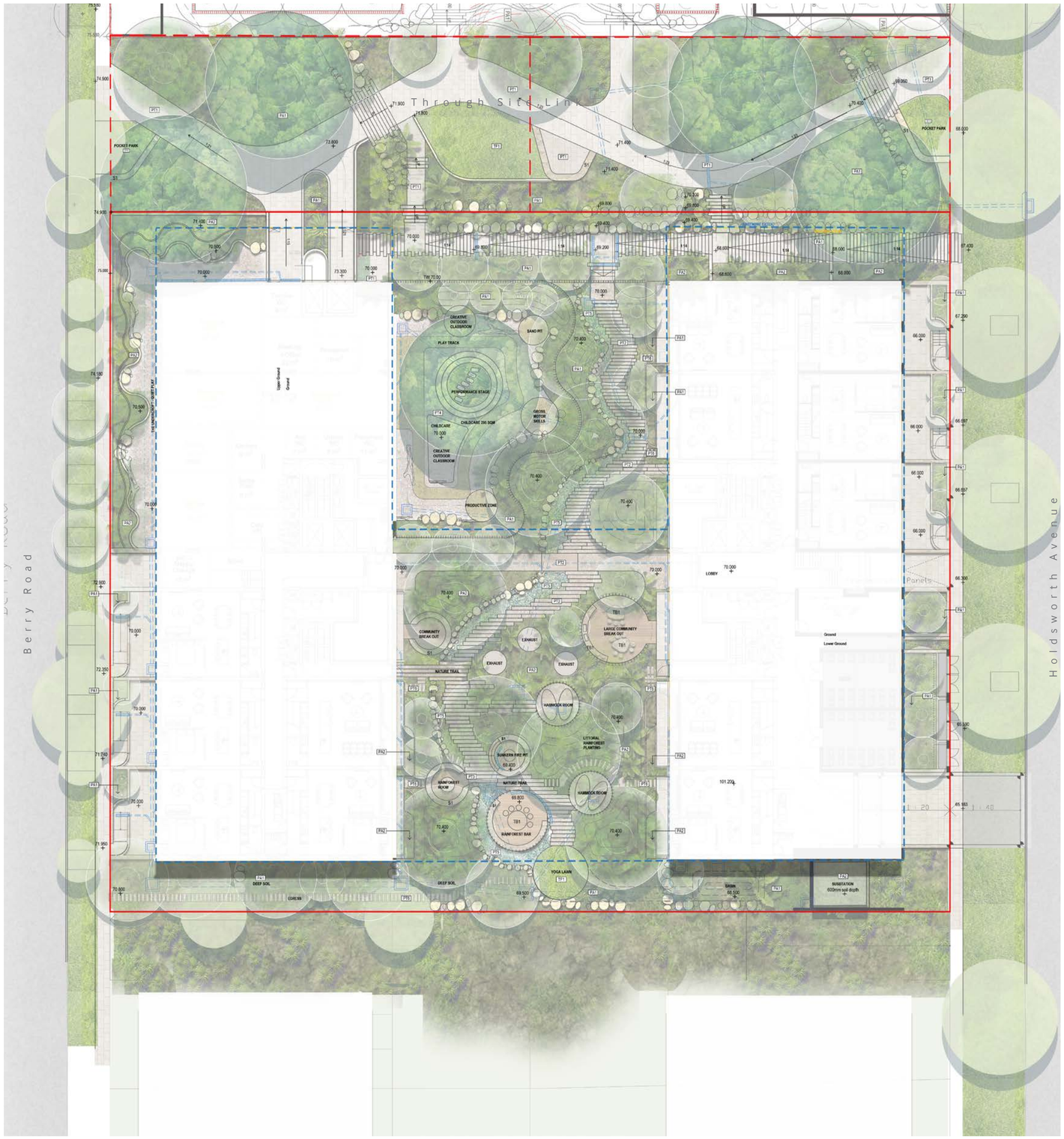
SPACES FOR HEALTH & WELL-BEING

3.0 DESIGN RESPONSE

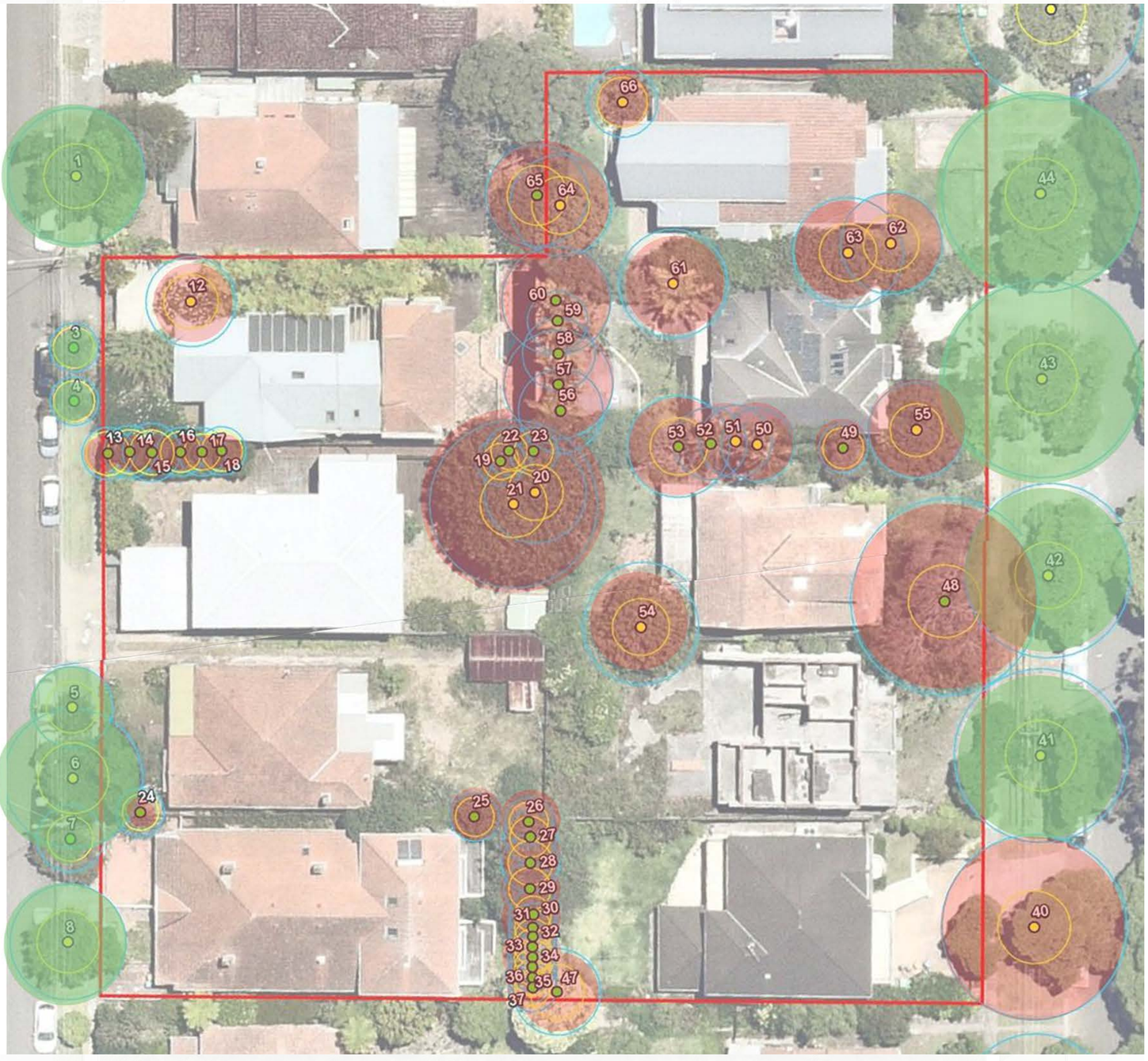
3.1 MASTER PLAN



3.2 GROUND FLOOR PLAN



3.3 VEGETATION MANAGEMENT PLAN



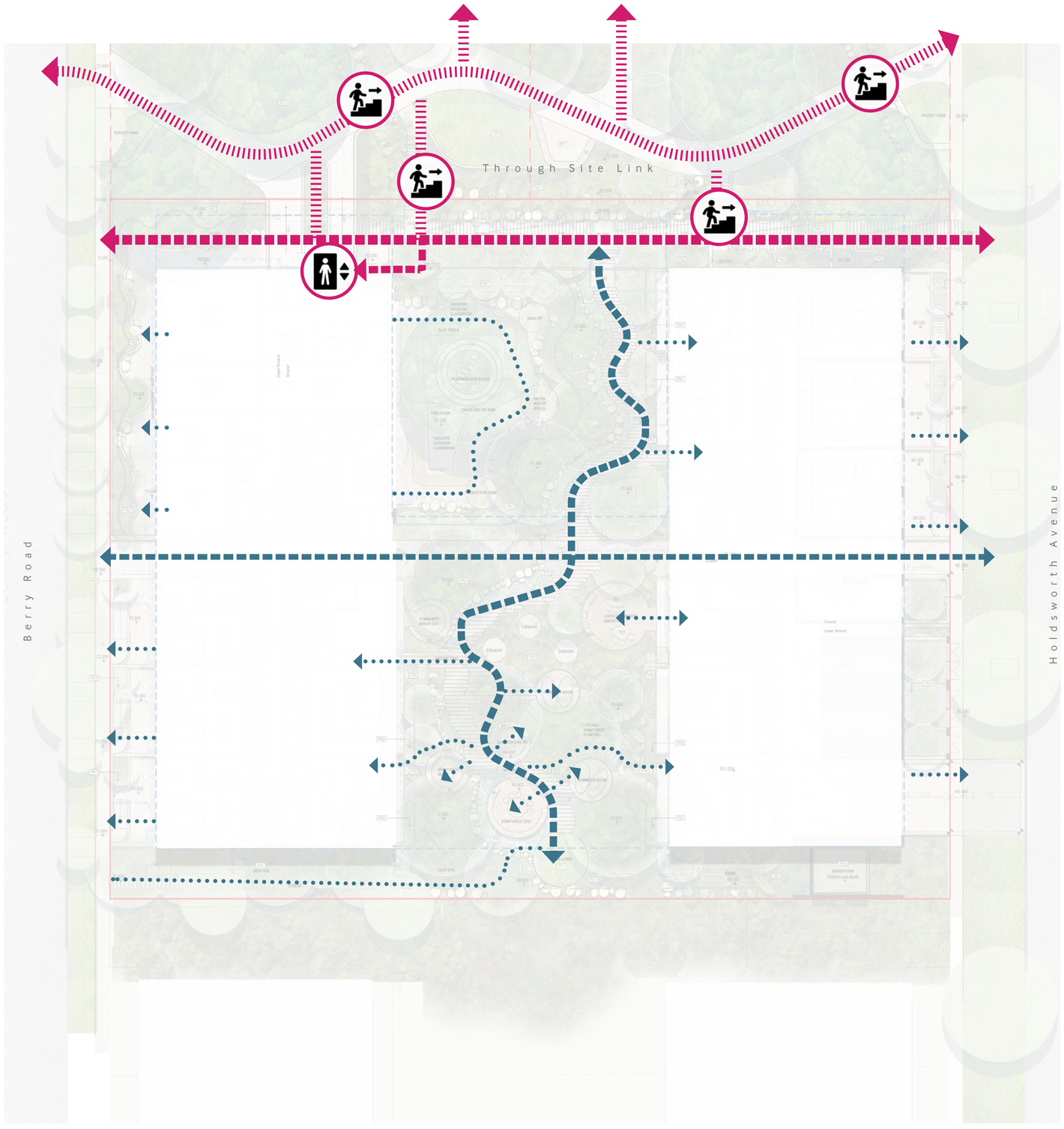
Tree Retain

Tree Remove

Please read in conjuction with Arborist report by Ecological

Tree	Survey ID	Botanical name	Height (m)	Spread (m)	Health	TPZ (m)	Retention value
1	41	Podocarpus elatus	8	7	Good	5.6	Medium
2	40	Dead tree	5	6	Poor	3.6	Remove
3	42	Callistemon viminalis	4	5	Fair	2.0	Low
4	43	Callistemon viminalis	4	4	Fair	2.0	Low
5	45	Podocarpus elatus	5	4	Fair	3.4	Medium
6	44	Eucalyptus sp.	10	9	Fair	5.8	Medium
7	46	Photinia robusta	5	6	Fair	2.8	Low
8	49	Podocarpus elatus	7	6	Fair	4.8	Medium
9	48	Callistemon viminalis	6	8	Fair	5.4	Medium
10	47	Podocarpus elatus	5	3	Fair	3.6	Medium
11	-	Callistemon viminalis	7	10	Fair	3.6	Medium
12	38	Plumeria rubra	5	6	Fair	3.7	Medium
13	1	Cupressus	8	1.5	Good	2.2	Low
14	70	Cupressus	9	1.5	Good	2.2	Low
15	71	Cupressus	10	1.5	Good	2.4	Low
16	72	Cupressus	9	1.5	Good	2.0	Low
17	73	Cupressus	8	1.5	Good	2.0	Low
18	74	Cupressus	10	1.5	Good	2.0	Low
19	3	Syzygium australe	8	4	Good	2.0	Low
20	69	Syzygium paniculatum	10	10	Fair	4.2	Medium
21	2	Liquidambar styraciflua	13	13	Good	7.0	Medium
22	4	Syzygium luehmannii	3	3	Fair	2.0	Low
23	5	Syzygium paniculatum	4	3	Fair	2.0	Low
24	-	Melia azedarach	5	5	Fair	2.0	Low
25	75	Pittosporum cv.	5	2	Fair	2.0	Low
26	26	Pittosporum cv.	5	2	Fair	2.0	Low
27	77	Pittosporum cv.	7	4	Fair	2.2	Low
28	78	Pittosporum cv.	7	5	Fair	2.4	Low
29	79	Pittosporum cv	9	6	Fair	2.2	Low
30	80	Pittosporum cv.	5	1	Fair	2.0	Low
31	81	Pittosporum sp.	5	1	Fair	2.0	Low
32	82	Pittosporum cv.	5	1	Fair	2.0	Low
33	83	Pittosporum cv.	5	1	Fair	2.0	Low
34	84	Pittosporum cv.	5	1	Fair	2.0	Low
35	85	Pittosporum cv.	5	1	Fair	2.0	Low
36	86	Pittosporum cv.	5	1	Fair	1.5	Low
37	87	Pittosporum cv.	5	1	Fair	1.5	Low
38	-	Lophostemon	12	13	Fair	3.0	Medium
39	32	Lophostemon	13	13	Fair	2.8	Medium
40	33	Lophostemon	10	12	Fair	3.0	Medium
41	34	Lophostemon	12	13	Fair	2.9	Medium
42	35	Lophostemon	10	9	Fair	2.8	Medium
43	36	Lophostemon	11	10	Poor	2.9	Medium
44	37	Lophostemon	13	12	Fair	2.9	Medium
45	-	Lophostemon	12	11	Poor	2.8	Medium
46	-	Lophostemon	14	10	Fair	2.8	Medium
47	-	Ligustrum lucidum	7	5	Good	2.3	Low
48	14	Eucalyptus nichollii	16	12	Poor	3.0	Low
49	15	Ceratopetalum	7	3	Fair	1.7	Low
50	16	Howea forsteriana	18	4	Fair	0.0	Medium
51	19	Howea forsteriana	10	4	Fair	0.0	Medium
52	18	Howea forsteriana	6	4	Fair	0.0	Low
53	17	Dead tree	6	10	Poor	2.4	Low
54	20	Lagerstroemia indica	10	8	Fair	2.4	Medium
55	21	Acer palmatum	6	9	Fair	2.2	Medium
56	-	Archontophoenix	8	5	Good	0.0	Low
57	-	Strelitzia nicholai	5	7	Good	0.0	Low
58	-	Archontophoenix	8	4	Good	0.0	Low
59	-	Archontophoenix	5	3	Good	0.0	Low
60	-	Strelitzia nicholai	6	7	Good	0.0	Low
61	23	Archontophoenix	11	7	Good	0.0	Medium
62	-	Lagerstroemia indica	9	6	Fair	2.3	Medium
63	22	Lagerstroemia indica	9	5	Fair	2.4	Medium
64	64	Lagerstroemia indica	9	6	Fair	2.4	Medium
65	-	Yucca sp.	6	4	Good	2.5	Low
66	66	Dracaena marginata	5	4	Fair	2.1	Medium

3.4 GROUND CIRCULATION



Public Pedestrian Link

Public Pedestrian DDA Compliant Link

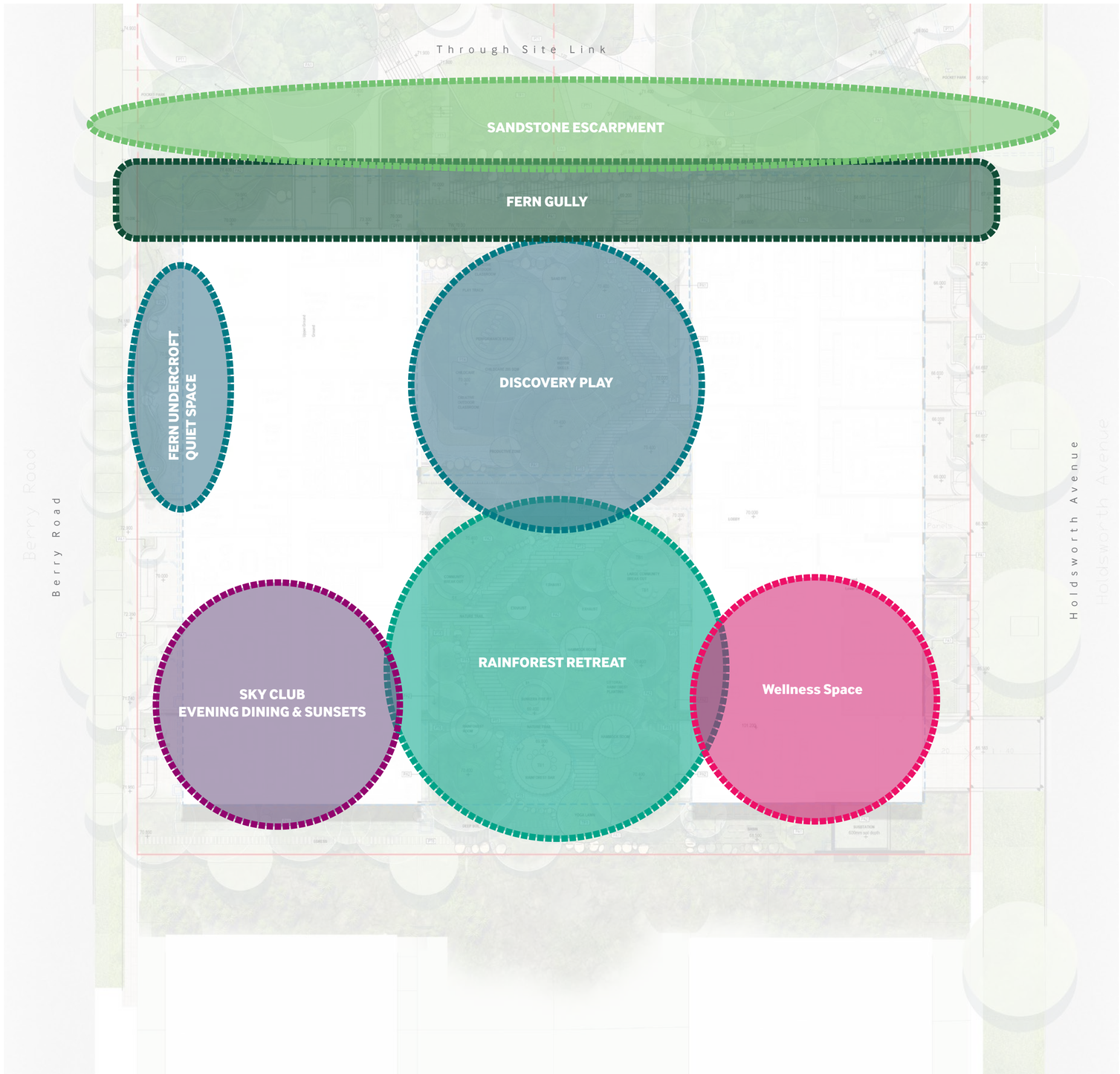
Public Stair

Public lift

Private Access

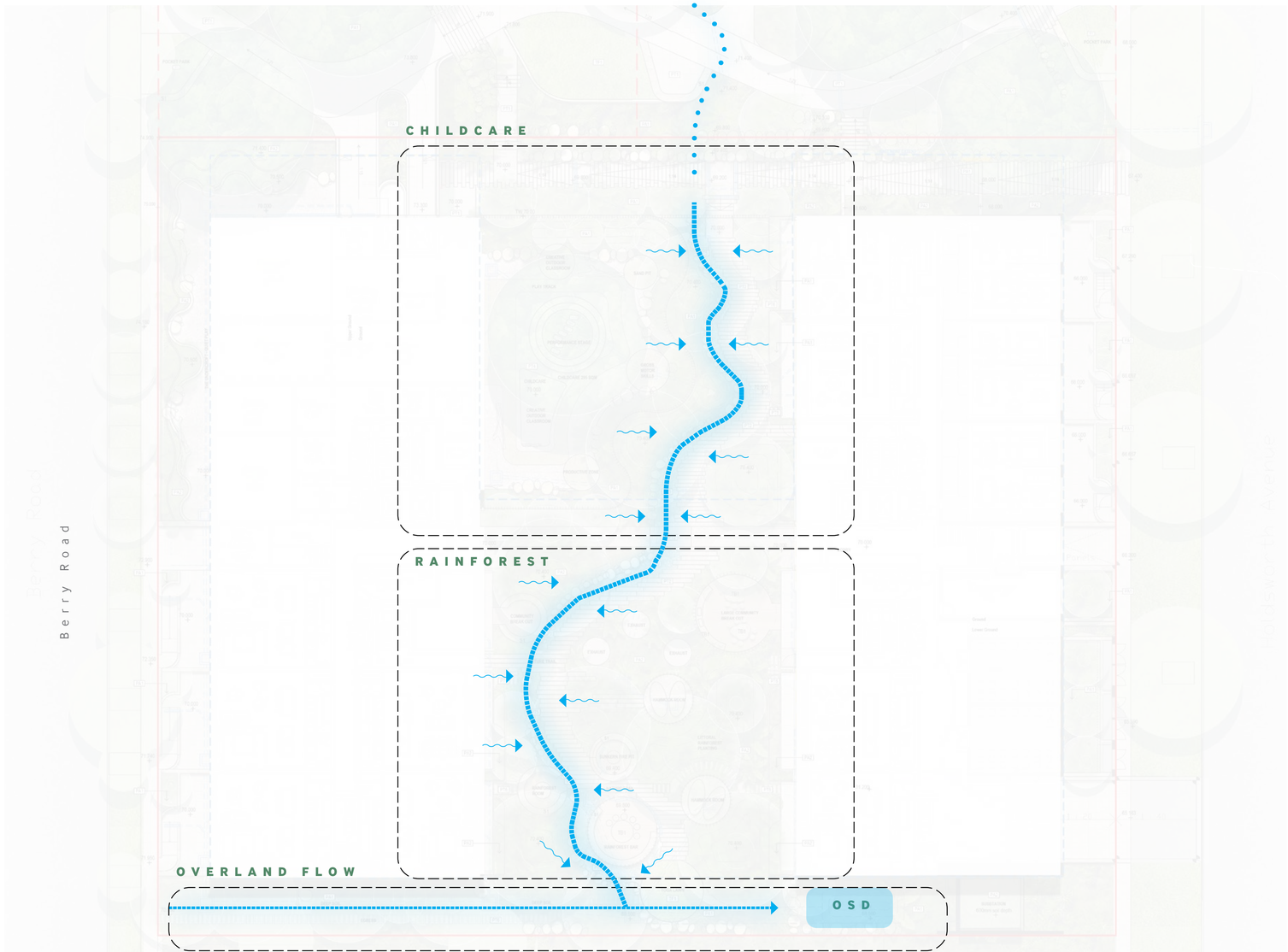
Minor Private Access

3.5 SITE PROGRAMMING

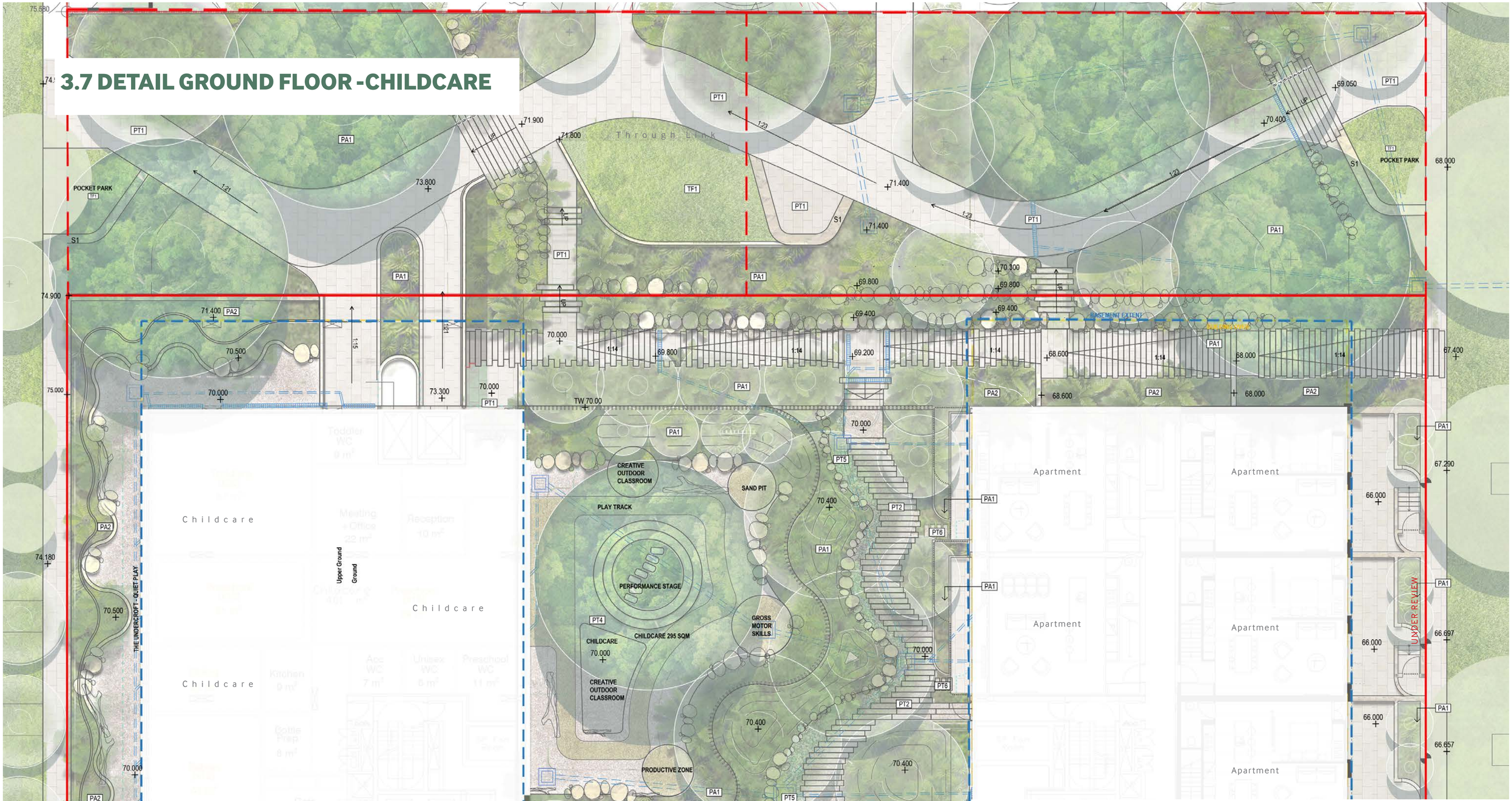


3.6 DRAINAGE DESIGN

The drainage design will be integrated into the green spine to create a playful and meaningful drainage design. he intent is to recreate sandstone creeks and channels that are found within the Littoral rainforests in Gore Creek. A series of small footbridges will cross the dry creek to allow access to a number of secluded outdoor rooms



3.7 DETAIL GROUND FLOOR - CHILDCARE



LEGEND

General
- Extent of works
- Existing property boundary
- Proposed property boundary
- Basement extent
- Building Over

Grading
- EX 0.000 Existing surface level
- 0.000 Relative surface level
- TW 0.000 Top of wall
- TS 0.000 Top of seat
- 1:14 Ramp gradient
- 1:50 Fall gradient

Softscape
- Existing tree To be retained
- Existing tree To be removed
- Existing tree To be relocated
- Tree
- TF1 Turf
- PA1 Planting area 01 Planting on ground
- PA2 Planting area 02 Planting on podium

Pavement
- PT1 Pavement type 1 Pavement to Council Detail
- PT2 Pavement type 2 Pavers on Slab
- PT3 Pavement type 3 Timber Decking
- PT4 Pavement type 4 Permeable Paving /Mulch
- PT5 Pavement type 5 Dry Creek Bed
- PT6 Pavement type 6 Stepper pathway
- Stormwater Pits

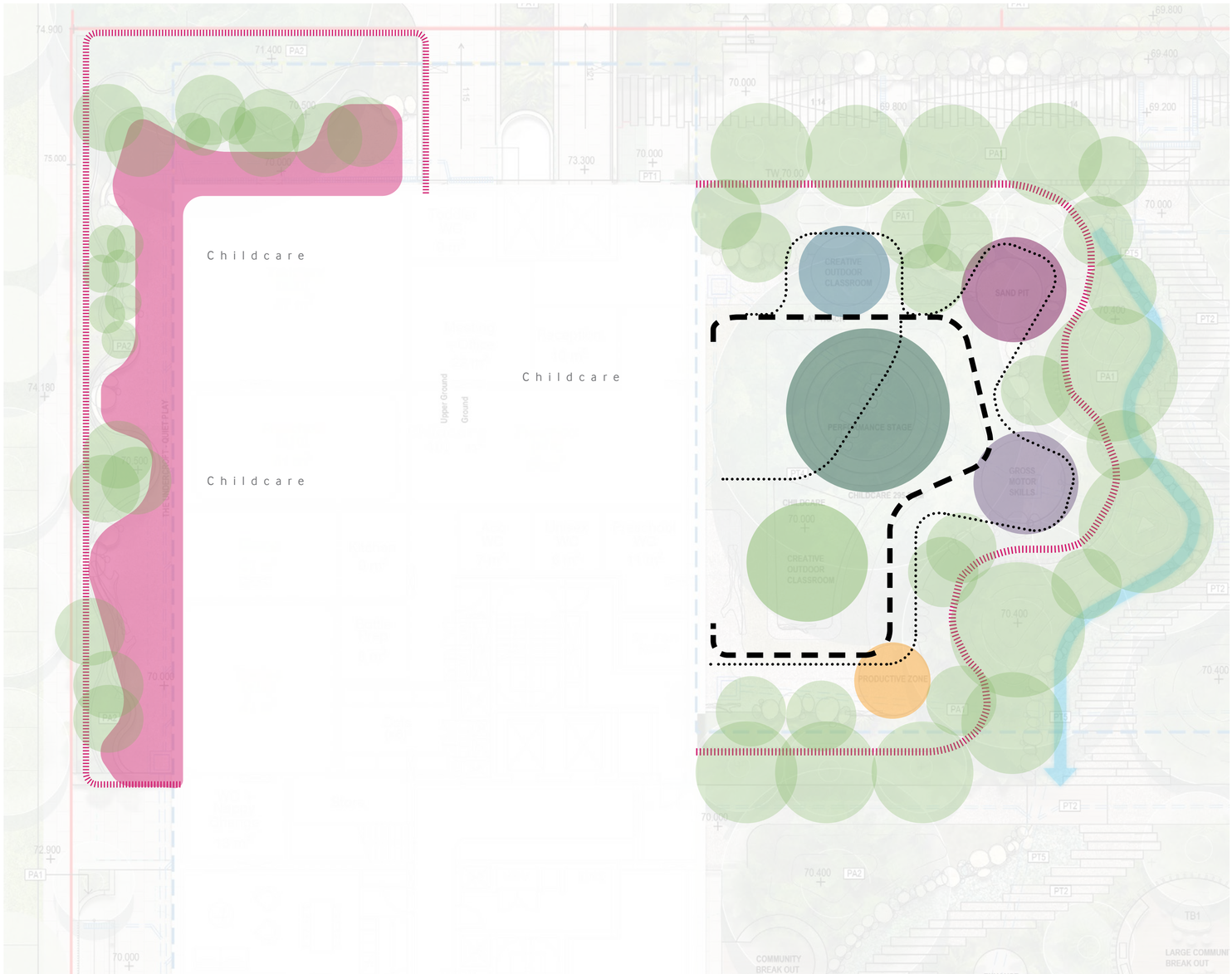
Furniture
- S1 Seat type 1
- TB1 Table type 1
- Outdoor BBQ
- Childcare Fence
- W1 Wall type 1
- B1 Bench type 1
- Recycled Sandstone Boulders
- Recycled Timber Logs

0m 1 2 5 10m

DETAIL CHILDCARE -PROGRAMMING

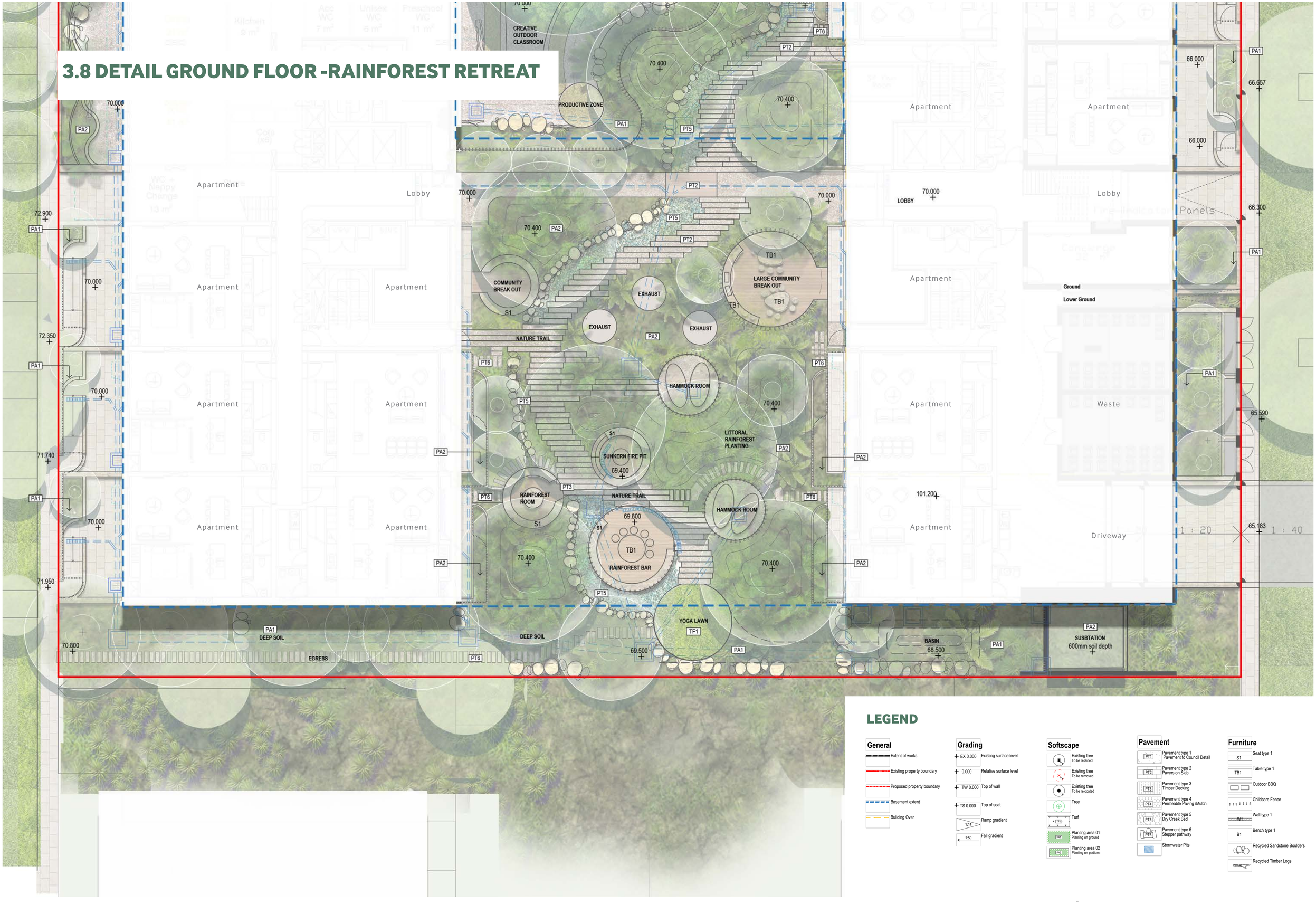
The proposed Childcare will be designed with nature. A series of programmed and unprogrammed spaces will be connected through a shared pathway, bordered by a dry creek bed and a series of playful bridges. A central raised feature tree will provide a playful performance and meeting spot.

The range of outdoor spaces will allow for different age groups to operate at different times and also in unison.



- SECURITY FENCE
- SHARED SCOOTER PATH
- MEANDERING PATH
- DRY CREEK BED
- OUTDOOR CLASSROOM
- GROSS MOTOR SKILLS / CHALLENGE
- SANDPIT
- SENSORY PLAY SPACE / QUIET ZONE
- EDUCATIONAL PRODUCTIVE / VEGETABLE GARDEN
- FLEXIBLE / RUNAROUND SPACE
- RAISED PERFORMANCE SPACE

3.8 DETAIL GROUND FLOOR -RAINFOREST RETREAT



LEGEND

General
- Extent of works
- Existing property boundary
- Proposed property boundary
- Basement extent
- Building Over

Grading
- EX 0.000 Existing surface level
- 0.000 Relative surface level
- TW 0.000 Top of wall
- TS 0.000 Top of seat
- 1:14 Ramp gradient
- 1:50 Fall gradient

Softscape
- Existing tree To be retained
- Existing tree To be removed
- Existing tree To be relocated
- Tree
- Turf
- Planting area 01 Planting on ground
- Planting area 02 Planting on podium

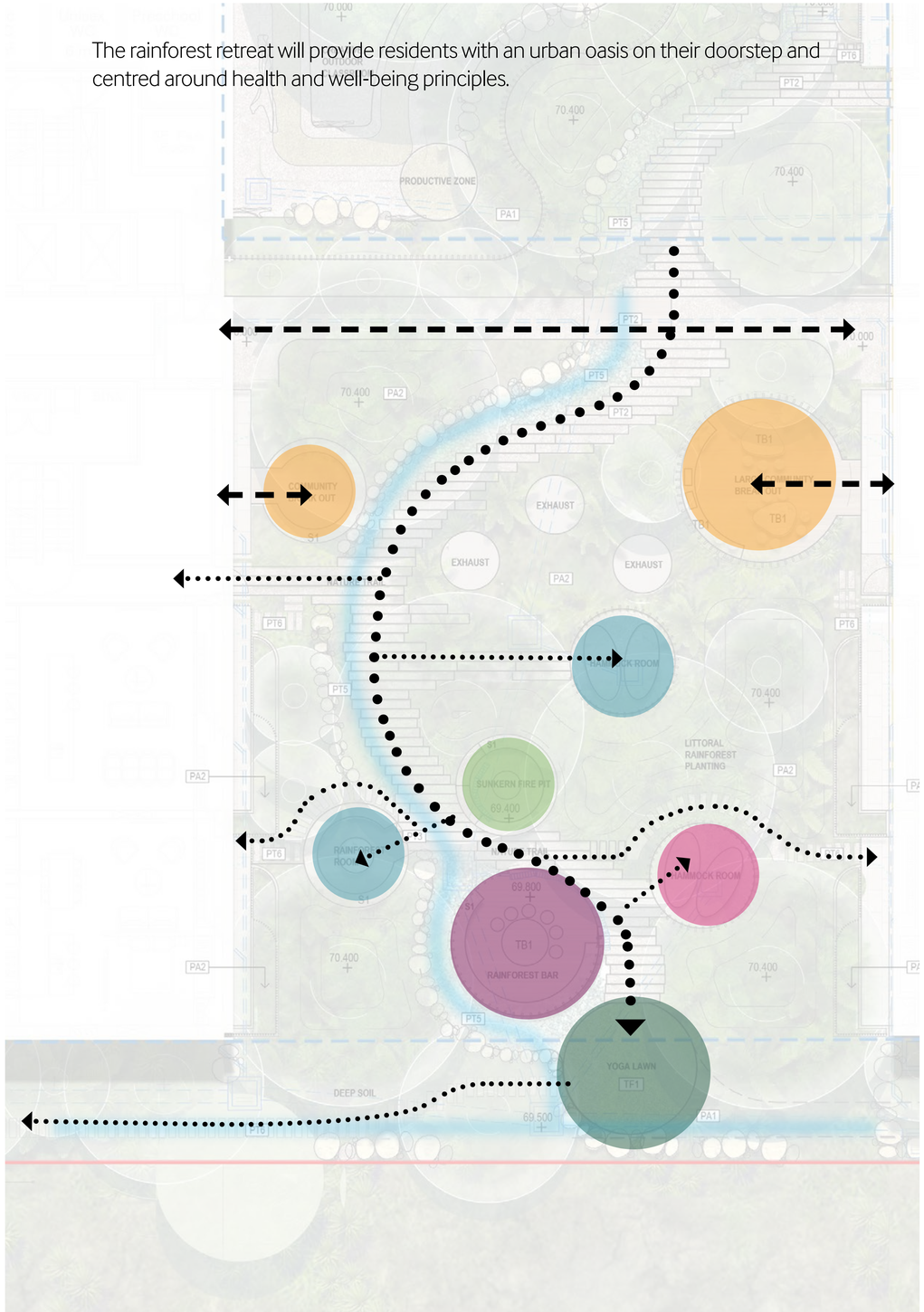
Pavement
- PT1 Pavement type 1 Pavement to Council Detail
- PT2 Pavement type 2 Pavers on Slab
- PT3 Pavement type 3 Timber Decking
- PT4 Pavement type 4 Permeable Paving /Mulch
- PT5 Pavement type 5 Dry Creek Bed
- PT6 Pavement type 6 Stepper pathway
- Stormwater Pits

Furniture
- S1 Seat type 1
- TB1 Table type 1
- Outdoor BBQ
- Childcare Fence
- W1 Wall type 1
- B1 Bench type 1
- Recycled Sandstone Boulders
- Recycled Timber Logs

0m 1 2 5 10m

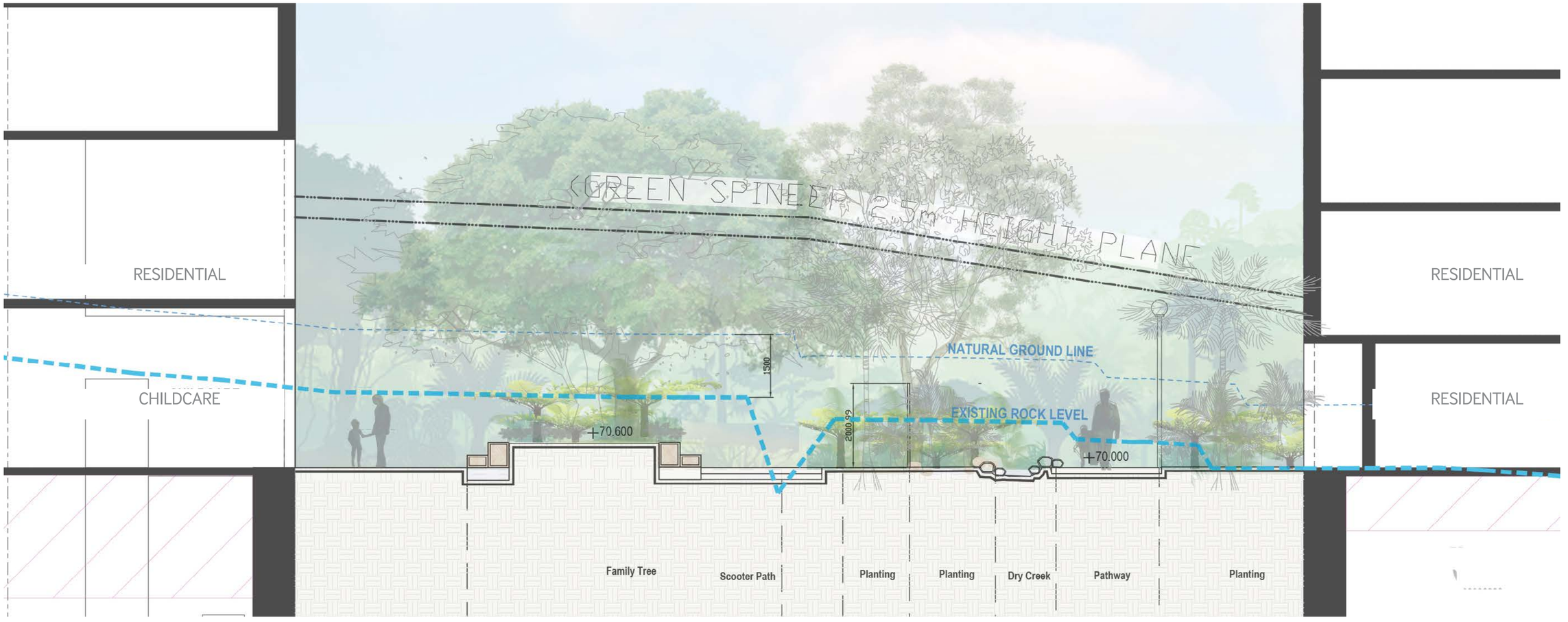
DETAIL RAINFOREST RETREAT -PROGRAMMING

The rainforest retreat will provide residents with an urban oasis on their doorstep and centred around health and well-being principles.

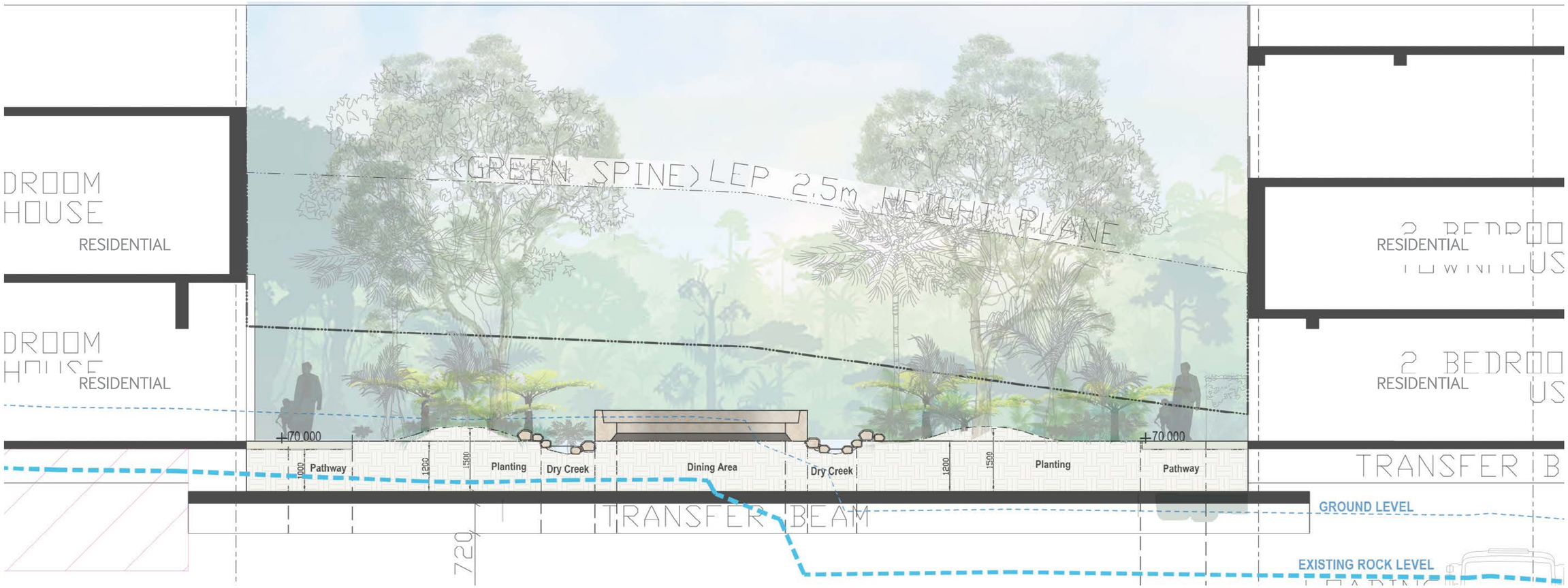


- STEPPER TERRACE ACCESS
- PEDESTRIAN PATH
- MEANDERING PATH
- DRY CREEK BED
- RAINFOREST BBQ & DINING
- HAMMOCKS
- RESIDENTS COMMUNAL ROOM EXTENSION
- FIRE LOUNGE
- YOGA / LOOK OUT LAWN
- LOOK OUT AREA
- GARDEN RETREAT / THERAPY ROOM

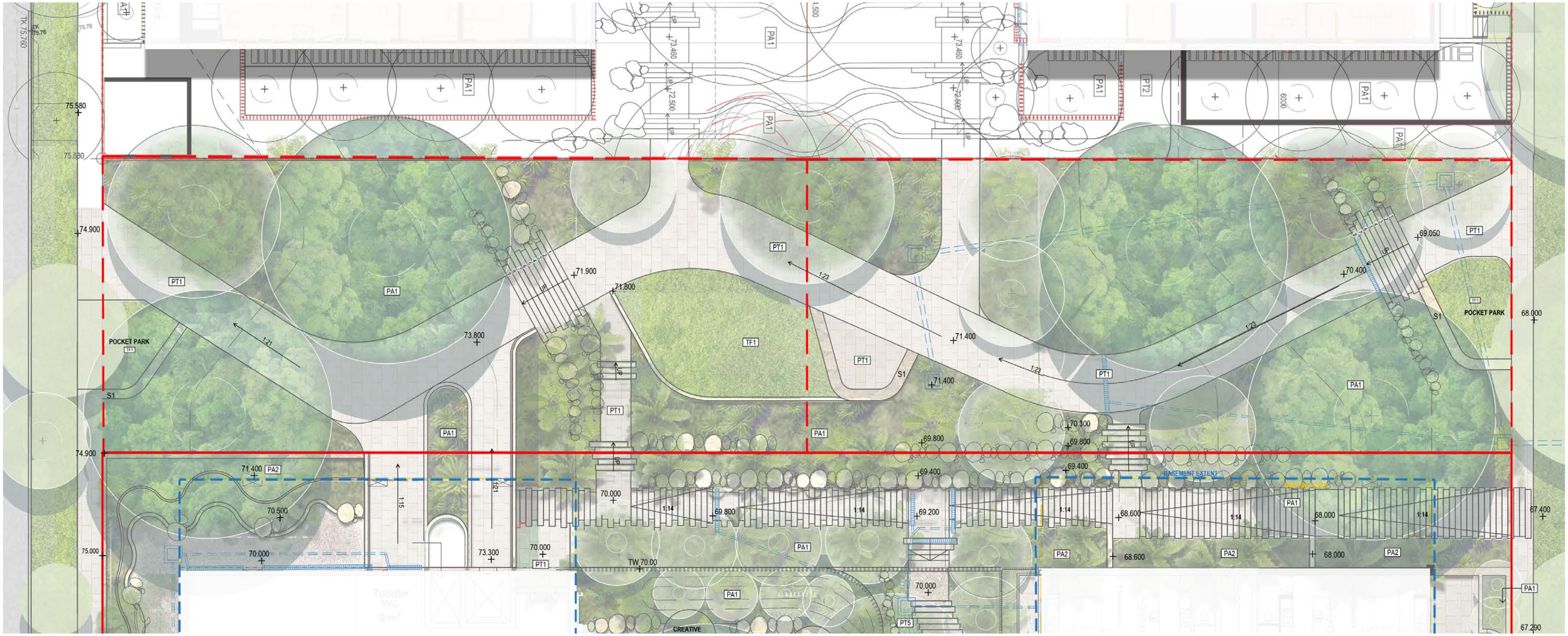
GREEN SPINE SECTION - AA



GREEN SPINE SECTION - BB



3.9 EAST WEST THROUGH LINK CONCEPT



LEGEND

General
- Extent of works
- Existing property boundary
- Proposed property boundary
- Basement extent
- Building Over

Grading
- EX 0.000 Existing surface level
- 0.000 Relative surface level
- TW 0.000 Top of wall
- TS 0.000 Top of seat
- 1:14 Ramp gradient
- 1:50 Fall gradient

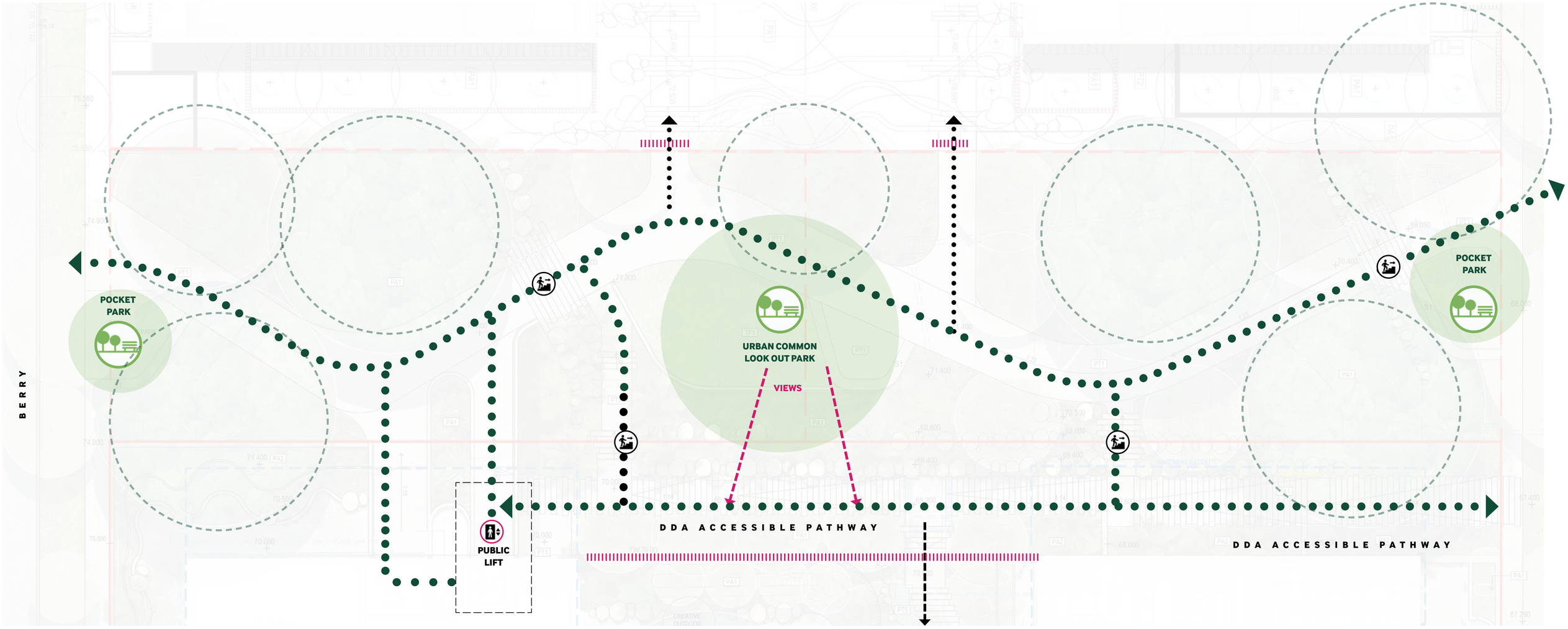
Softscape
- Existing tree To be retained
- Existing tree To be removed
- Existing tree To be relocated
- Tree
- TB3 Turf
- PA1 Planting area 01 Planting on ground
- PA2 Planting area 02 Planting on podium

Pavement
- PT1 Pavement type 1 Pavement to Council Detail
- PT2 Pavement type 2 Pavers on Slab
- PT3 Pavement type 3 Timber Decking
- PT4 Pavement type 4 Permeable Paving /Mulch
- PT5 Pavement type 5 Dry Creek Bed
- PT6 Pavement type 6 Stepper pathway
- Stormwater Pits

Furniture
- S1 Seat type 1
- TB1 Table type 1
- Outdoor BBQ
- Childcare Fence
- W1 Wall type 1
- B1 Bench type 1
- Recycled Sandstone Boulders
- Recycled Timber Logs

0m 1 2 5 10m

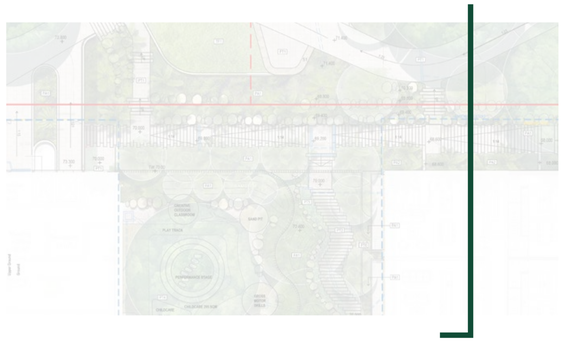
EAST WEST THROUGH LINK PROGRAMMING



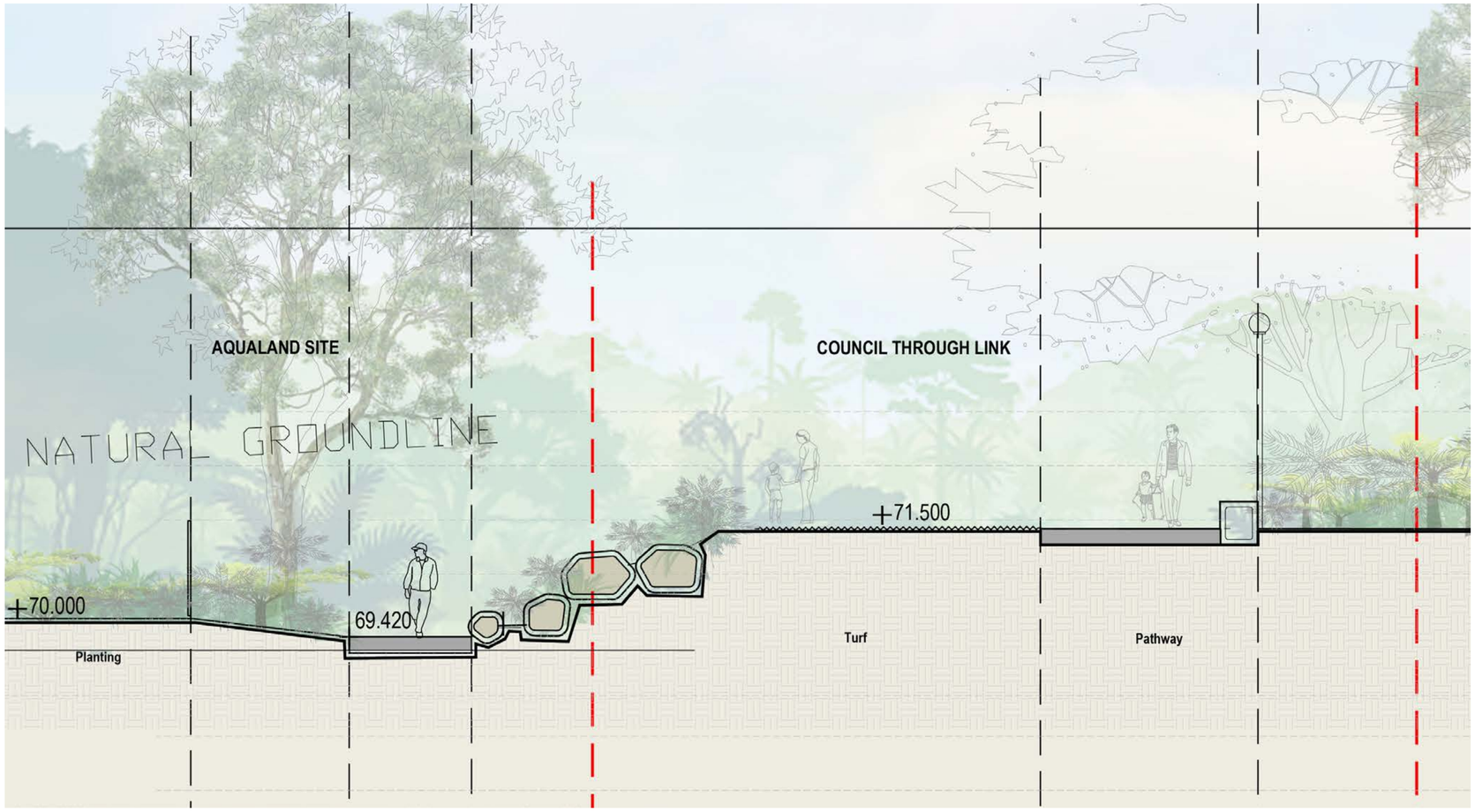
LEGEND

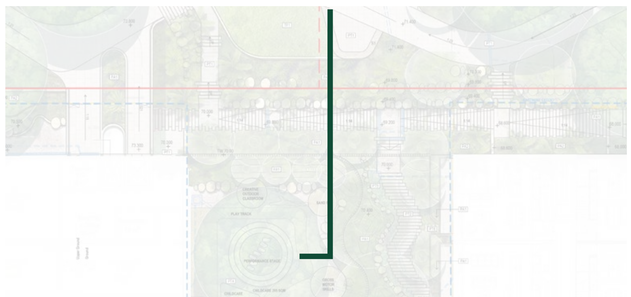
- SECURITY LINE
- SHARED PATH AND CYCLE RAMP
- POCKET PARK
- STAIR ACCESS
- LIFT ACCESS
- LARGE SHADE TREE

EAST WEST THROUGH LINK- SECTION 1



EAST WEST THROUGH LINK- SECTION 2





3.10 UPPER GROUND

General

- Extent of works
- Existing property boundary
- Proposed property boundary
- Basement extent
- Building Over

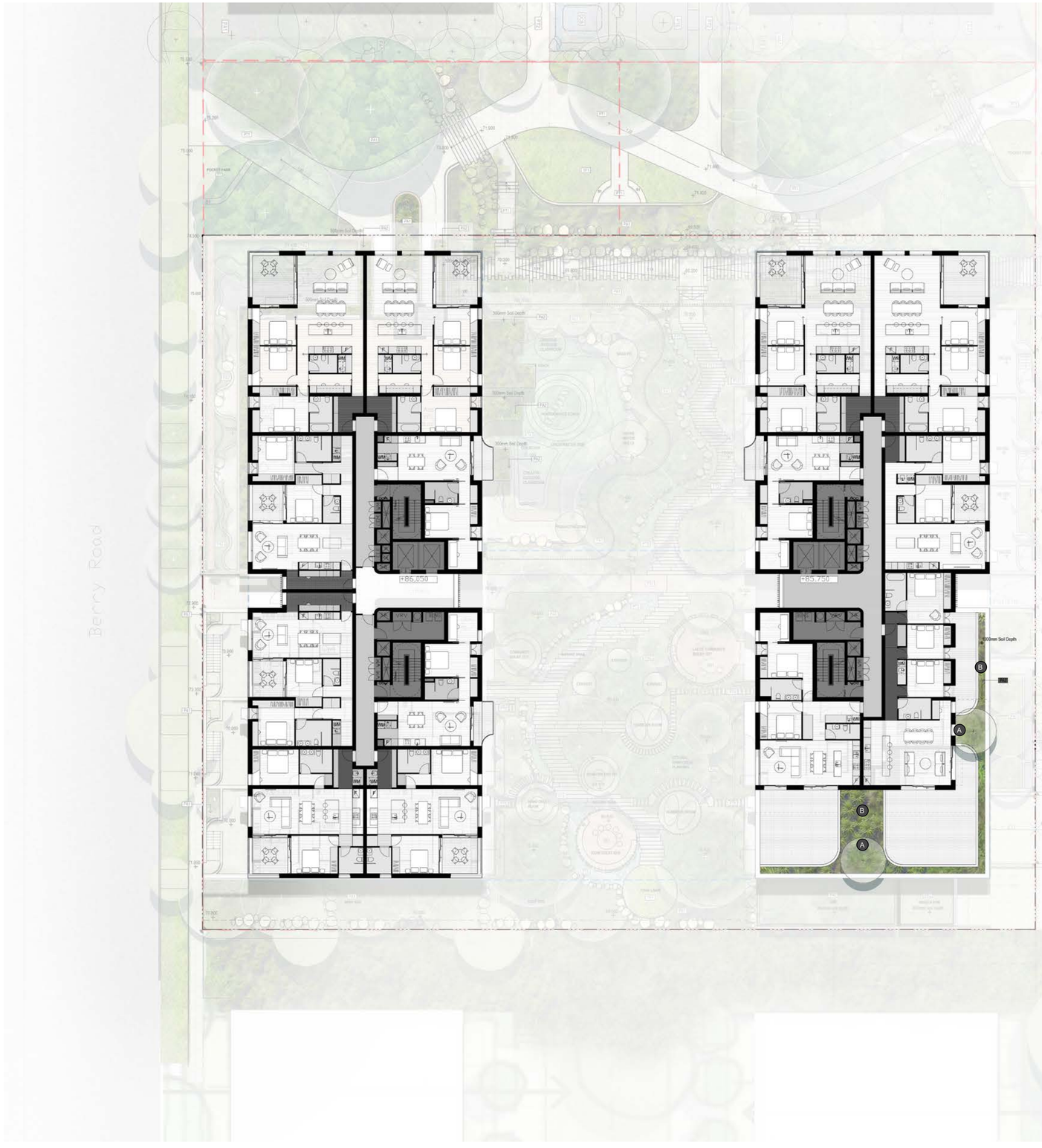
Grading

- EX 0.000 Existing surface level
- 0.000 Relative surface level
- TW 0.000 Top of wall
- TS 0.000 Top of seat
- 1:14 Ramp gradient
- 1:50 Fall gradient

Softscape

- Existing tree To be retained
- Existing tree To be removed
- Existing tree To be relocated
- Tree
- Turf
- PA1 Planting area 01 Planting on ground
- PA2 Planting area 02 Planting on podium

3.11 LEVEL 4



General

- Extent of works
- Existing property boundary
- Proposed property boundary
- Basement extent
- Building Over

Grading

- EX 0.000 Existing surface level
- 0.000 Relative surface level
- TW 0.000 Top of wall
- TS 0.000 Top of seat
- 1:14 Ramp gradient
- 1:50 Fall gradient

Softscape

- Existing tree To be retained
- Existing tree To be removed
- Existing tree To be relocated
- Tree
- Turf
- PA1 Planting area 01 Planting on ground
- PA2 Planting area 02 Planting on podium

A Large feature planter with small/medium shade tree species

B Podium Edge Planter with small shrubs and cascading species

Proposed Tree
BANKSIA serrata

Proposed Tree
BANKSIA integrifolia

3.12 LEVEL 5

General

- Extent of works
- Existing property boundary
- Proposed property boundary
- Basement extent
- Building Over

Grading

- EX 0.000 — Existing surface level
- 0.000 — Relative surface level
- TW 0.000 — Top of wall
- TS 0.000 — Top of seat
- 1:14 — Ramp gradient
- 1:50 — Fall gradient

Softscape

- Existing tree To be retained
- Existing tree To be removed
- Existing tree To be relocated
- Tree
- Turf
- PA1 — Planting area 01 Planting on ground
- PA2 — Planting area 02 Planting on podium

A — Large feature planter with small/medium shade tree species

B — Podium Edge Planter with small shrubs and cascading species

Proposed Tree
BANKSIA serrata

Proposed Tree
BANKSIA integrifolia

3.13 LEVEL 6

General

- Extent of works
- Existing property boundary
- Proposed property boundary
- Basement extent
- Building Over

Grading

- EX 0.000 — Existing surface level
- 0.000 — Relative surface level
- TW 0.000 — Top of wall
- TS 0.000 — Top of seat
- 1:14 — Ramp gradient
- 1:50 — Fall gradient

Softscape

- Existing tree To be retained
- Existing tree To be removed
- Existing tree To be relocated
- Tree
- Turf
- Planting area 01 Planting on ground
- Planting area 02 Planting on podium

A Large feature planter with small/medium shade tree species

B Podium Edge Planter with small shrubs and cascading species

Proposed Tree
BANKSIA serrata

Proposed Tree
BANKSIA integrifolia

3.14 ROOF PLANS

General

- Extent of works
- Existing property boundary
- Proposed property boundary
- Basement extent
- Building Over

Grading

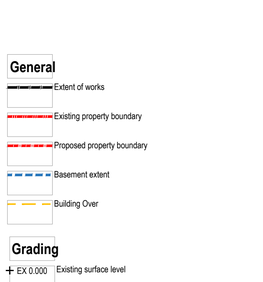
- EX 0.000 — Existing surface level
- 0.000 — Relative surface level
- TW 0.000 — Top of wall
- TS 0.000 — Top of seat
- 1:14 — Ramp gradient
- 1:50 — Fall gradient

Softscape

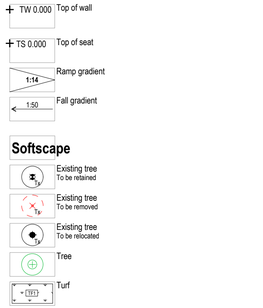
- Existing tree To be retained
- Existing tree To be removed
- Existing tree To be relocated
- Tree
- Turf
- PA1 — Planting area 01 Planting on ground
- PA2 — Planting area 02 Planting on podium

A Large feature planter with small/medium shade tree species

B Podium Edge Planter with shrubs and cascading species



Proposed Tree
BANKSIA serrata



Proposed Tree
BANKSIA integrifolia

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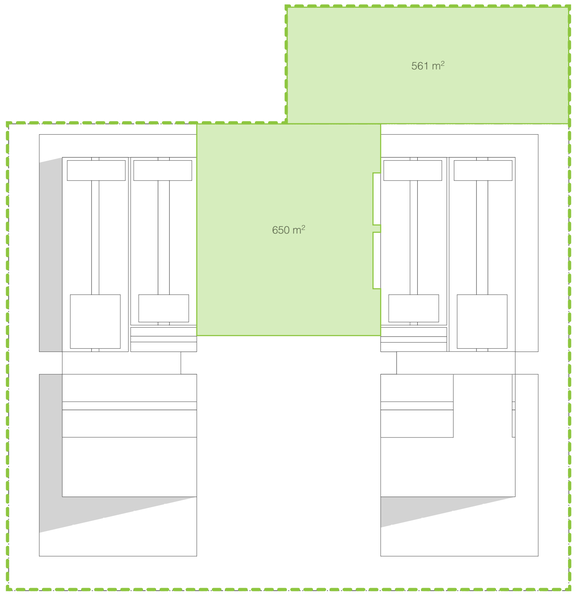
4.0 GREEN INFRASTRUCTURE

4.1 SOIL COMPLIANCE PLANS



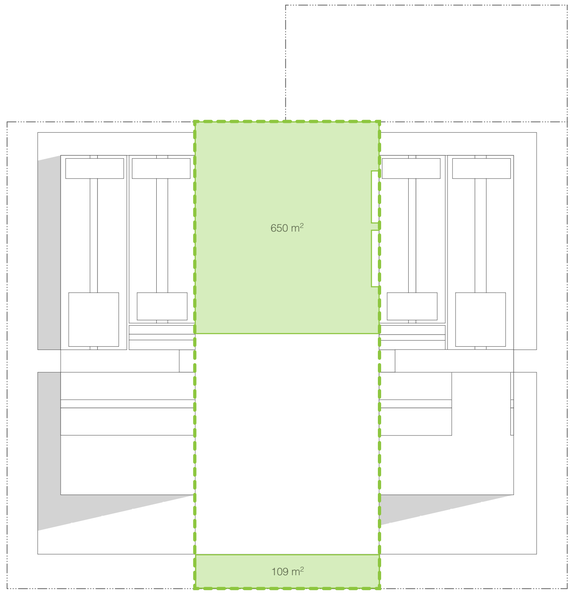
ADG Requirement

Site Area*
5,015m²
Minimum Dimension
6m
Deep Soil Required
351m² (7% of Site Area)

Deep Soil Provided
1,211m² (24% of Site Area)
+ 860m²

* For the purpose of calculating deep soil, the site area includes Lot 10 in DP 7259

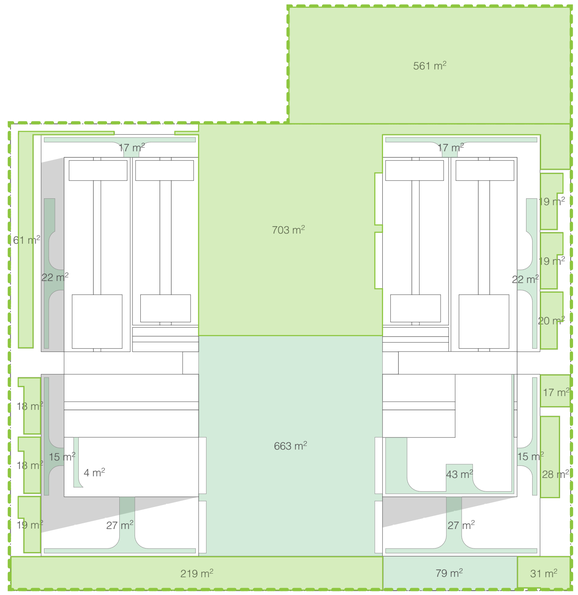
** For the purpose of calculating deep soil in the Green Spine, the Green Spine area excludes Lot 10 in DP 7259



Council Requirement

Green Spine Area**
1,463m²
Deep Soil Required
732m² (50% of Green Spine)

Deep Soil Provided
759m² (52% of Green Spine)
+ 27m²



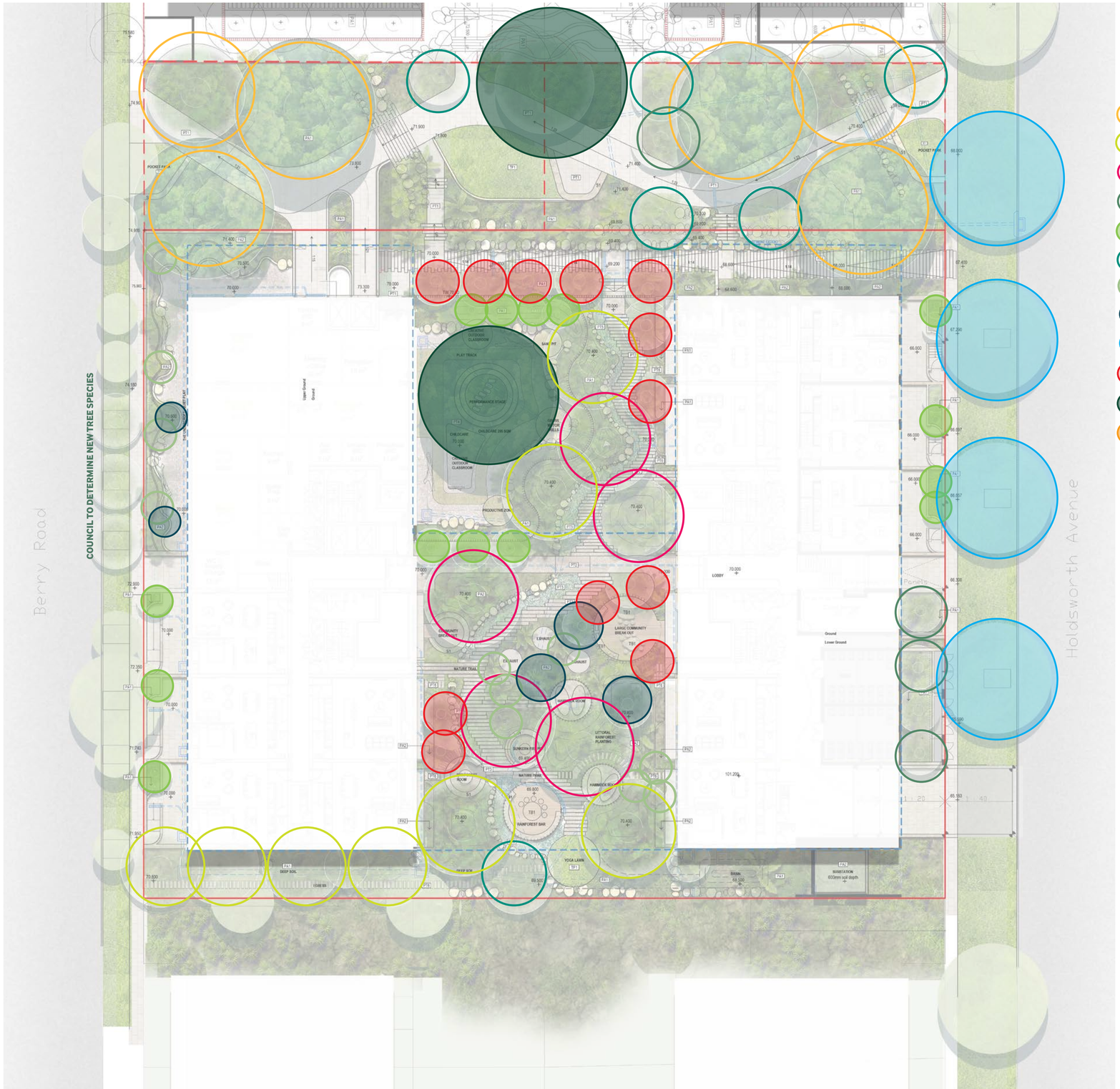
DCP Requirement

Site Area*
5,015m²
Deep Soil Required
1,254m² (25% of Site Area)
Additional Required
752m² (15% of Site Area)

Deep Soil Provided
1,733m² (35% of Site Area)
+ 479m²

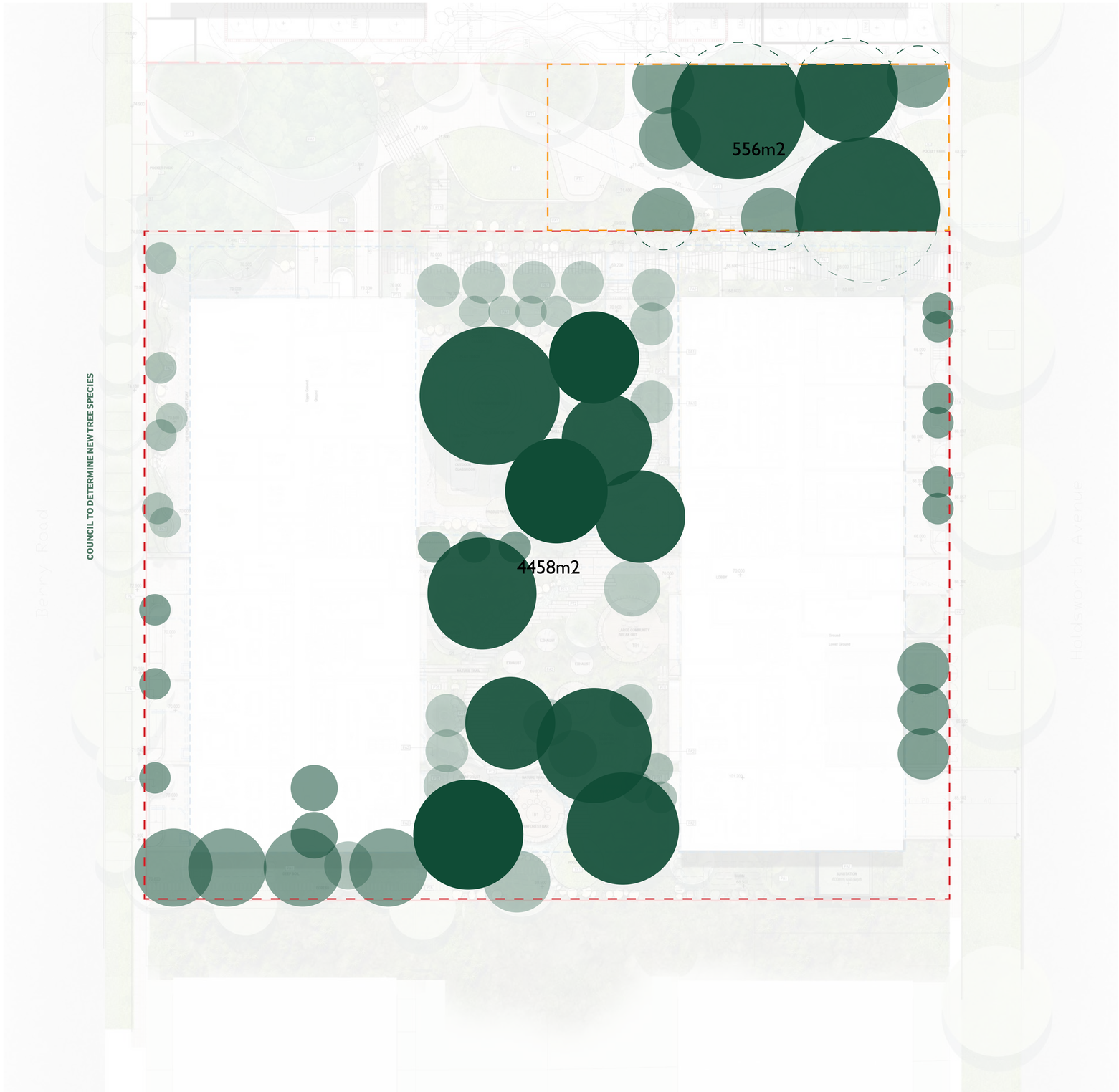
Additional Planting Provided
951 m² (19% of Site Area)
+ 199m²

4.2 GROUND TREE PLAN



	Botanical Name	Common Name	Mature HeightxSpread
	ANGOPHORA costata	Smooth-barked Apple	24x15m
	CERATOPETALUM Apetalum	Coachwood	24x15m
	GLOCHIDION ferdnandi	Cheese Tree	25m x 10m
	WATERHOUSEA floribunda	Weeping lilly pilly	10x8m
	ELAEOCARPUS reticulatus	BLueberry ash	7m x 2m
	CUPANIOPSIS anarcardioides	Tuckeroo	6m x 8m
	CYATHEA cooperi	Tree fern	10 x 5m
	LIVISTONA australis	Cabbage Tree Palm	20m x 6m
	LOPHOSTEMON confertus	Brush Box	15m x 10m
	TRISTANIOPSIS laurina 'Luscious'	Water Gum	8m x 4m
	FICUS rubiginosa	Port Jackson Fig	10m x 20m
	BANKSIA serrata	Old man banksia	4X8m

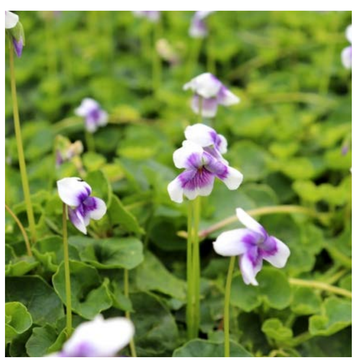
4.3 CANOPY COVER



Canopy (measured at mature canopy size)			
	Number	m²	Percentage of Site (556 m²)
Large tree (65m2)	3	155	27%
Medium tree (35m2)	5	175	31%
Small tree 7m2)	0	0	0%
Total	**8**	**330**	**58%**

Canopy (measured at mature canopy size)			
	Number	m²	Percentage of Site (4458 m²)
Large tree (65m2)	7	455	10%
Medium tree (35m2)	22	770	17%
Small tree (7m2)	28	196	4%
Total	**57**	**1421**	**31%**

4.4 PLANTING CHARACTER



VIOLA hederacea - Native Violet

BANKSIA integrifolia & serrata -coastal banksia

PLECTRANTHUS parviflorus Cockspur Flower

CYATHEA cooperi - Tree Fern

PITTOSPORUM-revolutum yellow-pittsporum

ASPLENIUM australasicum - Birds Nest Fern

4.5 PLANTING CHARACTER

The Lane Cove municipality has approximately 90 hectares of bushland under the care, control and management of Council. The municipality consists of a series of ridges and gullies bounded by the Lane Cove River to the south. Lane Cove's bushland is generally located along the creeks and the river foreshores in long, narrow reserves which also thread through and separate various suburbs along the bushland lines. Lane Cove bushland offers a diverse array of flora and fauna. There are around 625 species of indigenous plants among them a number of vegetation types such as wet and dry sclerophyll forest, heath land, mangroves and tidal flats.

The bushland of Gore Creek Reserve which is located to the south of Berry and holdsworth Avenue covers an area of 5.8 Hectares. From Bushland Park in the north, the creek enters Gore Creek Reserve and tumbles over Lilly Pilly Falls and then on through the valley and into the bay

The landscape design of Berry and Holdsworth will reflect Gore Creeks Vegetation Communities including the Littoral Rainforest, Sandstone Moist Forestand Sandstone Sheltered Forests which are home to a number of key species such as: *Acmena Smithii* - Lilly pilly, *Ceratopetalum apetalum* - Coachwood, *Glochidion ferdnandi* - Cheese Tree and *Angophora costata* - Sydney Redgum.

The extension of these vegetation communities into Berry and Holdsworth will help promote urban biodiversity and create a stronger fauna and flora corridor through to Gore Creek.

LARGE & MEDIUM TREE SPECIES

CERATOPETALUM-Apetalum -coachwood

GLOCHIDION ferdnandi - Cheese Tree

ACACIA longifolia Sydney Golden Wattle

TRISTANIOPSIS laurina - Water Gum

FICUS rubiginosa- Port Jackson Fig

SMALL TREES AND SHRUBS

MACROZAMIA communis Burrawang, Cycad

SYZYGIUM smithi LILLY pilly

PITTOSPORUM-revolutum yellow-pittsporum

BANKSIA integrifolia & serrata -coastal banksia

PLATYCERIUM bifurcatum - common staghorn

FERNS, GRASSES & GROUNDCOVERS

DOODIA aspera Rasp Fern

PANDOREA-pandorana-wonga vine -

LOMANDRA-longifolia - spiky head mat rush

CALOCHLAENA dubia bracken-fern

JUNCUS usitatus Common Rush

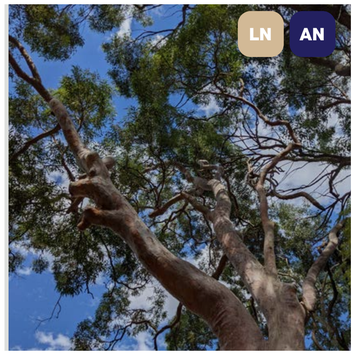
AN Australian Native

LN Local Native

EX Exotic

ELAEOCARPUS reticulatus - blueberry ash

CUPANIOPSIS anacardioides - tuckeroo



Angophora costata - smooth apple bark

LIVISTONA australis - Cabbage Tree Palm

WATERHOUSEA floribunda - Weeping Lilly Pilly

CYATHEA cooperi - Tree Fern

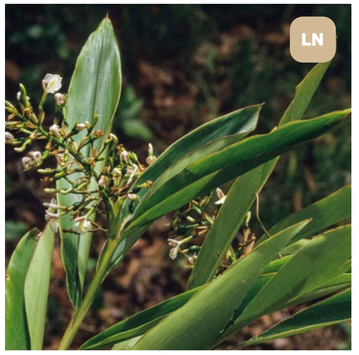
AJUGA repens - Bugleherb

BLECHNUM cartilagineum - Dwarf Tree Fern

ASPLENIUM australasicum - Birds Nest Fern

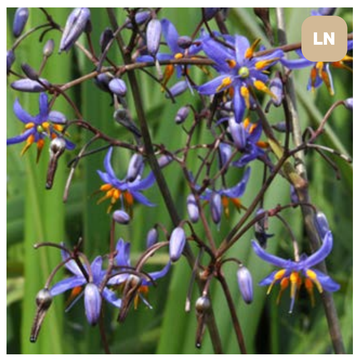
CTENANTHE setosa - Never Never Plant

ALOCASIA macrorrhiza - Giant Taro



ALPINIA caerulea - Native Ginger

MOLINERIA capitulata - Palm Grass



DIANELLA caerulea - Blue flax lilly

PRATIA pedunculata - White Star Creeper

VIOLA hederacea - Native Violet

MYOPORUM parvifolium - Creeping Boobialla

PLECTRANTHUS parviflorus Cockspur Flower

AN Australian Native

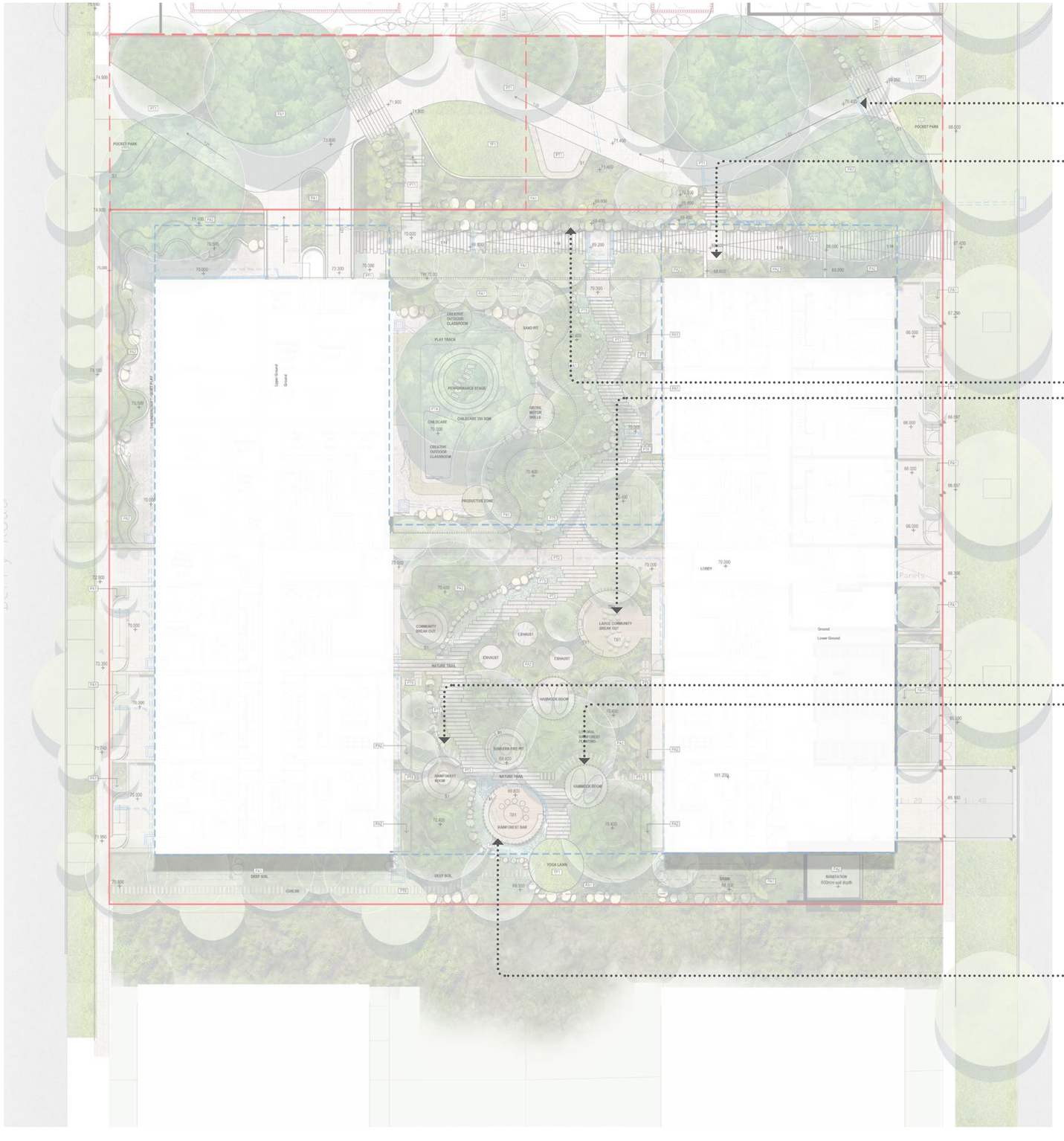
LN Local Native

EX Exotic

4.6 PLANTING SCHEDULES

Code	Botanical Name	Common Name	Minimum Potsize	Minimum Install HeightxSpread	Estimated Mature HeightxSpread	Per SqM	QTY	Ground Floors	Levels 4-6	Roofs
TREES										
COR fic	CORYMBIA ficifolia 'Summer Beauty'	Red Flowering Gum	100L	2m x 1m	6m x 3m	N/A				
GLO fer	GLOCHIDION ferdnandi	Cheese Tree	400L	3.5m x 3.5m	10m x 8m	N/A				
CER ape	CERATOPETALUM-Apetalum	coachwood	400L	3.5m x 3.5m	25m x 10m	N/A				
BAN sp.	BANKSIA integrifolia & serrata	Coastal banksia	100L	2m x 1m	15m x 3m	N/A				
ANG cos	ANGOPHORA costata	Sydney Red gum	400L	3.5m x 1.5m	20m x 20m	N/A				
ELA ret	ELAEOCARPUS reticulatus	blueberry ash	200L	2m x 1m	8m x 5m	N/A				
EUC fic	EUCALYPTUS ficifolia	Red flowering Gum	200L	2m x 1m	4m x 4m	N/A				
CUP ana	CUPANIOPSIS anacardioides	Tuckeroo	200L	3.5m x 2m	10m x8m	N/A				
LIV aus	LIVISTONA australis	Cabbage Tree Palm	400L	5.5m x 2m	15m x 5m	N/A				
FIC rub	FICUS rubiginosa	Port Jackson Fig	600L	4.5m x 3.5m	35m x 25m	N/A				
LOP con	LOPHOSTEMON confertus	Brush Box	400L	3.5m x 2m	15m x 10m	N/A				
TRI LU	TRISTANIOPSIS laurina 'Luscious'	Water Gum	200L	3.5m x 3.5m	8m x 4m	N/A				
WAT flo	WATERHOUSIA floribunda	Weeping lilly pilly	200L	3.5m x 3.5m	8m x 4m	N/A				
SHRUBS										
ALP cae	ALPINIA caerulea	Native ginger	45L	0.6m x 0.3m	0.6m x 0.3m	2				
MAC com	MACROZAMIA communis	Burrawang, Cycad	45L	0.5m high	2m x 3m	2				
PIT rev	PITTOSPORUM revolutum	yellow-pittsporum	200mm	0.3m high	2m x 3m	2				
DOR exc	DORYANTHES excelsa	Gymea lily	45L	0.5m high	1.5m x 1.5m	2				
MEL thy	MELALEUCA thymifolia	Thyme Honey Myrtle	200mm	0.3m high	1.5m x 1.5m	2				
SYZ aus	SYZIGIUM australe	Lilly Pilly	45L	0.5m high	2m x 3m	1				
WES fru	WESTRINGIA fruticosa	Coastal Rosemary	200mm	0.45m high	2m x 4m	2				
ACA par	ACACIA parramattensis	Parramatta Wattle	200mm	0.5m high	2m x 3m	1				
CTE set	CTENANTE setosa	Never Never Plant	200mm	0.5m high	2m x 3m	2				
TEL spe	TELOPEA speciosissima	Waratah	200mm	0.5m high	3m x 1.5m	2				
ALO mac	ALOCASIA macrorrhiza	Giant Taro	200mm	0.5m high	2m x 3m	2				
ASP aus	ASPLENIUM australasicum	Birds Nest Fern	200mm	0.5m high	1.5m x 1.5m	2				
BLE car	BLECHNUM cartilagineum	Dwarf Tree Fern	200mm	0.5m high	1.5m x 1.5m	2				
STR nic	STRELITZIA nicolai	Giant Bird of Paradise	200mm	0.7m high	5m x 1.5m	2				
GROUNDCOVERS AND GRASSES										
BAN BC	BANKSIA spinulosa 'Birthday Candles'	Hairpin Banksia	140mm	0.35m high	0.5m x 1m	7				
HAR vio	HARDENBERGIA violacea	False Sarsaparilla	140mm	0.35m high	0.15 x 2m	7				
LOM lon	LOMANDRA longifolia 'Tanika'	Mat Rush	140mm	0.35m high	0.6m x 0.65m	7				
DIA rev	DIANELLA caerulea	Flax lily	140mm	0.35m high	0.5m x 1m	7				
DOO asp	DOODIA aspera	Rasp Fern	140mm	0.35m high	1m x 1m	7				
HIB sca	HIBBERTIA scandens	Snake vine	140mm	0.35m high	1m x 3m	7				
AJU rep	AJUGA repens	Bugleherb	140mm	0.25m high	1m x 0.4m	7				
LOM lon	LOMANDRA longifolia	spiky head mat rush	140mm	0.25m high	0.5 x 0.5m	7				
PAN pan	PANDOREA pandorana	wonga vine	140mm	0.5m length	0.8m x 1m	7				
CAL dub	CALOCHLAENA dubia	bracken-fern	140mm	0.35m high	1.5m x 2m	7				
THE tre	THEMEDA triandra	Kangaroo Grass	140mm	0.2m high	1m x 1m	7				
HYP mue	HYPOLEPIS muelleri	Ground fern	140mm	0.15m high	0.5m x 1m	7				
PLE par	PLECTRANTHUS parviflorus	Cockspur Flower	140mm	0.5m high	0.1m x 0.4m	7				
MYO pav	MYOPORUM parvifolium	Boobialla	140mm	0.15m high	0.5m x 1m	7				
VIO hed	VIOLA hederacea	Native Violet	140mm	0.15m high	0.5m x 1m	7				
MOL cap	MOLINERIA capitulata	Palm Grass	140mm	0.15m High	0.5m x 1m	7				
PRA ped	PRATIA pedunculata	White Star Creeper	140mm	0.15m High	0.5m x 1m	7				

4.7 MATERIALITY STRATEGY



4.7 PLANTING PLAN GROUND

- Through Site Link Planitng
- Undercroft Low light Planting
- Green Spine Planting
- Terrace Planting
- Green Roof Planting

PLANTING PLAN - TYPICAL LEVELS

Terrace Planting

PLANTING PLAN - ROOF LEVELS

Terrace Planting

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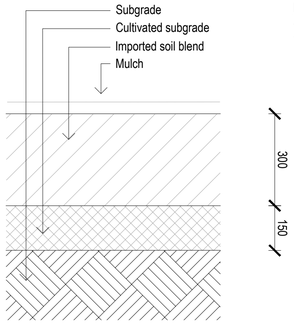
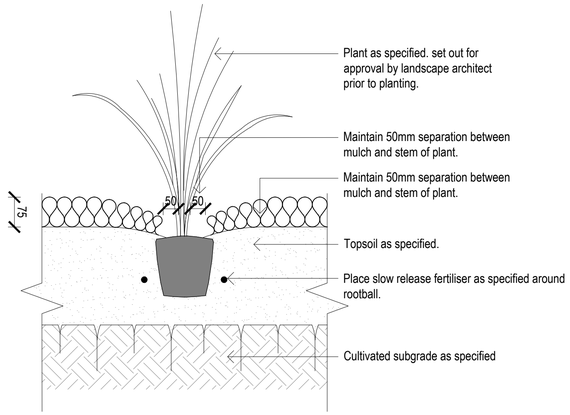
5.0 APPENDIX

5.1 TYPICAL DETAILS

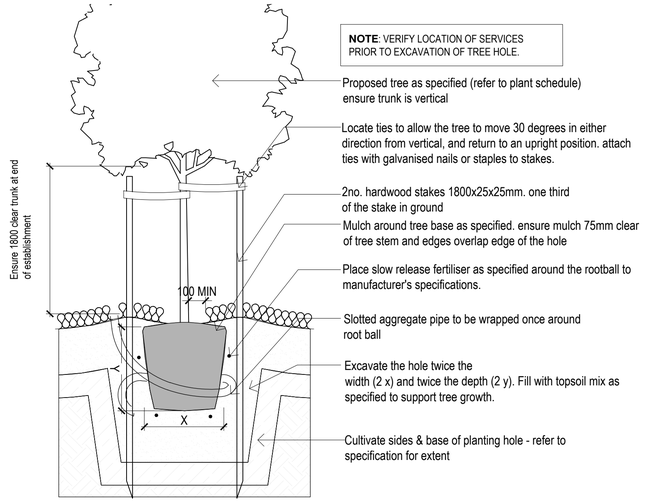


Notes:
- Fill areas of removed asphalt & substrate with soil blend.

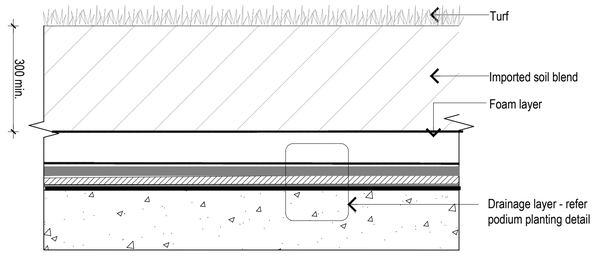
01 TYPICAL PLANTING DETAIL ON GROUND
SCALE 1:10



02 TYPICAL PLANTING DETAIL
SCALE 1:10

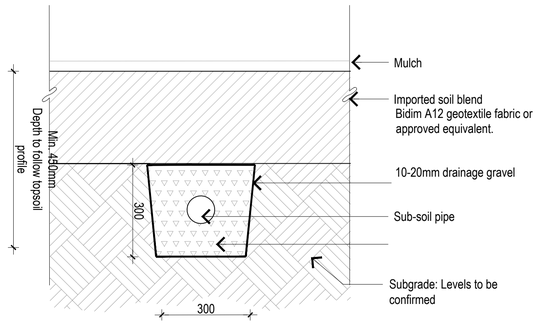


03 TYPICAL TREE PLANTING IN PLANTING AREA
SCALE 1:20

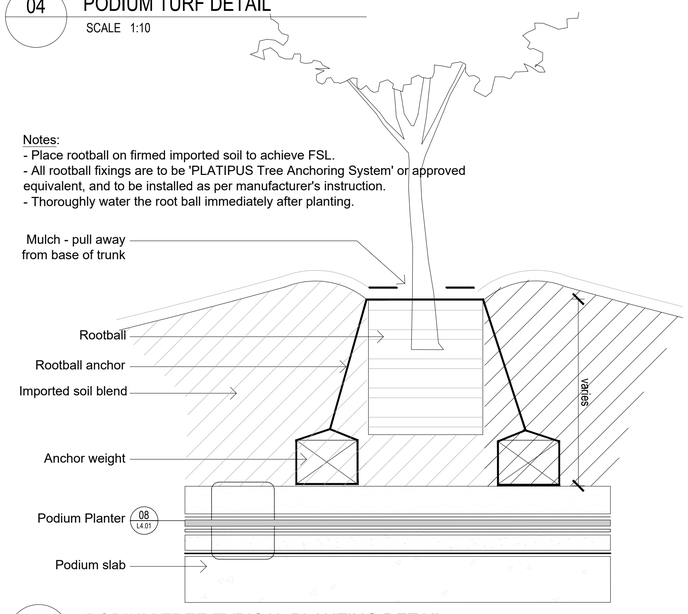


04 PODIUM TURF DETAIL
SCALE 1:10

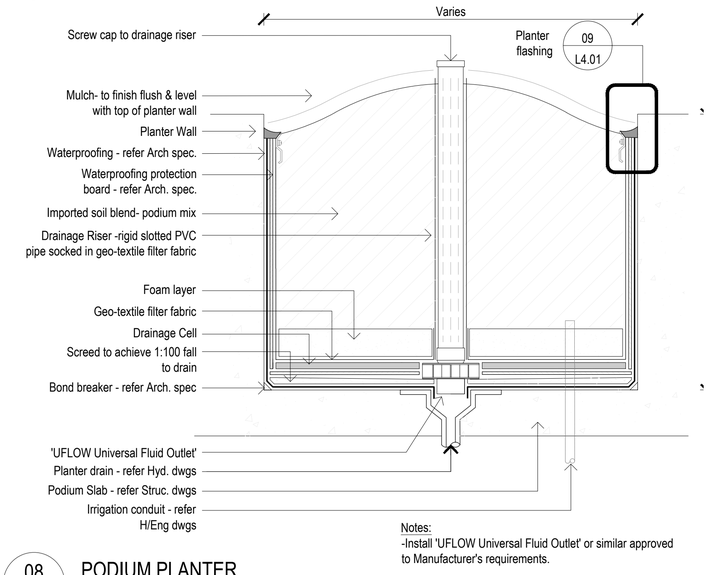
Notes
- Fall all pipes to evenly to storm water system.
- Join drains to UPVC conduits of same diameter when placing under paved areas or any other areas which require a compacted sub-base.
- Sub-soil pipe to be 90mm diameter with filter sock.



05 TYPICAL SUBSOIL DRAINAGE IN PLANTING DETAIL
SCALE 1:10



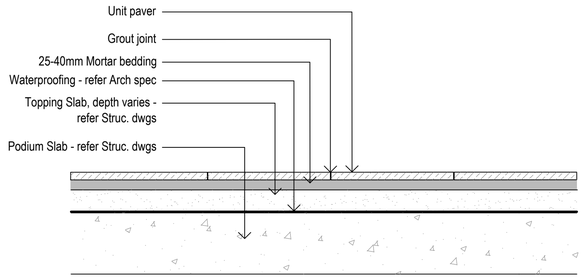
07 PODIUM TREE TYPICAL PLANTING DETAIL
SCALE 1:10



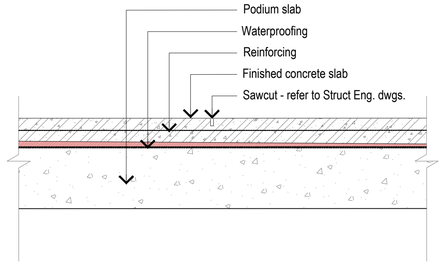
Notes:
-Install 'UFLOW Universal Fluid Outlet' or similar approved to Manufacturer's requirements.

08 PODIUM PLANTER
SCALE 1:10

Notes:
- Mortar mix must be compatible with waterproofing system
- Crossfall grades - Min 1:100 Max 1:40

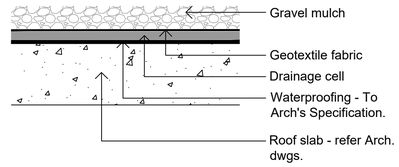


01 UNIT PAVING - ON PODIUM
SCALE 1:10

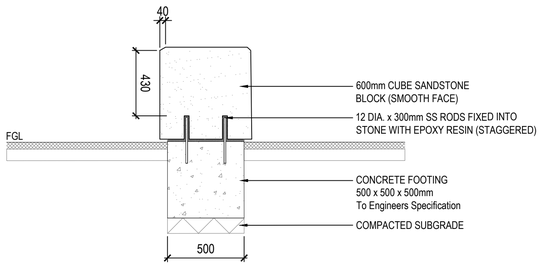


02 INSITU CONCRETE - ON PODIUM
SCALE 1:10

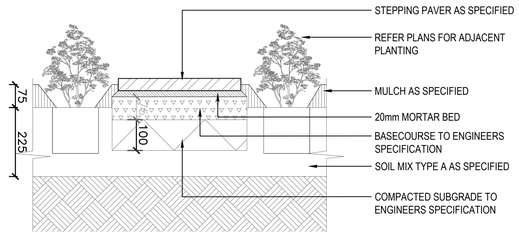
Notes:
Gravel mulch to cover all beams and extrusions in the surface of the roof / planter with a flat and even finish. Undulations in the finished surface will not be accepted.



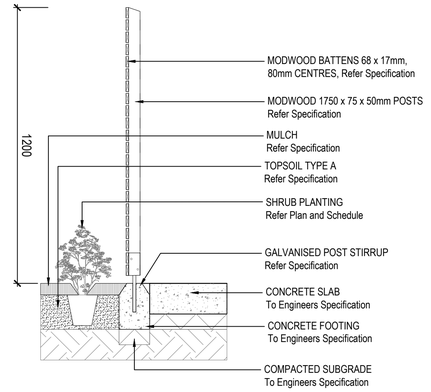
03 GV1 - GRAVEL MULCH ON PODIUM
SCALE 1:10



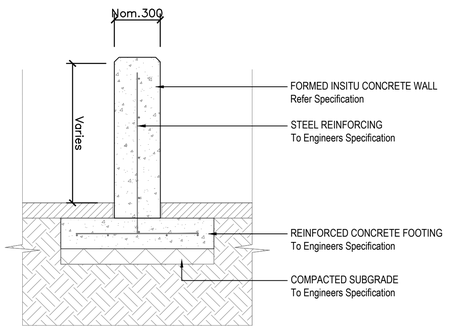
04 SANDSTONE CUBE SEAT
SCALE 1:20



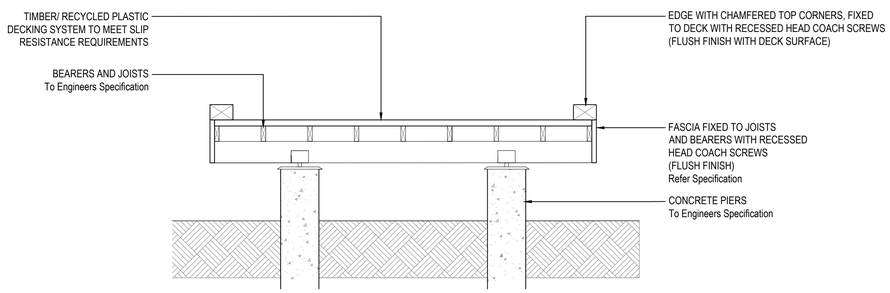
05 STEPPERS
SCALE 1:10



06 TYPICAL TIMBER BATTEN SCREEN FENCE - SECTION
SCALE 1:20



07 TYPICAL WALL
SCALE 1:20

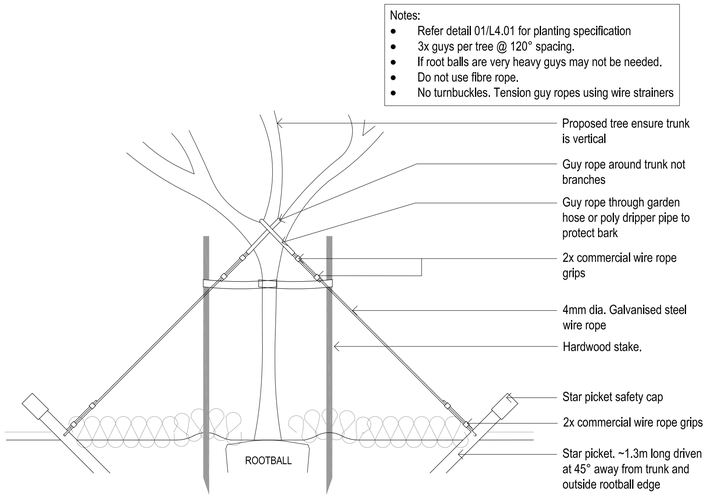


08 TIMBER BOARDWALK
SCALE 1:20

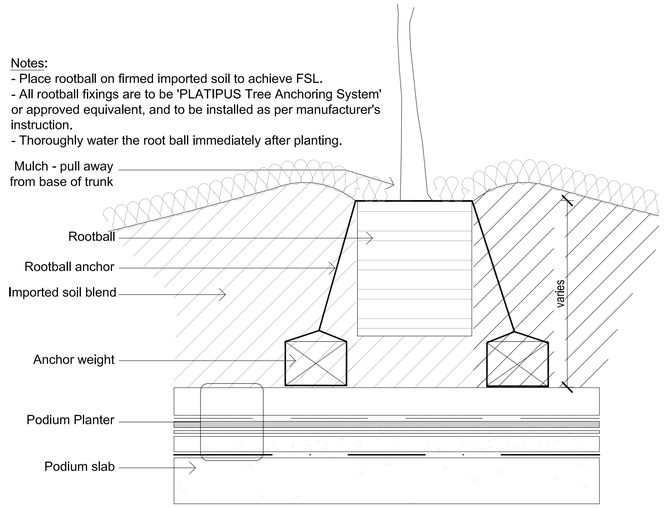
5.2 WIND DETAILS

LANDSCAPE STRATEGY - WIND PROTECTION

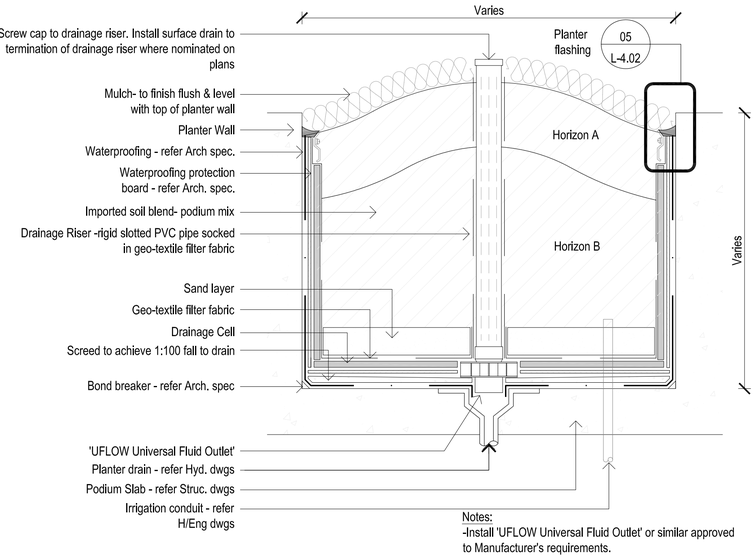
Canopy cover is extremely important in helping reduce temperatures and helping increase biodiversity. New developments often create wind tunnels that affect landscapes on podium spaces which can damage tree species in storm conditions. A series of details including guying, rootball anchoring and deep soil podium planters can help provide trees the infrastructure and stability during early establishment periods and ensuing mature vegetation will not be damaged in high wind conditions.



TREE GUYING DETAIL -SCALE 1: 20@A1



ROOT BALL ANCHOR TYPICAL -SCALE 1:10 @A1



TYPICAL PODIUM PLANTER DETAIL -SCALE 1:10

5.3 MAINTENANCE GUILDELINES

MINIMISING MAINTENANCE NEEDS

The maintenance of the landscape will be important to its success both in the critical establishment phase (the first 12 months) and ongoing for its life span. The reduction and practicality of ongoing maintenance requirements has been intrinsic in the design with key considerations as follows:

- Use of endemic and native species and those known to do well in the local area.
- Selection of species by their size and habit, which do not require frequent pruning to maintain their form as a hedge or to contain then within the desired planting zone.
- Species selected for each area determined based on the micro-climatic conditions, particularly in respect to sun and shade conditions.
- Selection of low water plants to reduce the need for additional watering.
- Roof water to be collected for use in irrigation to reduce the need for the use of potable water for this purpose. Automatic irrigation provided throughout the landscape areas.

MAINTENANCE SCHEDULE

The maintenance of the landscape will be undertaken by the contractor for the first 12 months to ensure successful establishment. Following this the maintenance will be taken over by a maintenance contractor.

The maintenance to be undertaken will be detailed in the landscape specification in the form of a Landscape Maintenance Plan. The Landscape Maintenance Plan will ensure the necessary scope and level of maintenance is achieved to ensure the plants remain healthy and other landscape elements are maintained in a safe, functional and attractive condition and will include the following:

SHRUB PRUNING & TRIMMING

- Tip prune shrubs and ground covers to encourage density in spring and winter. Length removed depending on vigor of previous plant growth.
- Pruning should reflect the natural growth, flowering and regrowth habit of the individual species. Generally prune after flowering. Inspect for failed or dying plants requiring replacement monthly and record probable cause.
- All plants that have died or failed (lost more than 50% of their normal foliage cover) shall be replaced with the same species and commercially available size as the plant to be replaced.
- Generally plant material shall be uniformly high quality stock equal to best available for 'retail sale'. The root systems shall be balanced in relation to the size of the plant.
- Plants shall be healthy well grown, hardened off specimens of good shape and free from pests and diseases and in accordance with 'Specifying Trees: a guide to assessment of tree quality' (Clark 2006). Should the contractor believe that alternative species should be utilised a proposal is to be put to Aqualand for approval. Inspect climbers, trailing plants monthly, train leaders onto supports as required. Prune long leaders which cannot be reattached to climbing frame or mesh supports in summer.

TREE MAINTENANCE

- Inspect trees monthly during the first 12 months and annually thereafter. Ensure trees are not showing any signs of stress, adjust watering as required to ensure good health and top up mulch to specified depths as required.
- Avoid unnecessary pruning during the first three years. Prune only critical branches and remove damaged or dead wood. Remove branches that limit public access or present a safety risk.
- Lift the crown of the trees to maintain clear site lines where required to a level of 2.5m.
- Structural tree work including the removal of large branches should be undertaken by a qualified arborist with appropriate applications for the works made to Council.

TURF MAINTENANCE

- Mow turf every 2 weeks in summer, 3 weeks in Spring / Autumn and 4 weeks in winter. Mow at heights of between 40 to-60mm & remove no more than 1/3 of the leaf blade at any one time. Do not mow under wet conditions.
- Apply fertiliser at rates as recommended by manufacturer in Spring and Autumn. Apply fertiliser at rates as recommended by manufacturer
- Inspect for compaction and thatching in Spring. Carry out aeration treatment if required using dethatching or verticutting equipment
- Inspect for failed turf requiring replacement and record probable cause in Winter. Remove failed turf, prepare surface & lay new turf in accordance with original turf specified.

FERTILISING, SOIL IMPROVEMENT & PEST CONTROL

- Soil testing is to be undertaken at the commencement of the maintenance contract and shall include taking samples from a cross section of planting areas. Slow release fertiliser selected to take into account the soil testing results and the insitu plants should be applied annually in spring and in accordance with the manufacturer's recommended rate. Prior approval required for fertiliser use.
- Check for incidence of fungal and insect attack monthly.
- Apply appropriate treatment for fungal and insect attack if necessary subject to approval.
- Avoid use of chemical sprays. If chemical control is considered necessary, these should be mixed and applied in strict accordance with manufacturer's directions. Do not spray in windy or extreme weather. Prior approval required of chemical to be applied.
- Do not remove leaf litter from planted areas unless depth of litter is impacting on plant growth.

MULCHING & WEEDING

- Prevent reproduction of weeds by removal of seedlings and established weeds before seed set. This work should be carried out regularly so that the planted and mulched areas are weed free when observed at monthly intervals.
- Weed garden areas manually or with approved herbicide monthly. Prior approval required for Herbicide use. Approved Herbicide use to be in accordance with regulation rates and manufacturer's recommendation. Protect plants from overspray and avoid if rain is likely within 12 hour period
- Surface mulch is to be replenished as required, at least annually in spring, to maintain a consistent depth as specified at installation. Mulching materials to be consistent with those specified at installation.
- Plant and other litter to be removed from paths and garden areas where required.

ADJUSTMENT OF TREE STAKES & TIES

- Inspect stakes and ties monthly, replace as required. Check the straps during spring and autumn, ensuring they are loose around the tree to prevent damage to the trunk.
- Remove all stakes and ties at the completion of the 12 month establishment period.