14-16 MARSHALL AVE

5-9 HOLDSWORTH AVE

2-10 BERRY RD

ST LEONARDS

DA LANDSCAPE REPORT
[ISSUE G]
PR148589-1

MAKING COMPLEX EASY

REVISION	DATE	PREPARED BY	APPROVED BY
[G]	18/12/2023	RG	SH
[F]	13/09/2023	RG	SH
[E]	15/05/2023	RG	SH
[D]	14/06/2022	ML	MD
[C]	25/09/2021	ML	MD
[B]	24/05/2021	ML	MD
[A]	27/04/2021	ZL	MD

Prepared for:

Modern Construction & Development Pty Ltd

Site Location:

14-16 Marshall Ave, 2-10 Berry Rd + 5-9 Holdsworth Ave

St Leonards

Prepared by:

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UPDATES TO REPORT - ISSUE F:

1.6 - Page text edited in consultation with Dennis Foley (First Nation input)

2.2 - Tree from centre of 'Retention' diagram removed

3.2 - 3.3.2 - Site plan updated with new areas of landscaping by area 13 and area 14

4.2 - New page added to illustrate soil depths of roof

4.3 - Canopy plan modified and re-calculated excluding existing trees

4.5 - Tree plan modified, one tree retained, new species added

4.6 - Planting plans modified with new species of Indigenous significance, planting in new landscape areas, greater amount of shrubs and higher densities of shrubs and groundcovers. Bush tucker species added around communal zones.

4.7 - Roof planting densities increased.

4.8 - Planting schedule modified and quanties of plants illustrated

5.0 - New details 9, 10, 11 added regarding Quatro roof planters and mass planting on podium

UPDATES TO REPORT - ISSUE G:

3.2 - 3.3.2 - Ground plan modified as per updated architecture set. Furthermore communal area layout modified (position of BBQ, tables and size of shelter structure), one retaining wall from planted terraced area eliminated

- 3.4 Green Spine Section updated with modified shelter structure

- 3.8 Rooftop plan updated as per latest architecture, furthermore paving specification modified, awning eliminated and substituted for smaller shelter over BBQ

- 3.9 Rooftop section updated with modified shelter structure

- 4.6 Planting plan updated

- 4.8 Planting schedule updated

We respectfully acknowledge the Traditional Custodians of the land we work on, the Cam-mer-ray-gal people of the Eora nation and pay respect to their Elders past, present and emerging.

1. INTRODUCTION

This Landscape Report has been prepared by RPS on behalf of Modern Construction & Development **(Proponent)** and in support of a development application submitted to Lane Cove Council (**Council**) for construction of a mixed-use development comprising of 10 allotments with a total site area of 5,874sqm. The site is known as Areas 13,14 and 15 within the St Leonards South Precinct, and is bound by Marshall Avenue to the north, Holdsworth Avenue to the east and Berry Street to the west.

This development proposal seeks consent for the demolition of all existing buildings and structures on site and the construction of three separate 10 to 11 storeys residential flat buildings development, in accordance with the broader development within the St Leonards South Precinct.

More specifically, the proposed works are described as follows:

- Construction of three residential buildings comprising:
  - A consolidated basement car park comprising four levels and one part basement level;
  - Vehicular access via Holdsworth Avenue (from Area 14).
- Significant landscaping integrated throughout the site with a focus on the central green spine.

A key component of the development is to incorporate the desired future character of the St Leonards South Precinct and emphasis on the unique context of the locality through architectural expression and landscaping.

The proposed development is aligned with Council's vision for the St Leonards South Precinct and will create a landmark development within this corner site to celebrate the gateway entrance to the St Leonards South Precinct.

2. BACKGROUND

The site forms part of the Council led St Leonards South Planning Proposal followed by the amendments to the LEP, DCP and implementation of a new Landscape Master Plan (LMP). The intent of the amendments is to allow for higher density residential development in the area. The LEP amendments were gazetted in October 2020 and came into effect on 1 November 2020.

The new planning framework is also supported by a site specific DCP and a LMP which were adopted by Council on 19 October 2020. These documents are intended to supplement the LEP controls to provide more detailed built form and landscape guidelines.

2.1 PRE-LODGEMENT DISCUSSIONS

The proposal for the development of Area's 13, 14 & 15 has led to multiple preliminary discussions with Lane Cove Council. The Proponent has been consulting extensively with Lane Cove Council throughout the Planning Proposal phase, and in addition met with senior planning staff in November 2020 to seek clarity on a range of matters while the design review structure was being finalised.

Post gazettal of the LEP and as part of the pre-DA process, the applicant met with Council and the Design Excellence Panel (**DEP**) on multiple occasions. Preliminary design schemes were presented at these meetings.

On 19 August 2022, Lane Cove Council issued a Letter to the Applicant providing detailed comments on the proposal. The correspondence generally accepted the design responses with one amendment pertaining to the southern setback controls for Levels 5-10 of buildings in Areas 14 & 15.

3. SITE LOCATION

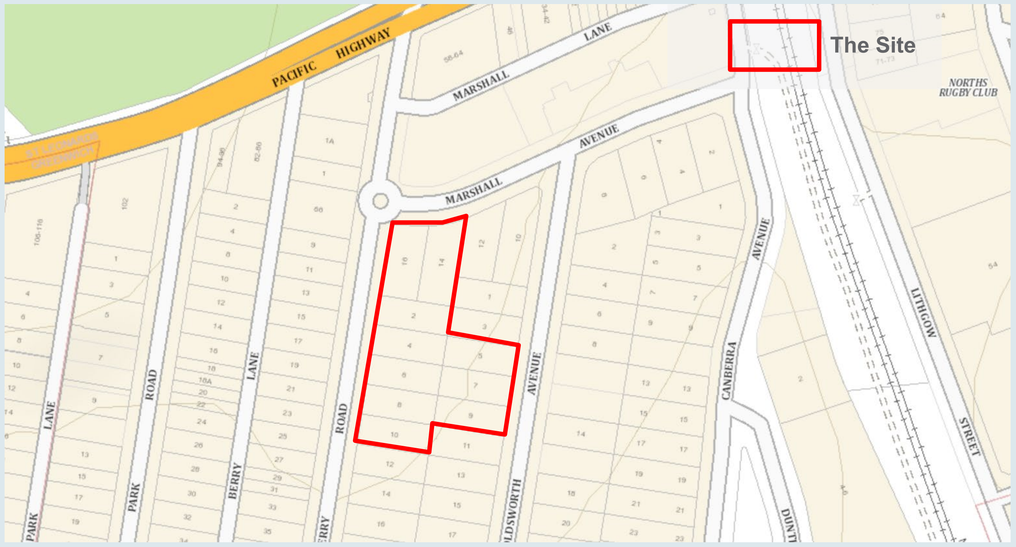
The subject site is located at 2-10 Berry Road, 5-9 Holdsworth Avenue and 14-16 Marshall Avenue, St Leonards. The site comprises 10 allotments with a total site area of 5,874sqm. It is acknowledged that the Proponent owns all lots forming part of the site.

The site is known as Areas 13, 14 and 15 within the St Leonards South Precinct and in the Lane Cove Local Government Area (LGA). St Leonards is located 6km north of the Sydney CBD. The subject site is in proximity and highly accessible to the commercial centres of North Sydney, Chatswood and Macquarie Park. The site is located within convenient walking distance to St Leonards rail station and the future metro station.

The surrounding development has undergone significant transition, from low density dwellings to medium and high density residential and mixed use. The desired future character for St Leonards South Precinct is for a liveable, walkable, connected, safe area which helps build upon the transit, commercial and residential opportunities of St Leonards. This transition is being supported by current development activity, recent approvals and further planned development.

Address	Lot and Deposited Plan
14 Marshall Avenue	Lot 2 in DP7259
16 Marshall Avenue	Lot 1 in DP7259
2 Berry Road	Lot 38 in DP7259
4 Berry Road	Lot 37 in DP7259
6 Berry Road	Lot 36 in DP7259
8 Berry Road (*to be acquired from neighbour)	Lot 35 in DP7259
10 Berry Road (*to be acquired from neighbour)	Lot 34 in DP7259
5 Holdsworth Avenue	Lot 7 in DP7259
7 Holdsworth Avenue	Lot 8 in DP7259
9 Holdsworth Avenue	Lot 9 in DP7259

Figure 1 The Site



Source: Six Maps

Figure 2 Proposed St Leonards Masterplan Aerial View

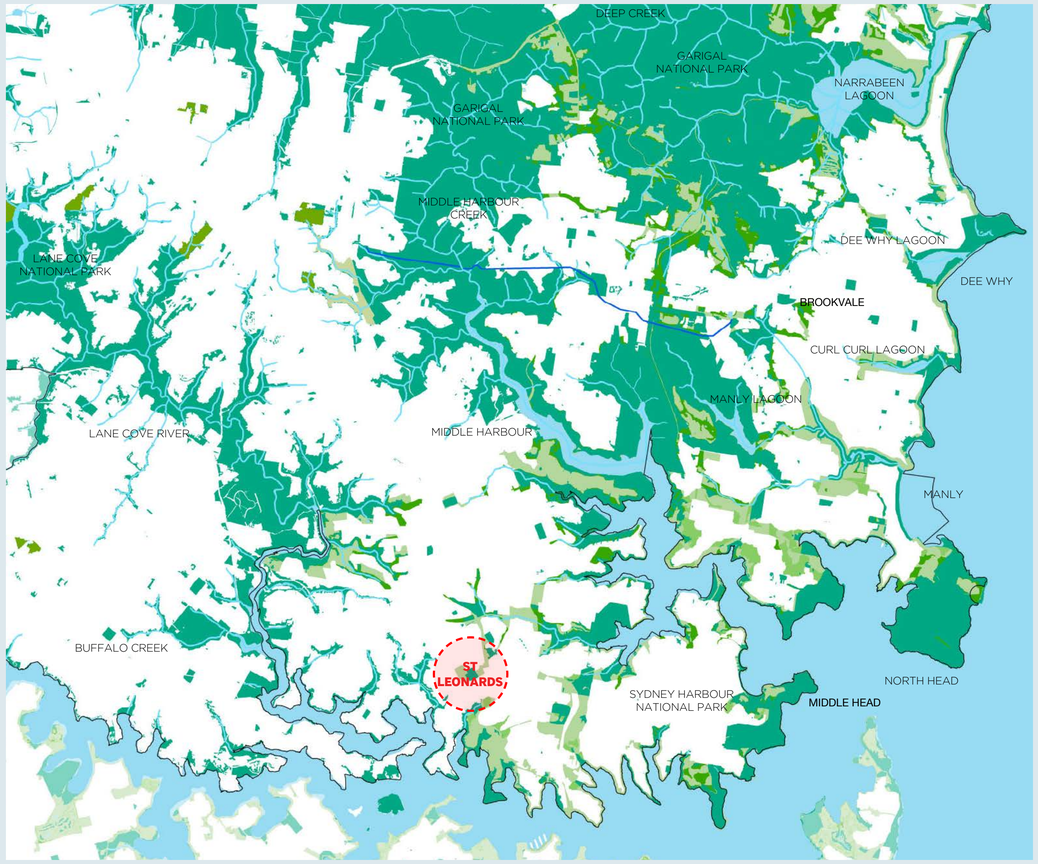
Source: A+ Design, 2020

CONTENTS

1.0 SITE UNDERSTANDING

1.1 SITE DESCRIPTION AND REFERENCE DOCUMENTS

SYDNEY GREEN GRID PLAN



ST LEONARDS SOUTH PRECICNT

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
- 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

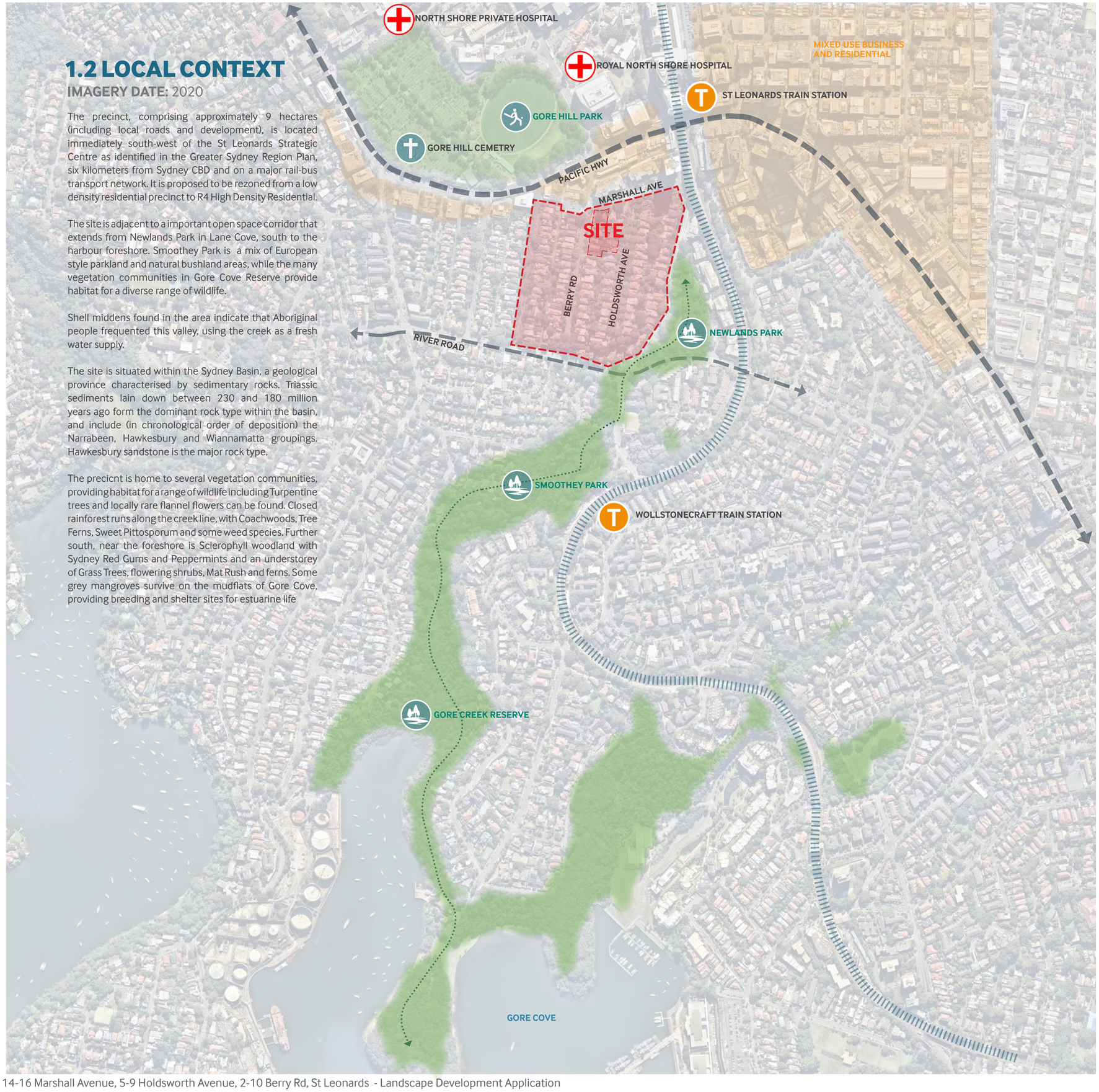
The precinct, comprising approximately 9 hectares (including local roads and development), is located immediately south-west of the St Leonards Strategic Centre as identified in the Greater Sydney Region Plan, six kilometers from Sydney CBD and on a major rail-bus transport network. It is proposed to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

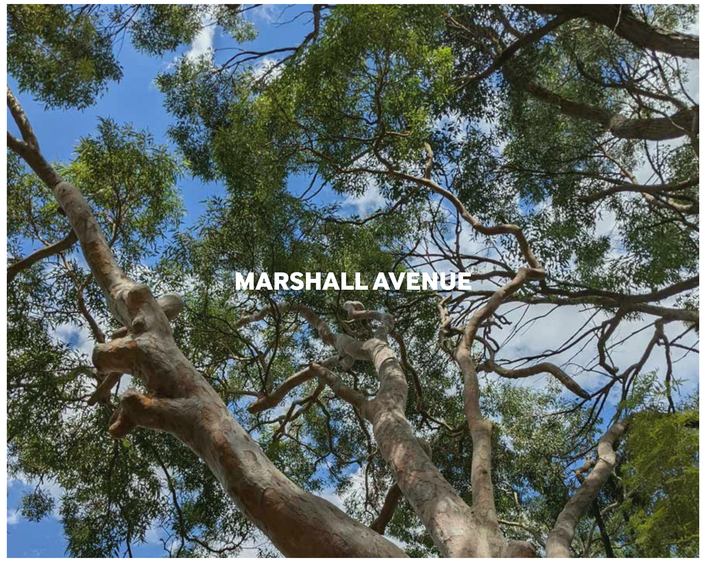
The site is adjacent to a important open space corridor that extends from Newlands Park in Lane Cove, south to the harbour foreshore. Smoothey Park is a mix of European style parkland and natural bushland areas, while the many vegetation communities in Gore Cove Reserve provide habitat for a diverse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

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

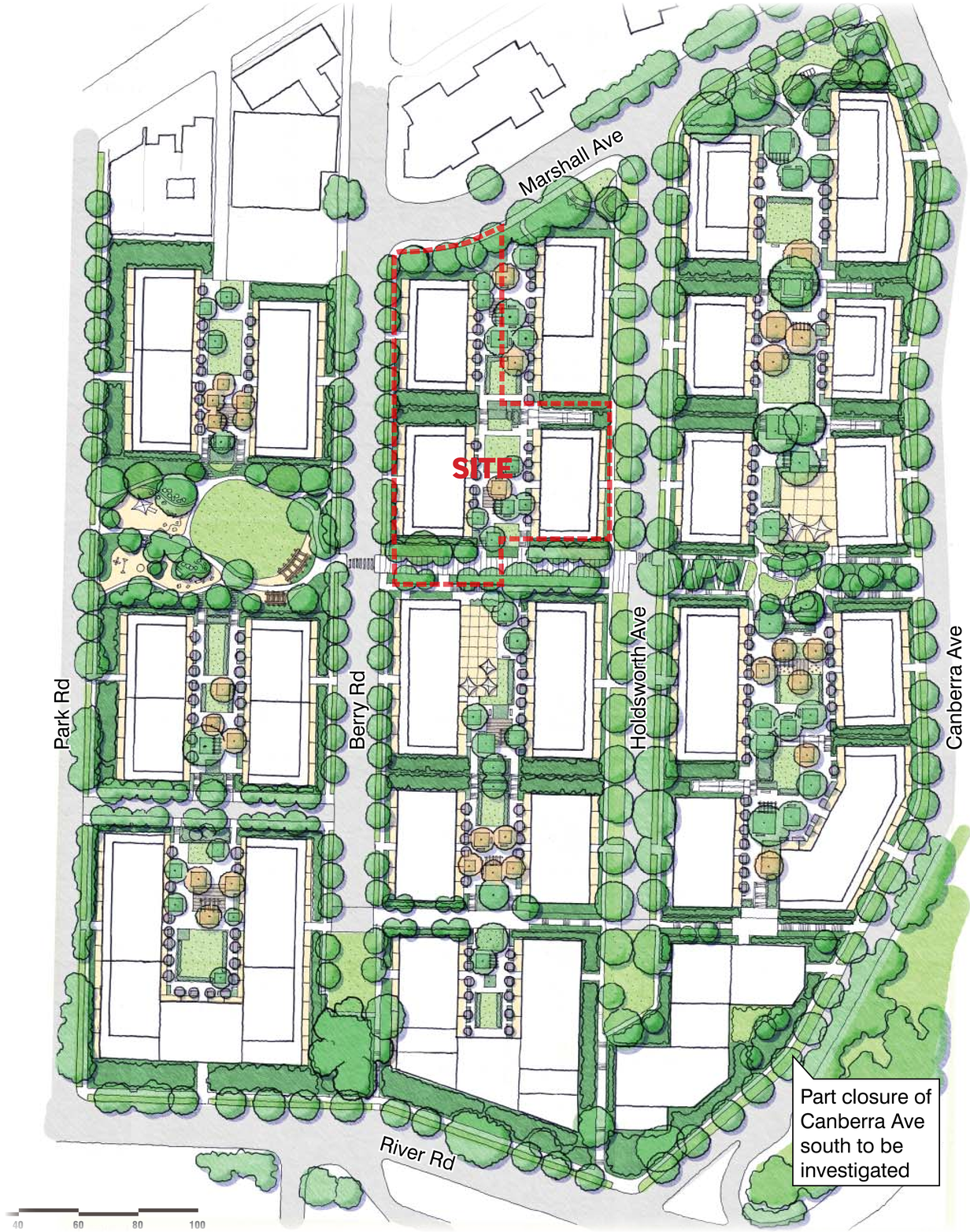
- **This master plan (shown on the right) takes elements from the formal (urban) and informal (natural) approaches to allow for a clear distinction between the private communal spaces and the public domain.**

- **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.**

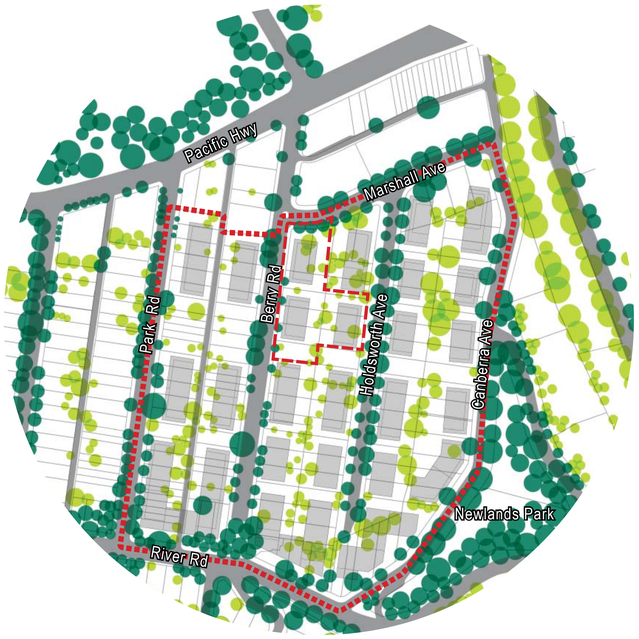
- **Deciduous trees in the private areas provide greater winter solar access to largely overshadowed communal areas.**

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



ST LEONARDS SOUTH MASTER PLAN - OCULUS 2020

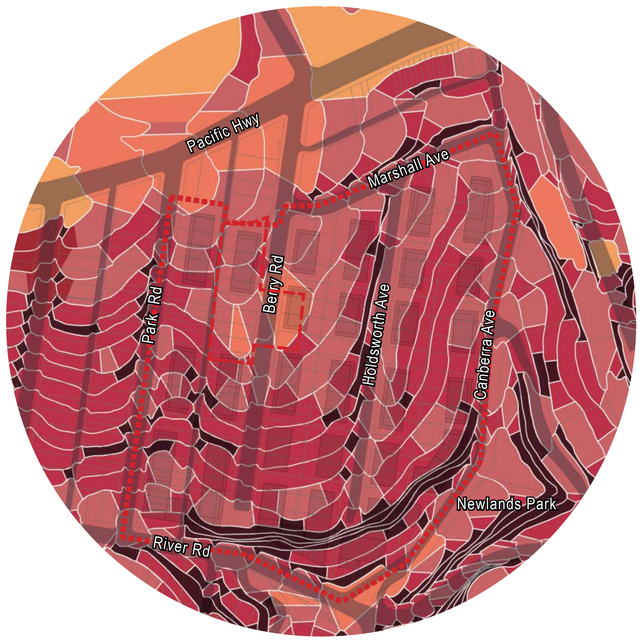
1.4 SITE ANALYSIS



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;
- 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 northsouth 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.

1.5 UNDERSTANDING & CELEBRATING 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.

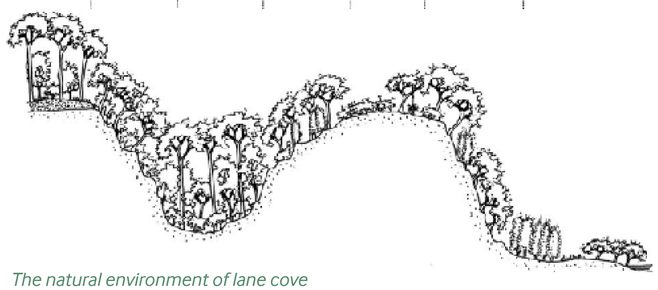
The bushland of Gore Creek Reserve which is located to the south of Berry and Holdsworth covers an area of 5.8 Hectares. From Bushland Park in the north, the creek enters Gore Creek Reserve and tumbles over Lilly Pilly Falls and then on through the valley and into the bay

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



The natural environment of lane cove

1.6 DESIGNING WITH COUNTRY

Preliminary Connecting with Country principles have been incorporated in the overall design. RPS have been working with Uncle Dennis to learn from Country and further explore opportunites to inbed meaning into the design.

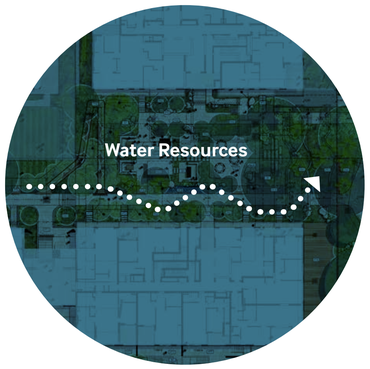
RPS acknowledges that it is situated on Cameraygal land and that the Cameraygal people are the Traditional and Spiritual Custodians of this land. The Lane Cove area has been home to Aboriginal peoples since time immemorial. Prior to the arrival of the First Fleet, the area in which Lane Cove is situated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

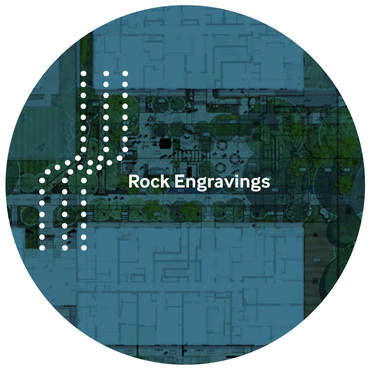
The Cameraygal people lived primarily along the foreshores of the extensive river systems and the harbour, they fished and hunted in the waters and hinterlands of the area and harvested food from the surrounding bush whilst moving through their country in accordance with the seasons. Connection to the 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 initial landscape design looks to celebrate the Indigenous culture of the Cameraygal people and the Cameraygal land.

Note - update 13/09/23: The strategies illustrated in the diagrams below have been gazetted by Dennis Foley and will be developed at the next stage of the project. A bush tucker garden has been provided adjacent to the BBQ area and significant Indigenous species incorporated into the planting design.





2.0 DESIGN VISION

A GARDEN FULL OF SURPRISES AND WONDER

14-16 Marshall Avenue will provide a public garden that encourages exploration, provides respite, and expands the green space network through St Leonards and its surrounding suburbs. The the public realm will create an inclusive and dynamic open space for the community.

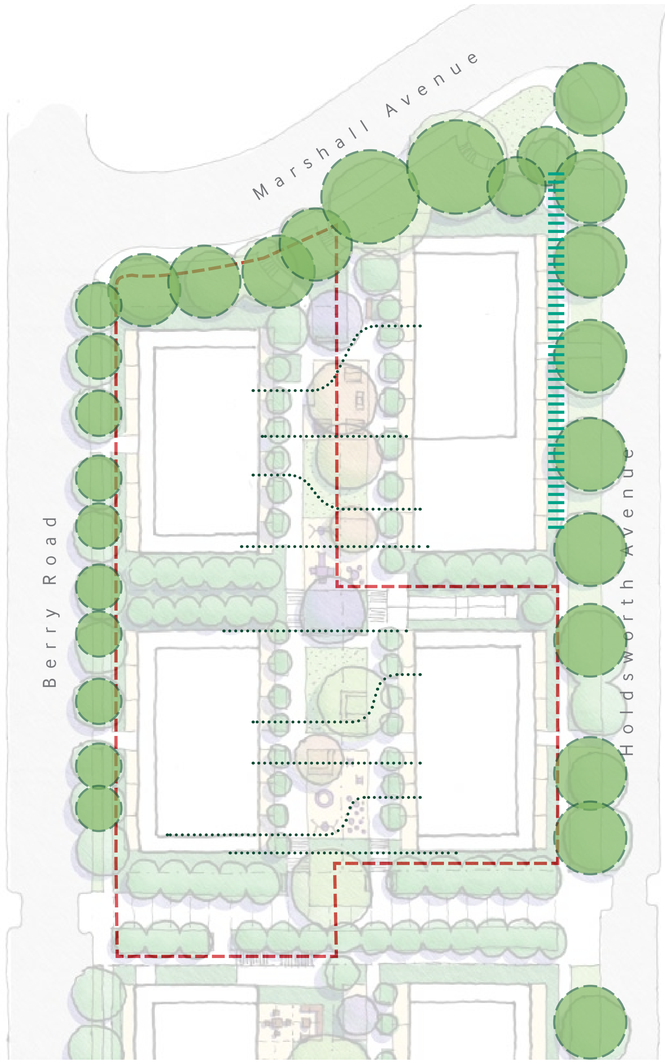
The landscape will be built around a series of spaces that cater for informal gathering, interaction and recreation, and community events.

The landscape design draws on the small pockets of remanet sandstone outcrops and native vegetation that can be found hidden around the site.

A thoughtful mix of natural, organic materials intergrated among clean, geometric forms speaks to the past environment of the site a small indication of the wonders to be discovered and the surprises to be experienced when the landscape is explored

GORE CREEK LITTORAL RAINFOREST VEGETATION COMMUNITY

2.2 DESIGN PRINCIPLES

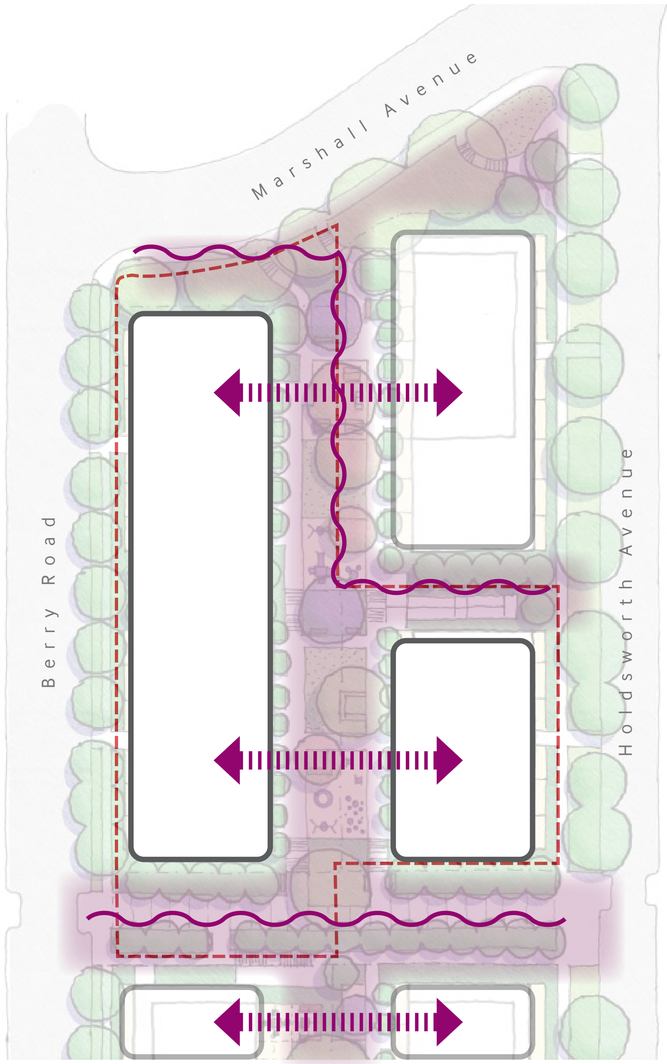


RETENTION

14 - 16 Marshall Avenue will retain and strengthen the green nature of South St Leonards through the retention of a number of significant native trees.

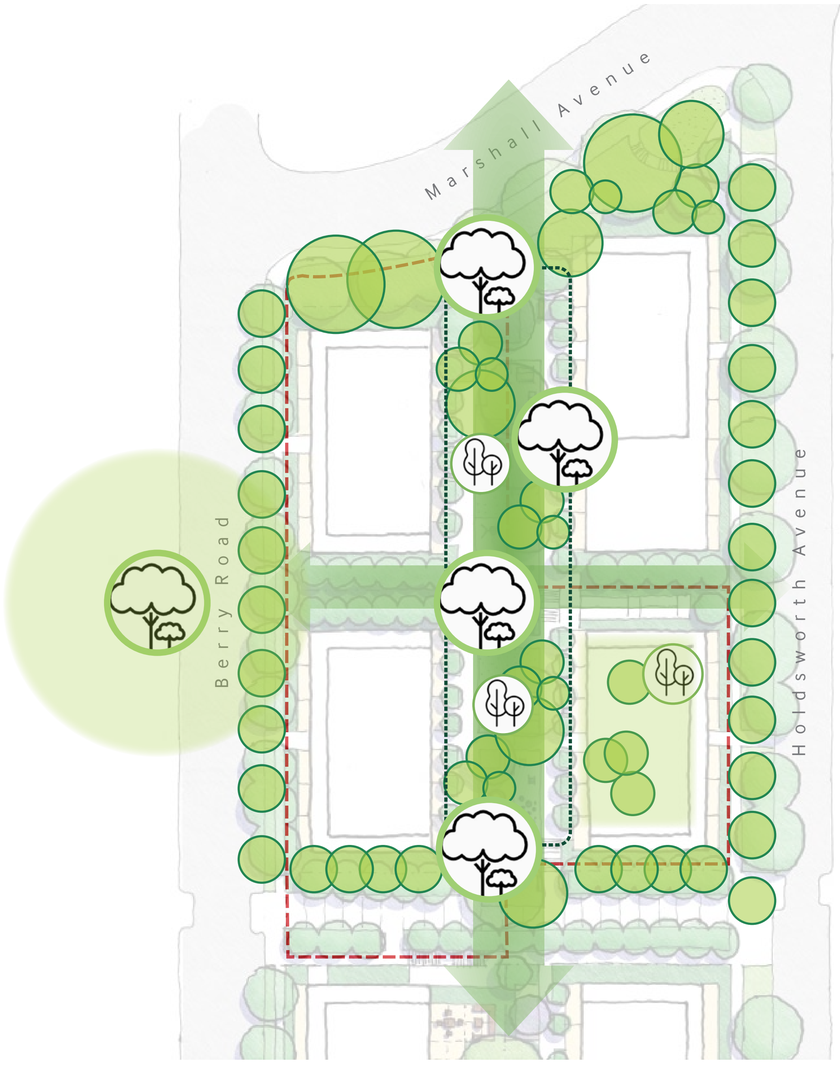
Local Materials including the re-use of a large sandstone wall will be used through the linear park as feature seating walls, signage and artwork.

To reduce retaining walls and dramatic level changes, the ground floor will be designed in accordance with the natural contours, reducing impact to existing trees and cut and fill.



INTEGRATED

14-16 Marshall Avenue will be design in collaboration the neighbouring sites design team to ensure the linear parks ultimate design is functional and coordinated with levels.

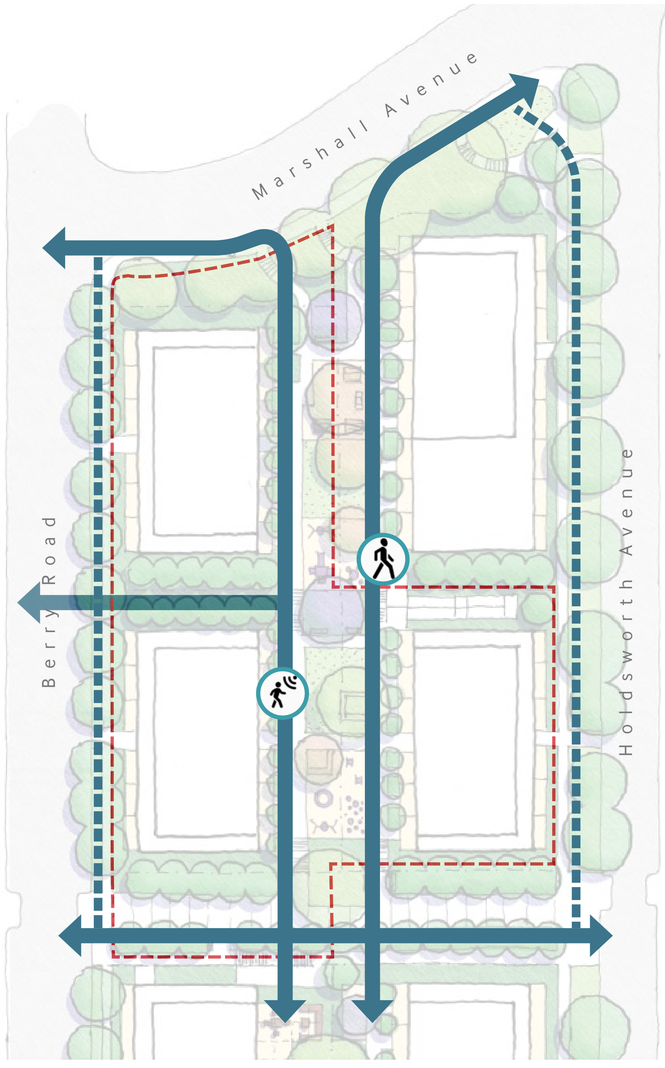


GREENER

The existing site topography falls from the Pacific Highway northsouth 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.

Deep Soil to Central Linear Park
Large Canopy Trees to Linear Park
Deep Soil Setbacks to Street Frontages



CONNECTED

Making the primary east-west public link between Canberra Ave and Park Road accessible by means of 1/20 walkways in combination with public lifts located in the two community buildings;

Ensuring that the local park located between Park Road and Berry Road has accessible routes through it;

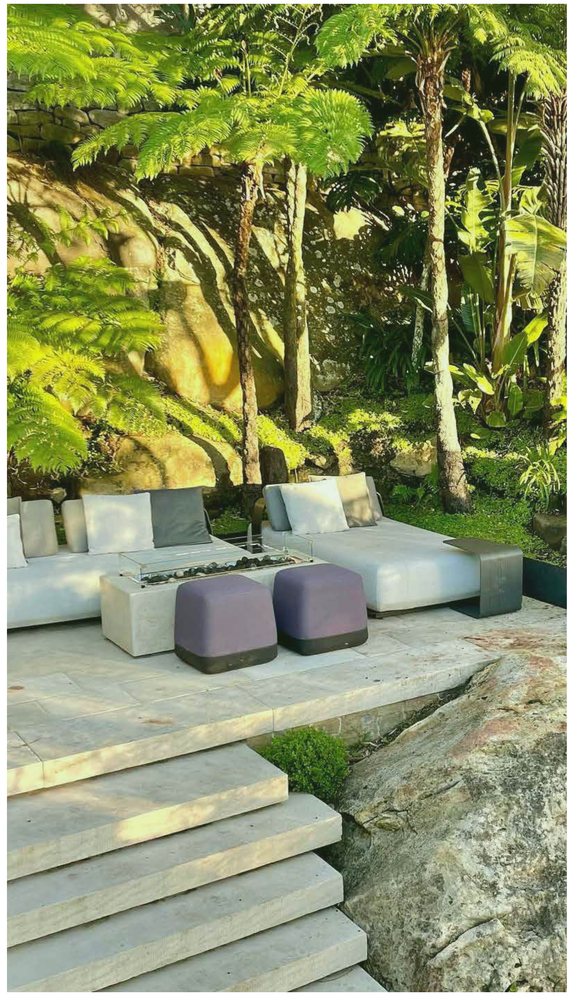
Making the north-south green links accessible between adjacent development sites as far as possible;

Making the communal open space in the north-south green

links accessible from the adjacent apartment buildings; Ensuring that the pocket parks are accessible from Marshall

2.3 DESIGN CHARACTER

PARKLAND SETTING

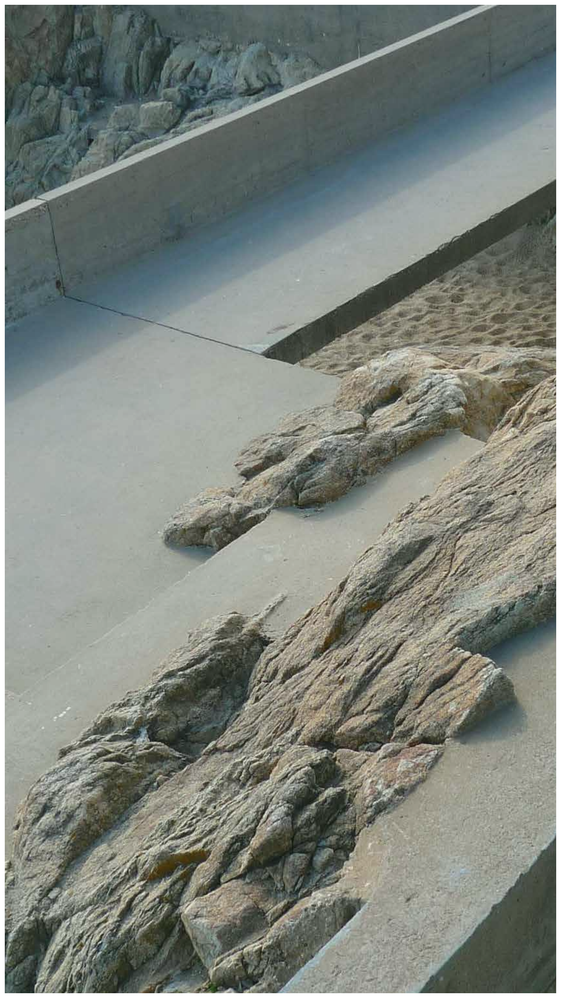


OUTDOOR ROOMS

LOCAL CHARACTER

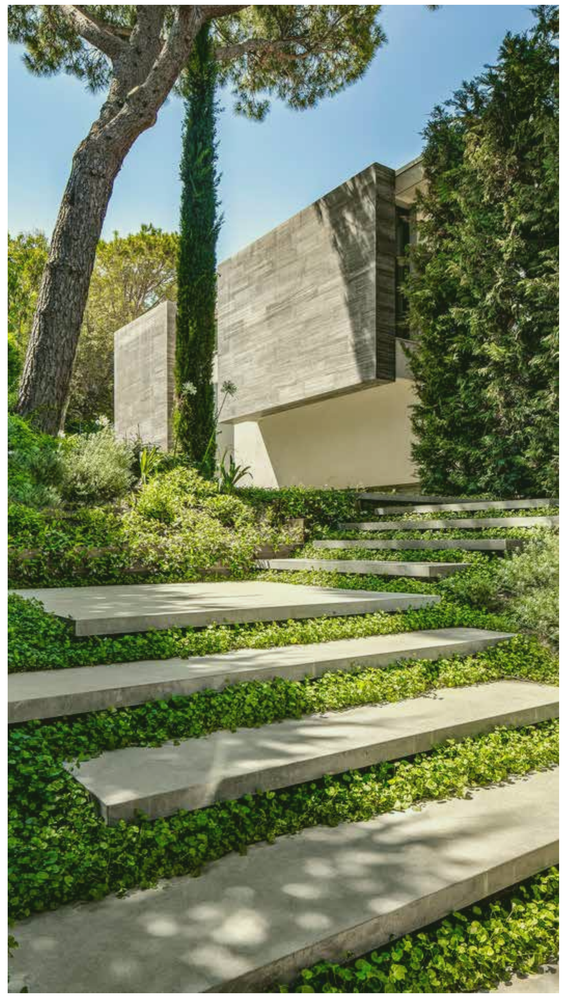
STORMWATER INTEGRATION

CAPTURING VIEWS



INTEGRATION OLD & NEW

NATURAL CHARACTER



SUBTLE CHANGE

3.0 LANDSCAPE PLANS

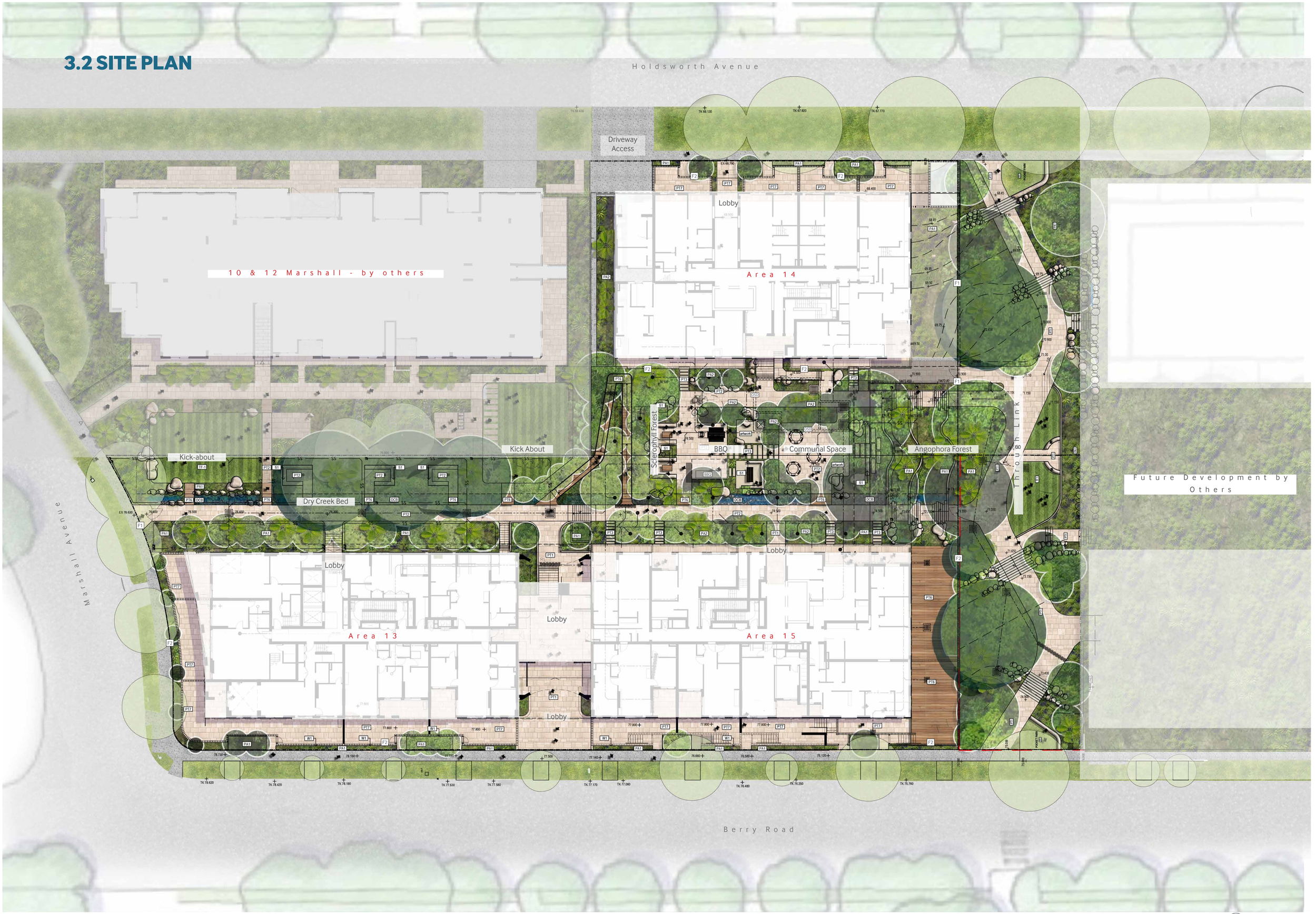
3.1 VEGETATION MANAGEMENT PLAN

LEGEND

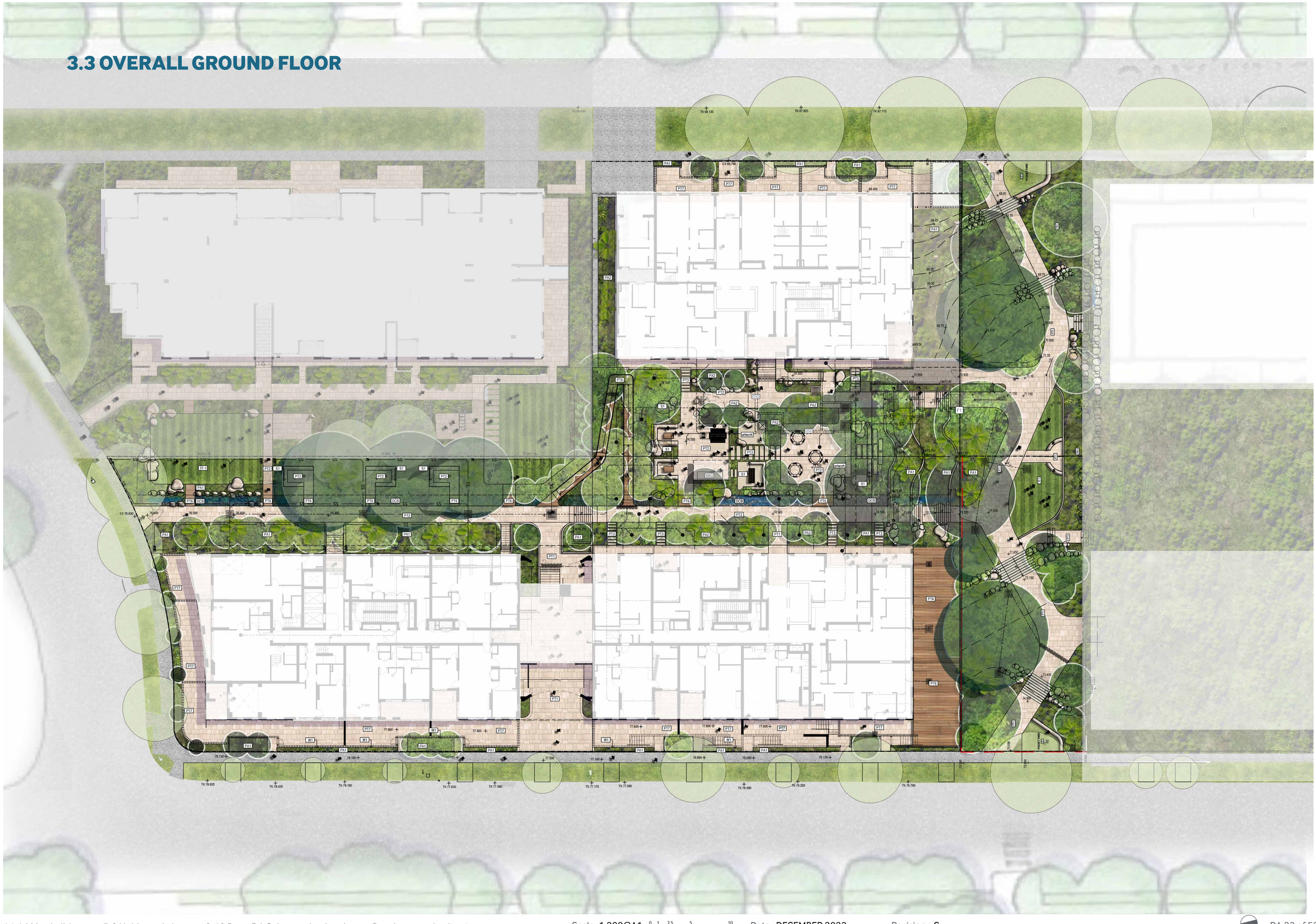
- Existing tree to be retained
- Existing tree to be removed
- Exising tree to be relocated

NOTE: Final tree retention to be reviewed with suitable arborist report

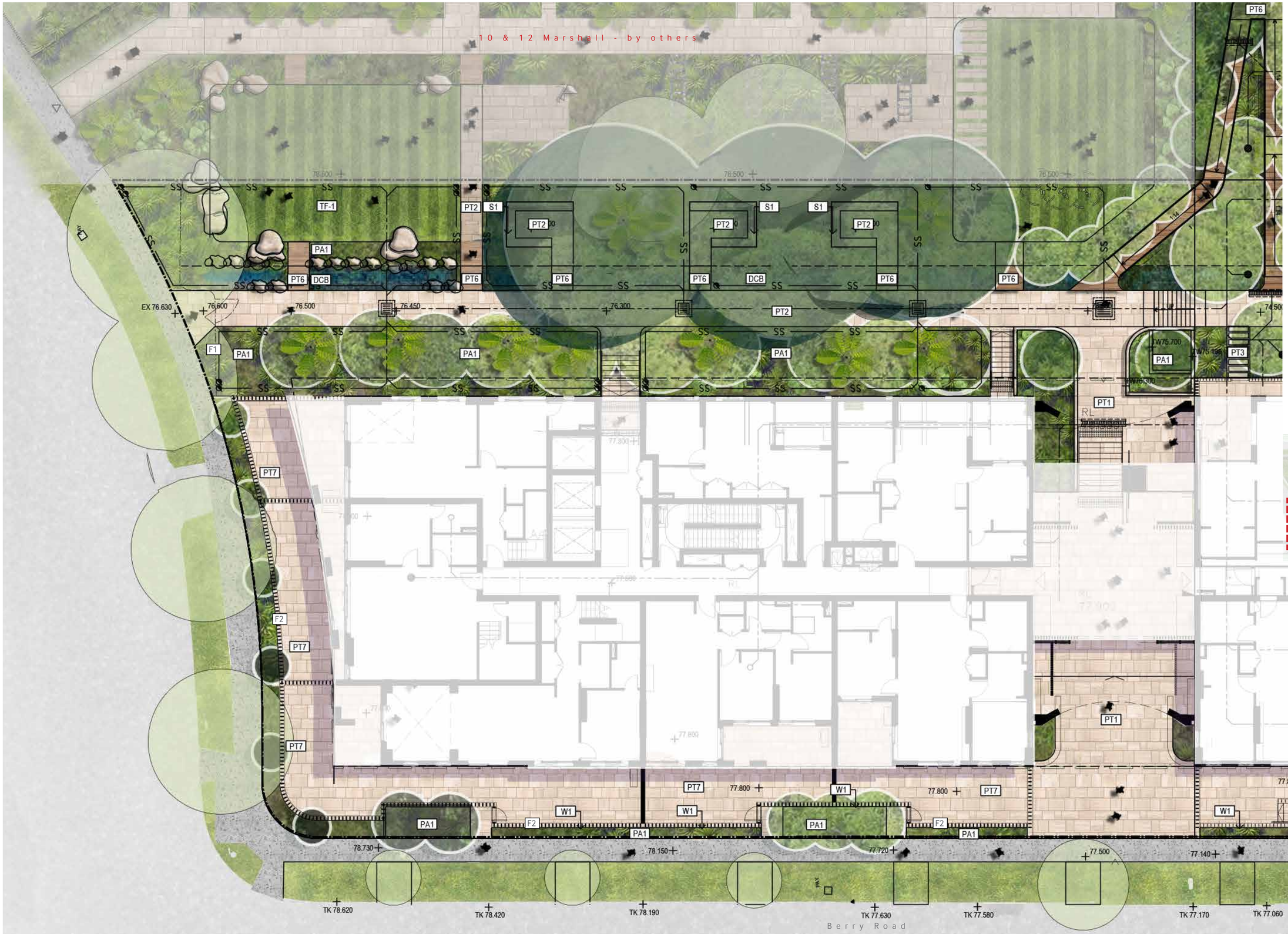
3.2 SITE PLAN


Holdsworth Avenue
Driveway Access
10 & 12 Marshall - by others
Lobby
Area 14
Kick-about
Kick About
Dry Creek Bed
Sclerophyll Forest
BBQ
Communal Space
Angophora Forest
Through Link
Future Development by Others
Marshall Avenue
Lobby
Area 13
Lobby
Lobby
Area 15
Lobby
Berry Road

3.3 OVERALL GROUND FLOOR



3.3.1 UPPER GROUND PLAN GREEN SPINE



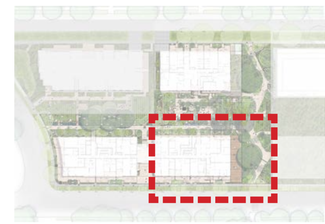
LEGEND

- PT1 Pavement type 1 - Honey Jasper Granite bush hammered
- PT2 Pavement type 2 - HydroSTON permeable paver (cappuccino) TBC
- PT3 Pavement type 3 - Limestone steppers in gravel
- PT4 Pavement type 4 - Steppers in planting
- PT6 Pavement type 6 - Modwood decking or equivalent
- PT7 Pavement type 7 - Honey Jasper Granite honed finish
- W1 Wall 1 - Stone clad concrete wall
- PA1 Planting type 1 - Planting on ground
- PA2 Planting type 2 - Planting on slab
- DCB Dry creek bed
- S1 Seat type 1 - Sandstone with timber inlay seat
- TF-1 Turf on ground
- F1 F1 - Powdercoated aluminium courtyard and green spine fence 1.8m high
- F2 F2 - Powdercoated aluminium street front and boundary fence 1.2m high
- OSD Proposed OSD Tank
- Property Boundary

3.3.2 LOWER GROUND PLAN GREEN SPINE

LEGEND

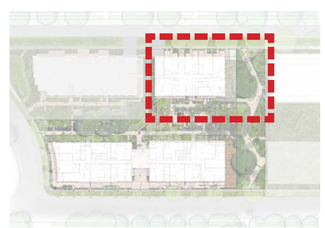
PT1	Pavement type 1 - Honey Jasper Granite bush hammered
PT2	Pavement type 2 - HydroSTON permeable paver (cappuccino) TBC
PT3	Pavement type 3 - Limestone steppers in gravel
PT4	Pavement type 4 - Steppers in planting
PT6	Pavement type 6 - Modwood decking or equivalent
PT7	Pavement type 7 - Honey Jasper Granite honed finish
W1	Wall 1 - Stone clad concrete wall
PA1	Planting type 1 - Planting on ground
PA2	Planting type 2 - Planting on slab
DCB	Dry creek bed
S1	Seat type 1 - Sandstone with timber inlay seat
TF-1	Turf on ground
F1	F1 - Powdercoated aluminium courtyard and green spine fence 1.8m high
F2	F2 - Powdercoated aluminium street front and boundary fence 1.2m high
OSD	Proposed OSD Tank
	Property Boundary



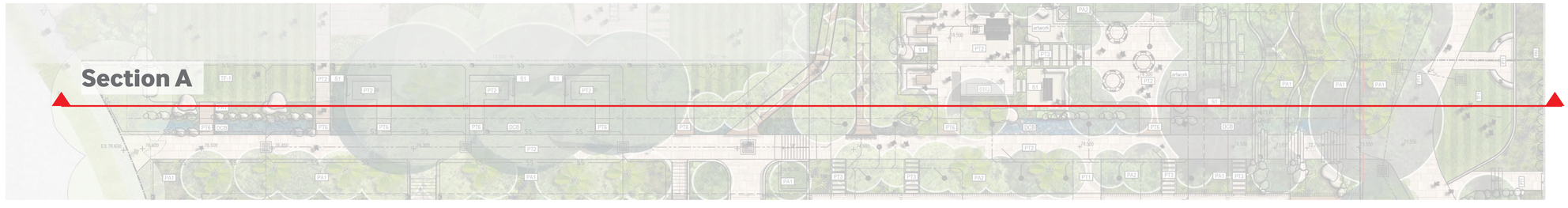
3.3.3LOWER GROUND PLAN GREEN SPINE

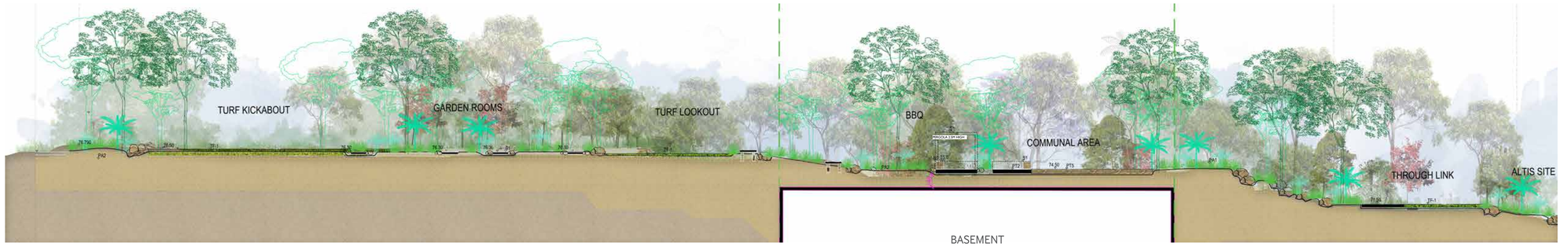
LEGEND

PT1	Pavement type 1 - Honey Jasper Granite bush hammered
PT2	Pavement type 2 - HydroSTON permeable paver (cappuccino) TBC
PT3	Pavement type 3 - Limestone steppers in gravel
PT4	Pavement type 4 - Steppers in planting
PT6	Pavement type 6 - Modwood decking or equivalent
PT7	Pavement type 7 - Honey Jasper Granite honed finish
W1	Wall 1 - Stone clad concrete wall
PA1	Planting type 1 - Planting on ground
PA2	Planting type 2 - Planting on slab
DCB	Dry creek bed
S1	Seat type 1 - Sandstone with timber inlay seat
TF-1	Turf on ground
F1	F1 - Powdercoated aluminium courtyard and green spine fence 1.8m high
F2	F2 - Powdercoated aluminium street front and boundary fence 1.2m high
OSD	Proposed OSD tank
	Property Boundary



3.4 SECTION A - GREEN SPINE





3.4.3 SECTION B - GREEN SPINE

LEGEND

PT2	Pavement type 2 - Permeable Paving
PA1	Planting type 1 - Planting on ground
PA2	Planting type 2 - Planting on slab
DCB	Dry creek bed

The FInery Waterloo - On Slab - 1200mm depth planting

3.5 STORMWATER PLAN

Holdsworth Avenue

10 & 12 Marshall - by others

Timber Bridge

Timber Bridge

Timber Bridge

Timber Bridge

Timber Bridge

Timber Bridge

Marshall Avenue

Through Link

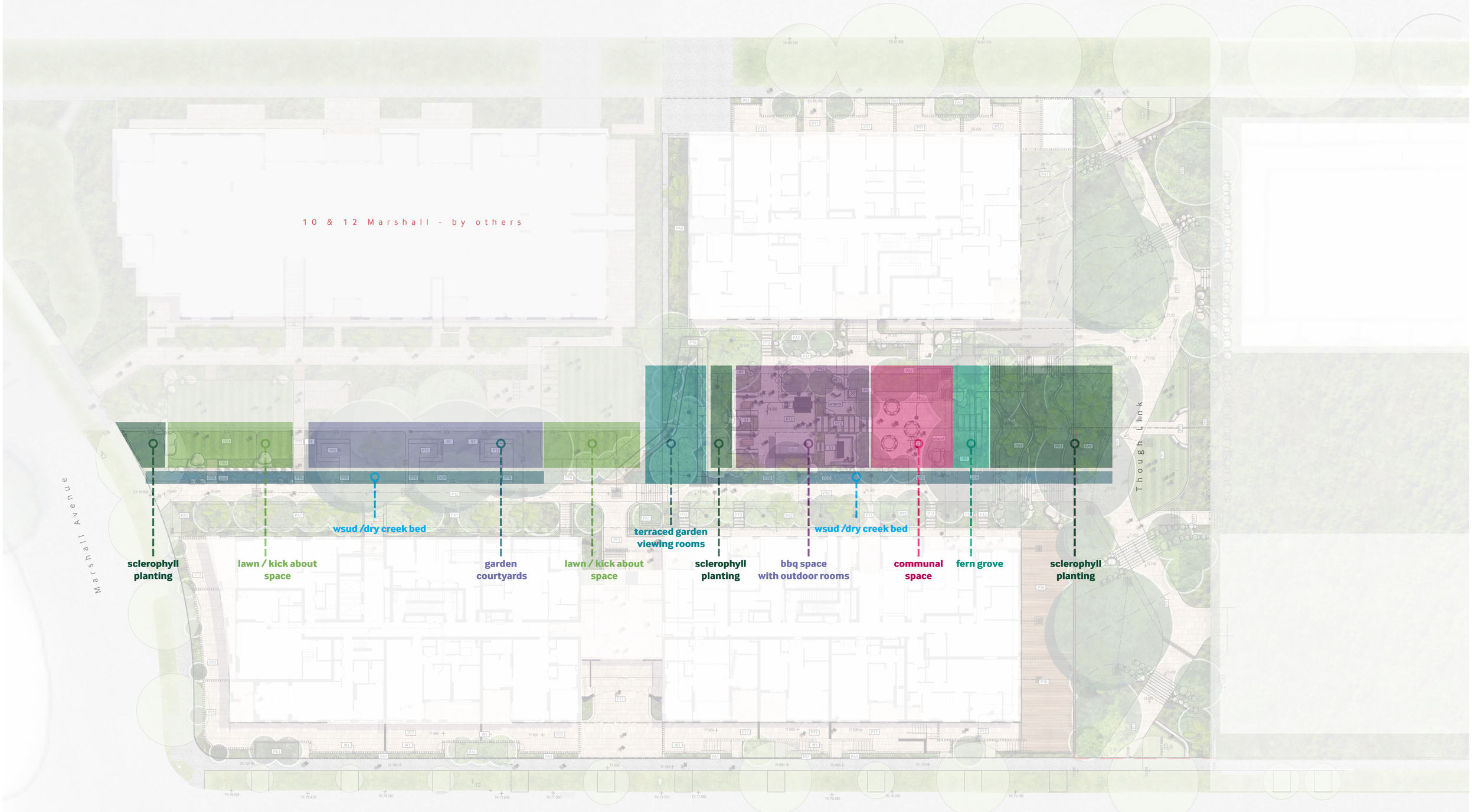
Berry Road

LEGEND

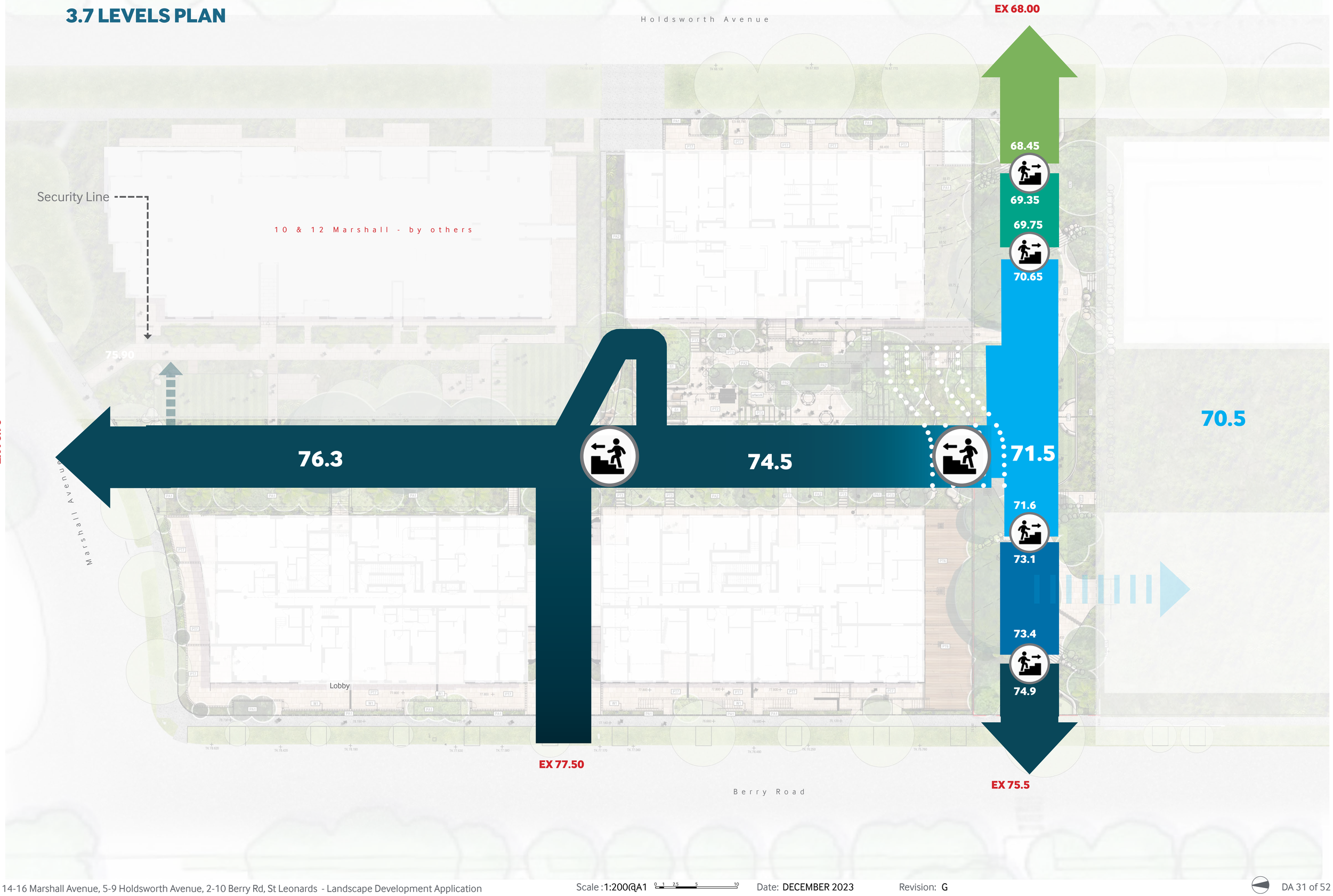
Dry creek bed extent

Water Flow

3.6 PROGRAMMING PLAN - GREEN SPINE



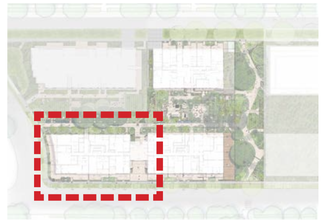
3.7 LEVELS PLAN



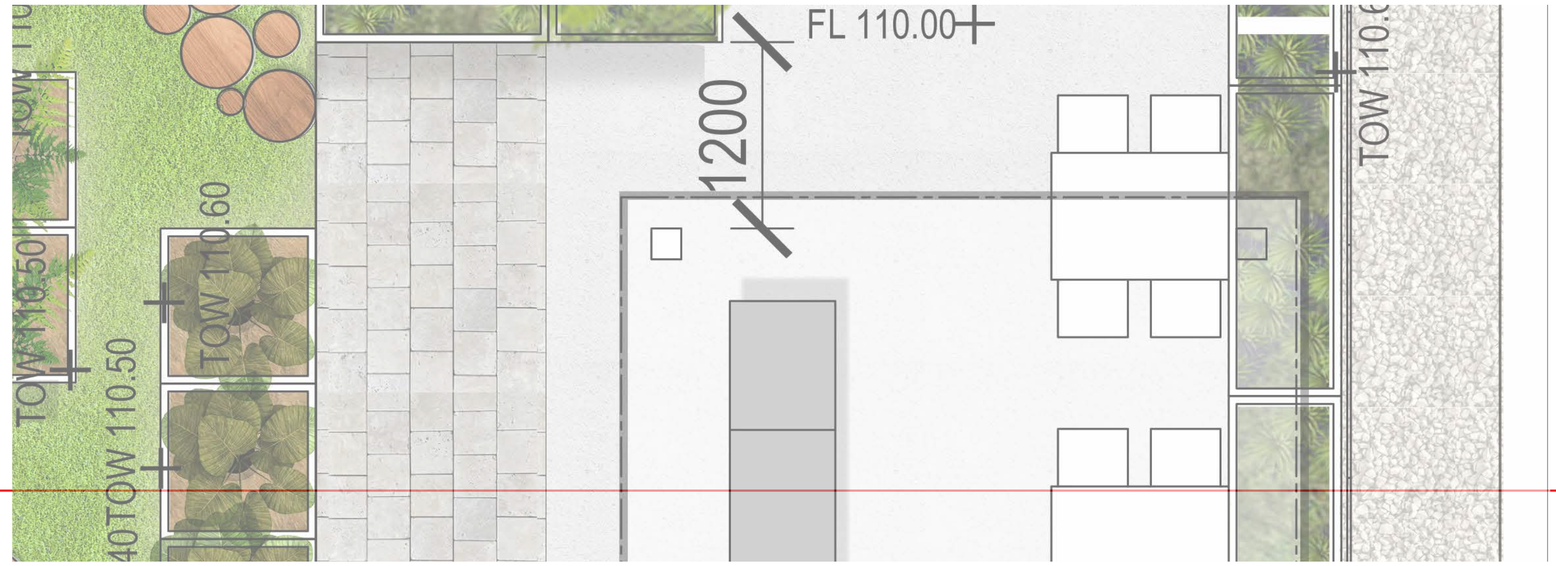
3.8 ROOF TERRACE PLAN

LEGEND

PT8	Pavement type 8 - Natural stone paver		Screen/fence to architect's specification
PT8	Pavement type 9 - Concrete paver	SH	Shelter structure
PA2	Planting type 2 - Planting in Quatro GRC planter box - custom detail on Page 48 Typical Details 5.1 /09		
BBQ	Inbuilt Concrete BBQ and sink		
GVQ	Gravel on slab		
ATF	Artificial turf		



3.9 ROOF SECTION

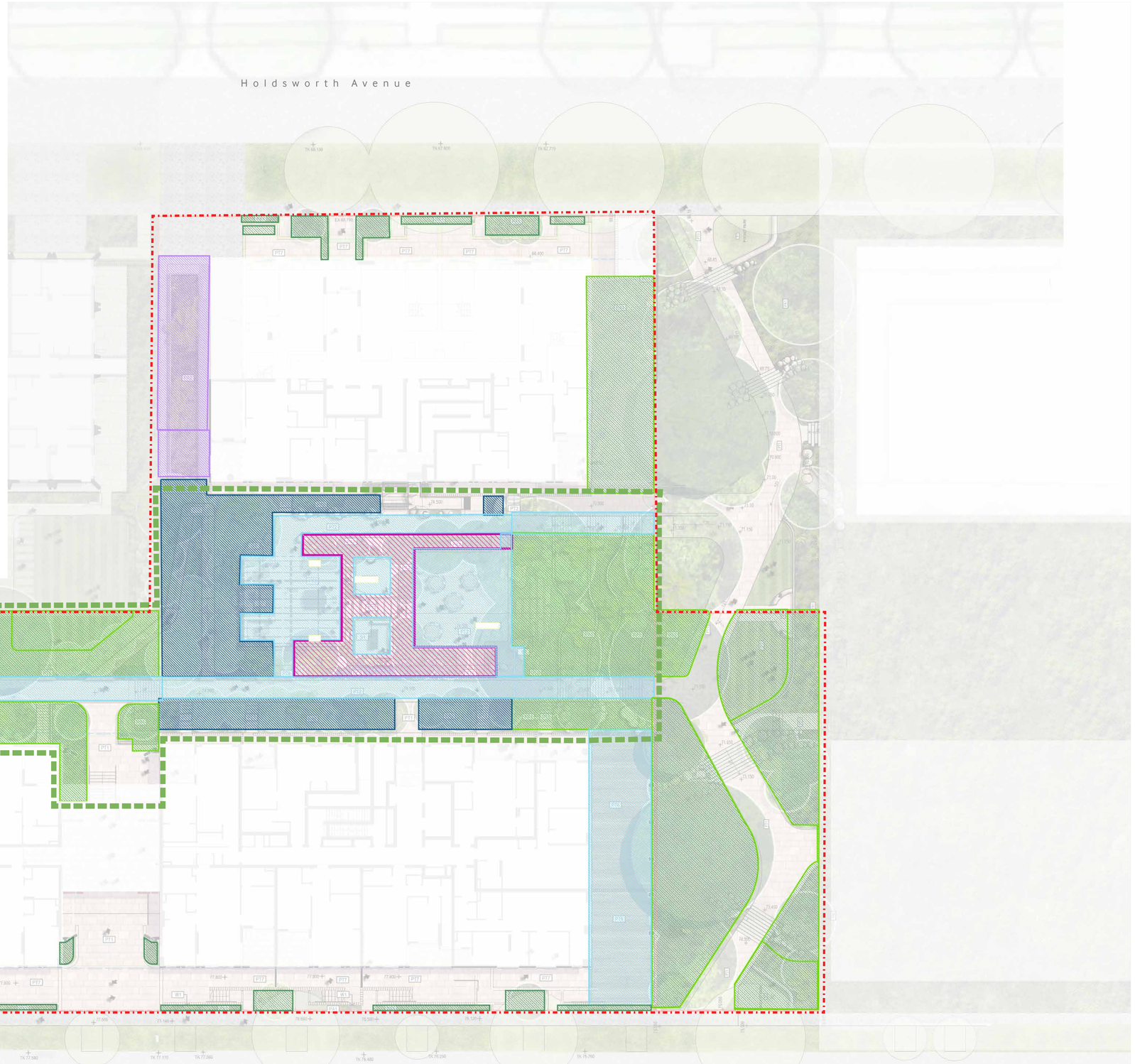


4.0 GREEN INFRASTRUCTURE

4.1 SOIL PLAN

LEGEND

	Landscape Coverage				
	Depth	SqM	% of Open Space	% of Green spine	% of Site
	Deep Planting in green spine	756	22%	42%	12%
	Deep Planting out of greenspine	789	23%	N/A	13%
	Permeable Paver	647	19%	27%	11%
	Podium Planting 500-600mm	127	4%	N/A	2%
	Podium Planting 1000mm	117	3%	6%	2%
	Podium Planting 1500mm	308	9%	17%	5%
	Total	2370	70%	92%	45%
	Site Area	5874 m2			
	Open Space Area including pedestrian links (Site area subtract area of buildings)	3356 m2			
	Green Spine Area	1799 m2			



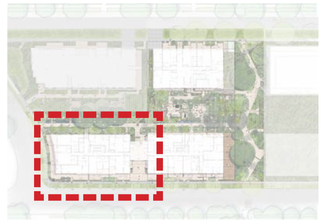
In the greenspine, 8% is hard paved and 92% is softscape. Of this softscape - deep planting is 42% and podium planting is 23%, which makes 65% of the green spine in total. 77m2 of that planting, however, is lawn, which is 4% - hense lawn is 4% of the green spine and planting is 61%. Permeable pavers is 27%.

4.2 SOIL DEPTH PLAN - ROOF

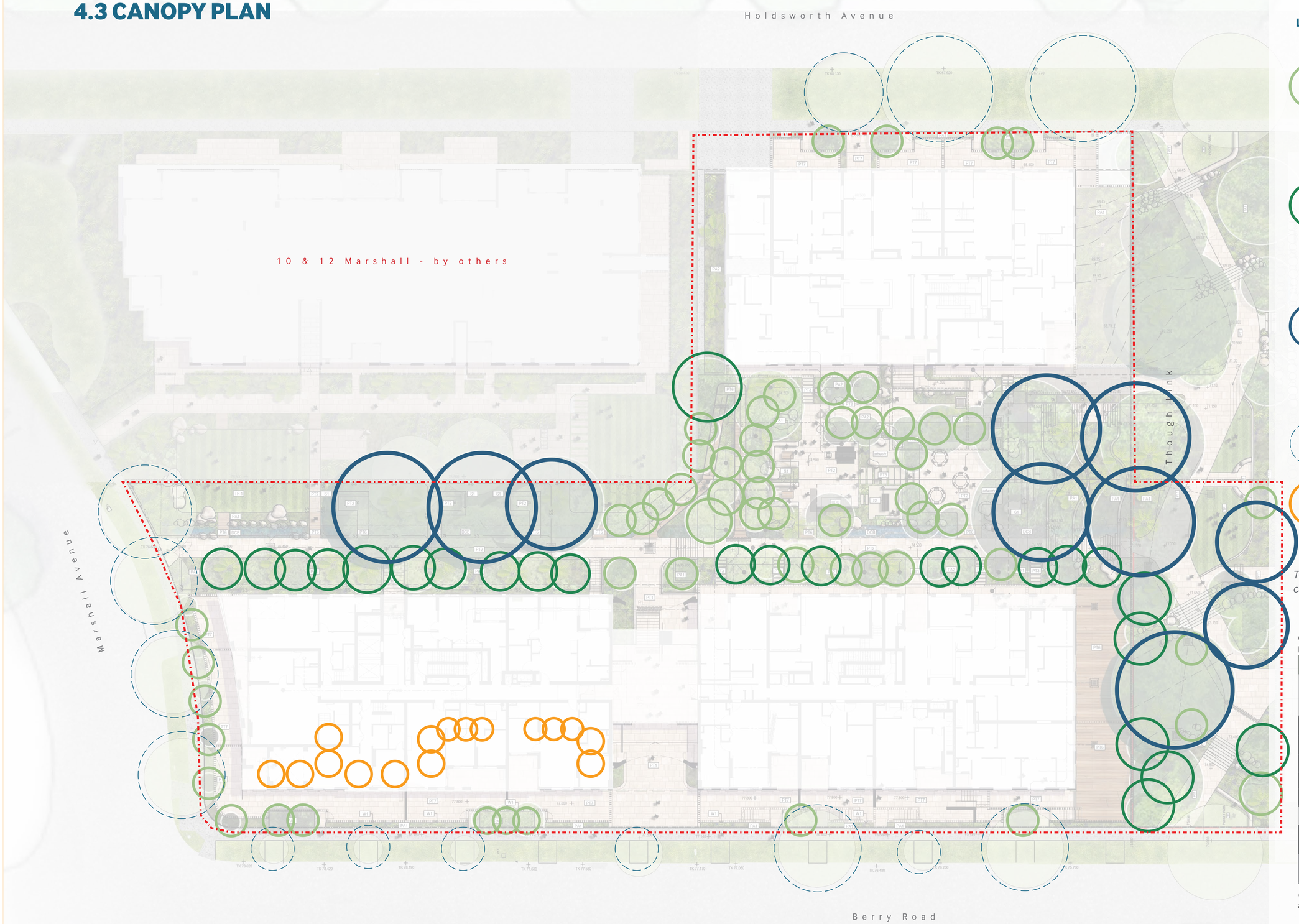
LEGEND

	800mm		500mm		300mm
	600mm		400mm		

Note: Soil depths are calculating by taking the planter box height and subtracting 100mm. E.g. 800mm soil depths are for planters that are 900mm high.



4.3 CANOPY PLAN



LEGEND

SMALL TREE
- Height 6-8m
- Canopy 4m
- Soil Volume 9m3 or 3.5m x 3.5m
- Soil Depth 800mm

MEDIUM TREE
- Height 8-12m
- Canopy 8m
- Soil Volume 35m or 3 6m x 6m
- Soil Depth 1000mm

LARGE TREE
- Height 12-18m
- Canopy 16m
- Soil Volume 150m3 or 10m x 10m
- Soil Depth 1200mm

EXISTING TREE

TREES ON ROOFTOP
- Height 6-8m
- Canopy 4m
- Soil Volume 9m3 or 3.5m x 3.5m
- Soil Depth 800mm

The NSW Government has set a target to increase tree canopy cover across Greater Sydney to 40 per cent

Our site will have 49% of new canopy cover see breakdown below .

New Canopy				
	No.	**Canopy Diameter**	**Canopy Area (M)**	**Total Area (M2)**
Large tree	10	10	78	780
Medium tree	25	5	19	475
Small tree	56	3	7	392
Total	91			1647
Rooftop tree	14	3	7	98

Open Space Area	**3356m2**
Canopy % of Site	**49%**

*Note - open space area and canopy % of site calculation does not include rooftop area or existing canopy

4.4 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 14-16 Marshall 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 14-16 Marshall Avenue 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 14-16 Marshall 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 -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

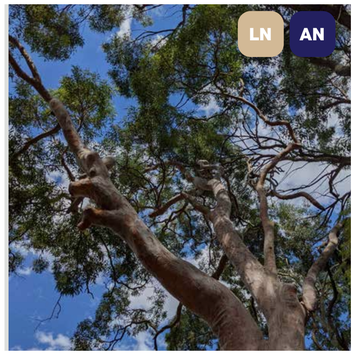
LN Local Native

EX Exotic

CALOCHLAENA dubia bracken-fern

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

STRELITZIA nicolai - Giant Bird of Paradise

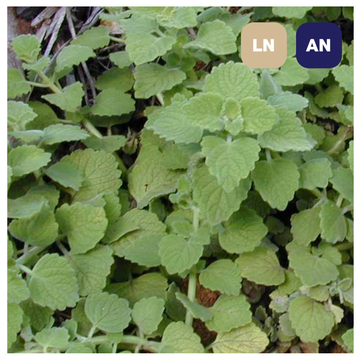
MOLINERIA capitulata - Palm Grass

DIETES grandiflora - Wild Iris

PRATIA pedunculata - White Star Creeper

VIOLA hederacea - Native Violet

NEOMARICA gracilis - Walking Iris



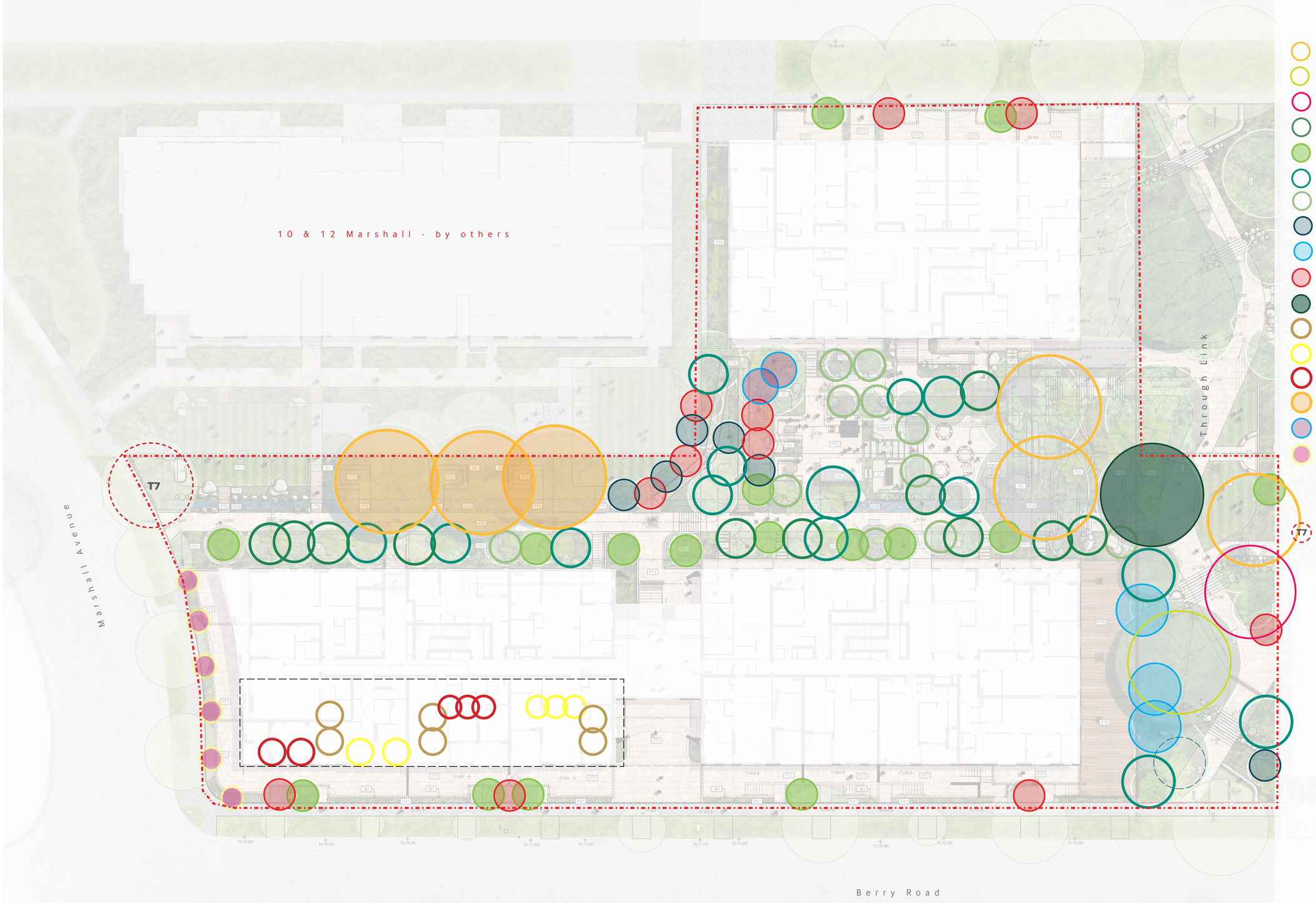
PLECTRANTHUS parviflorus Cockspur Flower

AN Australian Native

LN Local Native

EX Exotic

4.5 TREE PLAN

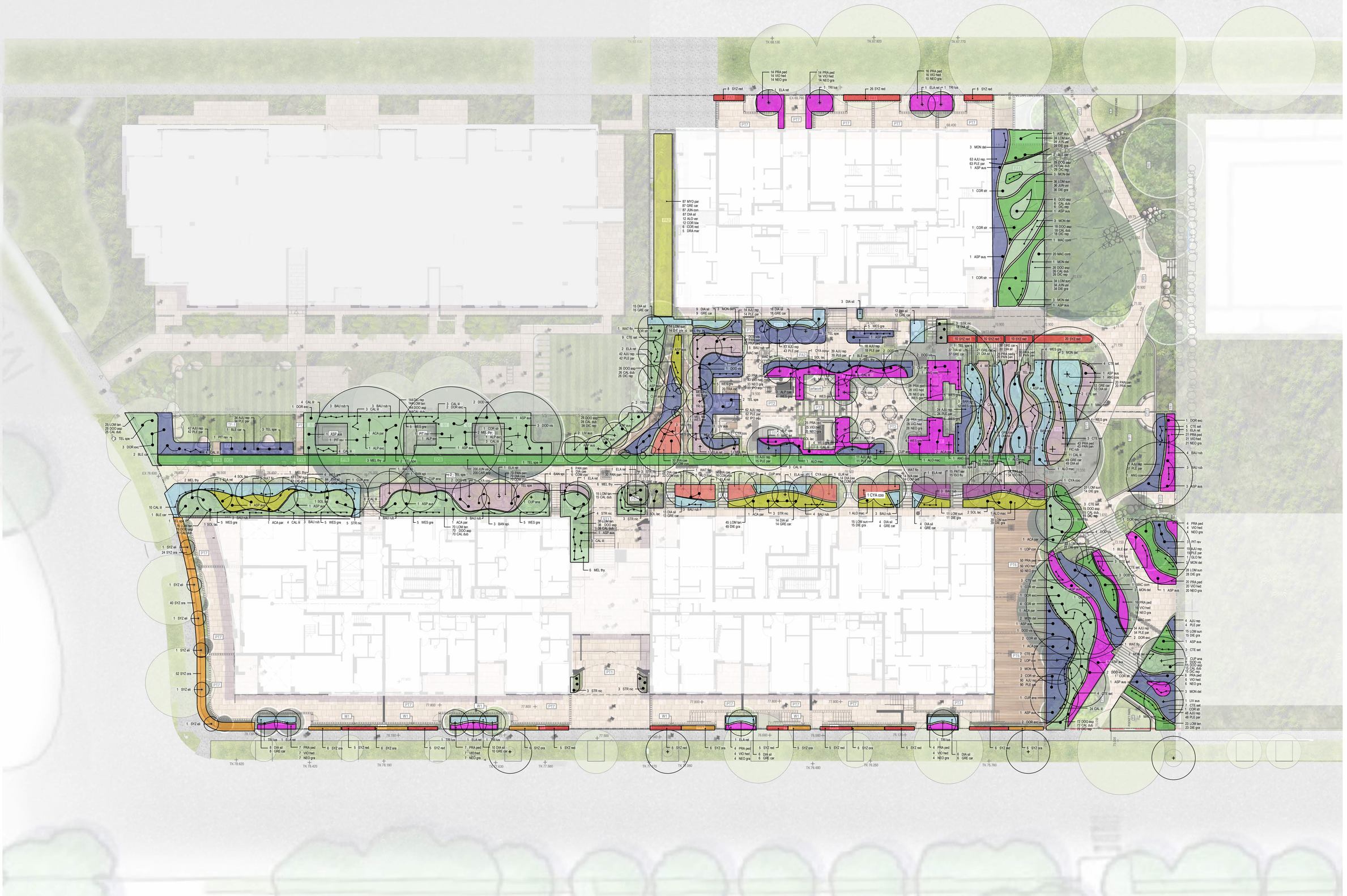


Botanical Name	Common Name	Mature HeightxSpread
ANGOPHORA costata	Smooth-barked Apple	24x15m
CERATOPETALUM Apetalum	Coachwood	24x15m
GLOCHIDION ferdnandi	Cheese Tree	25m x 10m
WATERHOUSEA floribunda	Weeping lilly pilly	10x8m
ELAEOCARPUS reticulatus	BLueberry ash	7m x 2m
CUPANIOPSIS anarcardioides	Tuckeroo	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
OLEA europaea	Common Olive	2.5m x 2m
CITRUS x meyeri	Meyer Lemon Tree	2.5m x 2m
CITRUS reticulata 'Green Pigion'	Mandarin Green Pigeon	2.5m x 2m
ALPHITONIA excelsa	Red Ash	20m x 10m
MACADAMIA tetraphylla	Macadamia Nut	5m x 3m
SYZGIUM australe 'Elite'	Lilly Pilly	3m x 1.5m

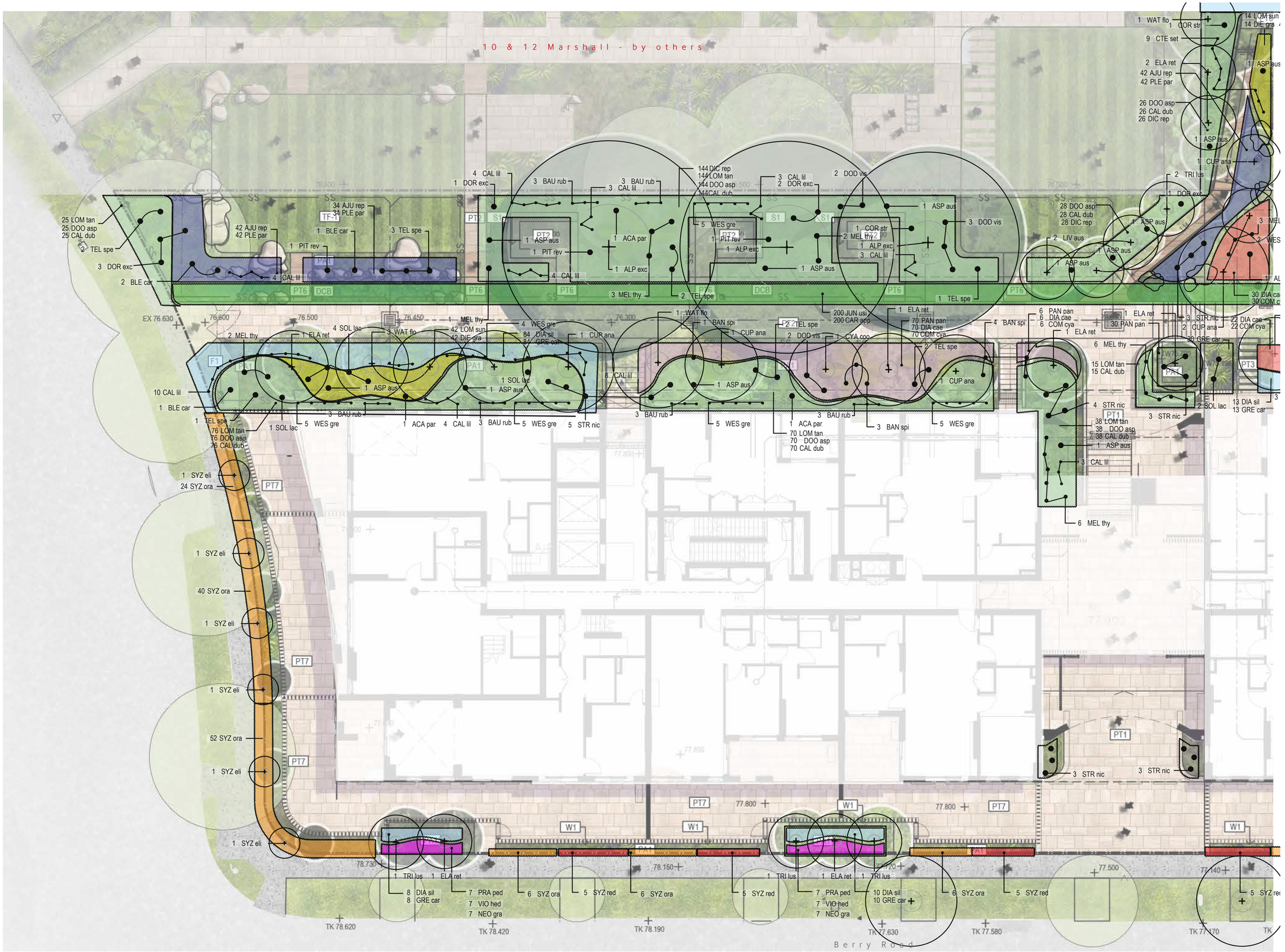
EXISTING TREE TO BE RETAINED

Botanical Name	Common Name	HeightxSpread	TPZ radius
L. CONFERTUS	BRUSH BOX	16m x 8m	6m

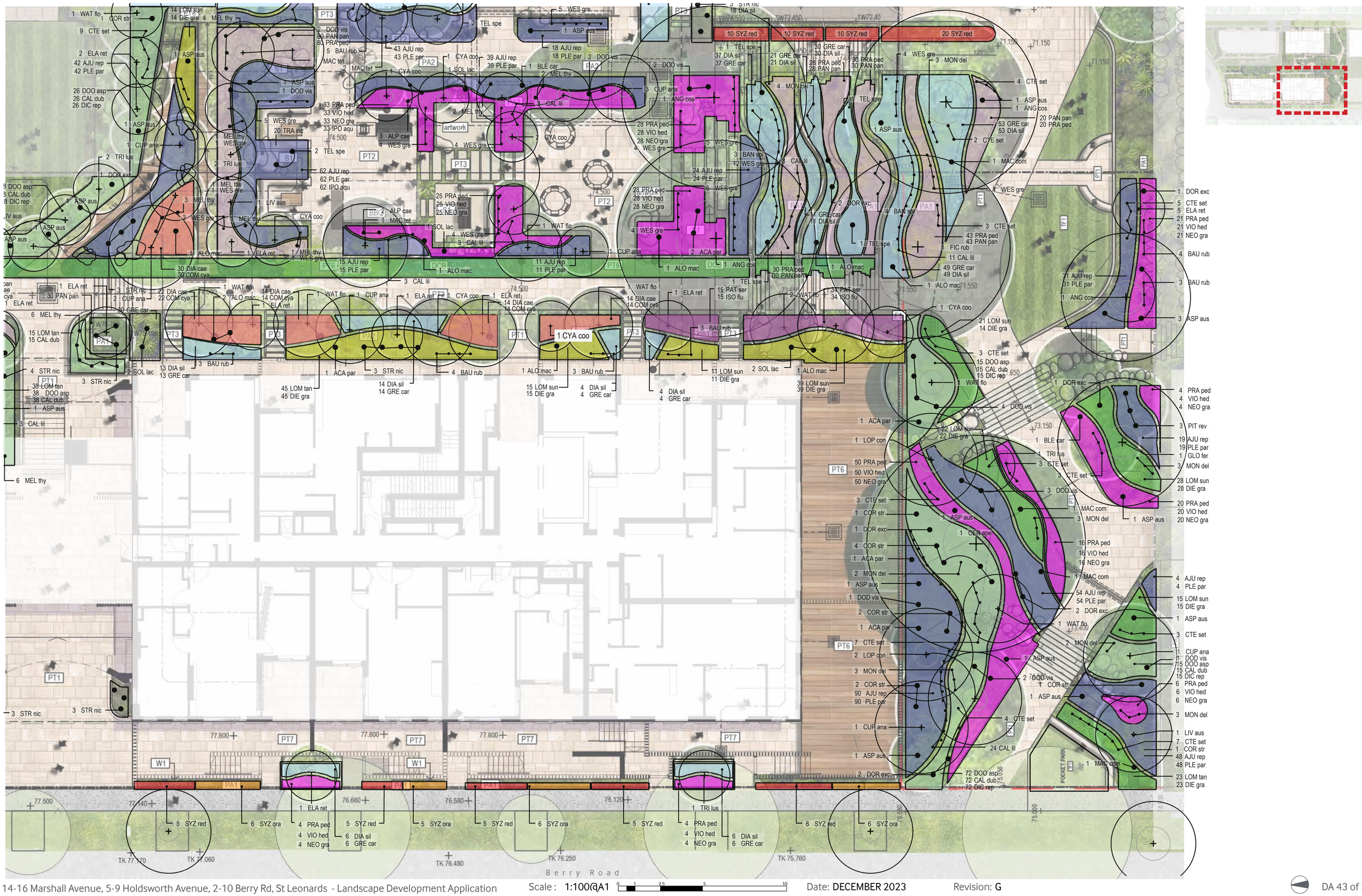
4.6 PLANTING PLAN



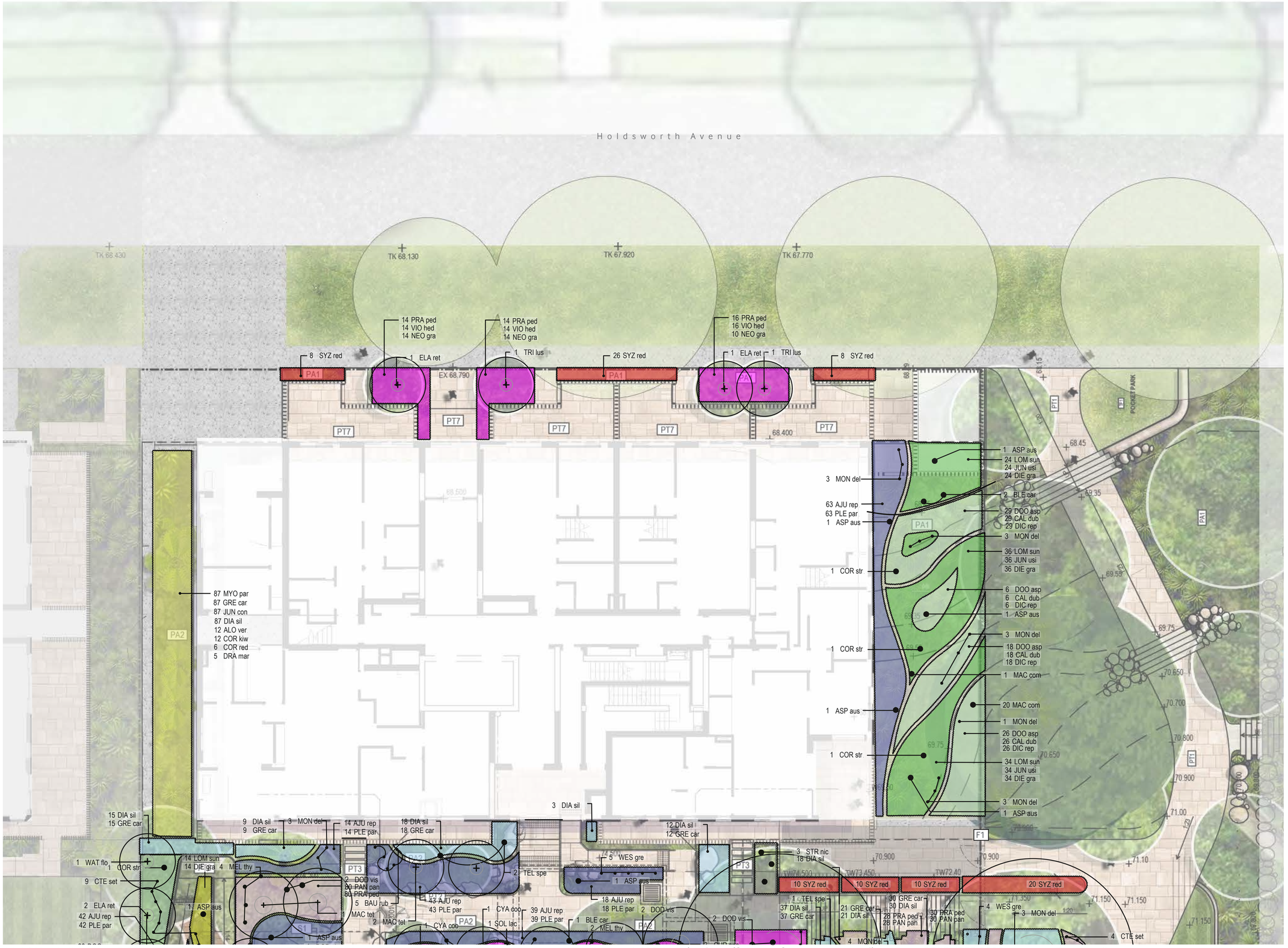
4.6.1 UPPER GROUND PLANTING PLAN



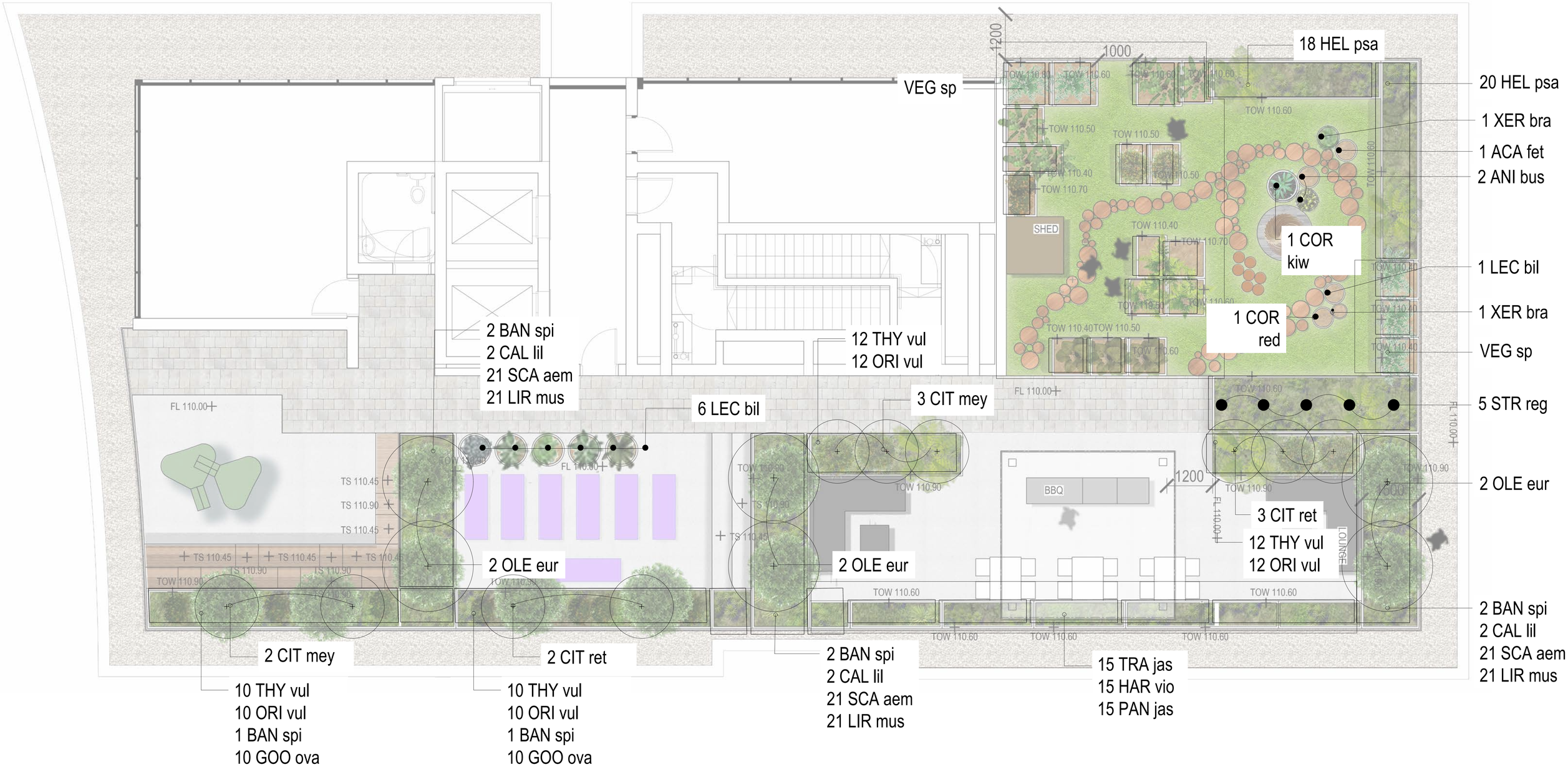
4.6.2 LOWER GROUND PLANTING PLAN



4.6.3LOWER GROUND PLANTING PLAN



4.7 ROOF PLANTING PLAN



4.8 PLANTING SCHEDULE

PLANT SCHEDULE					
Code	**Botanical Name**	**Common Name**	**Minimum Potsize**	**Estimated Mature Height x Spread**	**QTY**
TREES					
ALP exc	ALPHITONIA Excelsa	Red Ash	400L	20x10m	3
ANG cos	ANGOPHORA costata	Smooth-barked Apple	400L	24x15m	4
CER ape	CERATOPETALUM-Apetalum	coachwood	400L	25m x 10m	1
CIT ret	CITRUS reticulata 'Green Pigeon'	Mandarin green pigeon	45L	2.5mx2m	5
CIT mey	CITRUS x meyeri	Meyer Lemon Tree	45L	2.5mx2m	5
CUP ana	CUPANIOPSIS anacardioides	Tuckeroo	100L	10m x8m	13
CYA coo	CYATHEA cooperi	Australian Tree Fern	100L	10m x 8m	8
ELA ret	ELAEOCARPUS reticulatus	blueberry ash	100L	8m x 5m	21
FIC rub	FICUS rubiginosa	Port Jackson Fig	600L	35m x 25m	1
GLO fer	GLOCHIDION ferdnandi	Cheese Tree	400L	10m x 8m	1
LIV aus	LIVISTONIA australis	Cabbage Tree Palm	400L	15m x 5m	4
LOP con	LOPHOSTEMON confertus	Brush Box	400L	15m x 10m	3
MAC tet	MACADAMIA tetraphylla	Macadamia nut	45L	5m x 3m	4
OLE eur	OLEA europaea	Common Olive	45L	2m x 2.5m	6
SYZ eli	SYZYGIUM australe 'Elite'	Lilly Pilly	45L	3m x 1.5m	6
TRI lus	TRISTANIOPSIS laurina 'Luscious'	Water Gum	45L	8m x 4m	11
WAT flo	WATERHOUSIA floribunda	Weeping lilly pilly	100L	8m x 4m	13
SHRUBS					
ALP cae	ALPINIA caerulea	Native ginger	200mm	1.5m x 0.7m	5
ACA fet	ACACIA cognata 'Fettucini'	Bower Wattle	200mm	0.75m x 1.2m	1
ACA par	ACACIA parramattensis	Parramatta Wattle	200mm	2m x 3m	9
ALO mac	ALOCASIA macrorrhiza	Giant Taro	200mm	2m x 3m	9
ANI bus	ANIGOZANTHOS 'Bush Volcano'	Kangaroo Paw	200mm	0.7m x 0.6m	2
ASP aus	ASPLENIUM australasicum	Birds Nest Fern	200mm	1.5m x 1.5m	31
BAN spi	BANKSIA spinulosa 'Birthday Candles'	Banksia	200mm	0.5m x 1m	23
BLE car	BLECHNUM cartilagineum	Dwarf Tree Fern	200mm	1.5m x 1.5m	8
BAU rub	BAUERA rubioides	Dog Rose	200mm	1m x 0.7m	43
CAL lil	CALLISTEMON viminalis 'Little John'	Bottlebrush	200mm	1m x 1m	98
COR kiw	CORYDLINE fruticosa 'kiwi pride'	Cabbage Palm	200mm	1m x 1m	13
COR red	CORYDLINE fruticosa 'red edge'	Cabbage Palm	200mm	1m x 1m	7
COR str	CORDYLINE stricta	Narrow-leaved palm lily	45L	2m x 1.5m	16
CTE set	CTEANTHE setosa	Never Never Plant	200mm	1m x 1.5m	56
DOD vis	DODONEA Viscosa	Sticky hop bush	200mm	2m x 2m	25
DOR exc	DORYANTHES excelsa	Gymea lily	45L	1.5m x 1.5m	16
DRA mar	DRACAENA marginata	Dragon tree	250mm	2m x 0.5m	5
HEL psi	HELICONIA psittacorum	Parakeet flower	200mm	1m x 0.7m	38
LEC bil	LECHENAULTIA biloba	Blue lechenaultia	250mm	1m x 0,5m	7
MAC com	MACROZAMIA communis	Burrawang, Cycad	45L	2m x 3m	25
MEL thy	MELALEUCA thymifolia	Thyme Honey Myrtle	200mm	1.5m x 1.5m	35
MON del	MONSTERA deliciosa	Swiss Cheese Plant	200mm	1m x 1m	39
PIT rev	PITTOSPORUM revolutum	yellow-pittsporum	200mm	2m x 3m	6
SOL lac	SOLANUM laciniatum	Kangaroo apple	200mm	1.5m x 1.5m	12
STR nic	STRELITZEA nicolai	Giant Bird of Paradise	200mm	5m x 1.5m	27
STR REG	STRELITZIA reginae	Bird of paradise	200mm	1.5m x 1m	5
SYZ ora	SYZYGIUM australe 'Orange Twist'	Aussie Compact Lilly Pilly	200mm	3m x 2m	157
SYZ red	SYZYGIUM australe 'Big Red'	Aussie Southern Lilly Pilly	200mm	3m x 2m	133
TEL spe	TELOPEA speciosissima	Waratah	200mm	3m x 1.5m	21
WES gre	WESTRINGIA fruticosa 'Grey Box'	Coastal Rosemary	200mm	0.45m x 0.45m	94
XER bra	XEROCHRYSUM bracteatum	Strawflower	200mm	0.5m x 0.5m	2
GROUNDCOVERS AND GRASSES					
AJU rep	AJUGA repens	Bugleherb	140mm	1m x 0.4m	653
CAL dub	CALOCHLAENA dubia	bracken-fern	140mm	1.5m x 2m	603
COM cya	COMMELINA cyanea	Scurvy weed	140mm	0.3m x 0.2m	170
DIA cae	DIANELLA caerulea	Flax lily	140mm	0.5m x 1m	170
DIA sil	DIANELLA tasmanica 'Silver Streak'	Tasman flax lily	140mm	0.5m x 0.5m	512
DIC rep	DICHONDRA repens	Kidney Weed	140mm	0.3m x 1m	394
DIE gra	DIETES grandiflora	Wild Iris	140mm	1m x 1m	362
DOO asp	DOODIA aspera	Rasp Fern	140mm	1m x 1m	588
GOO ova	GOODENIA ovata	Hop Goodenia	140mm	2m x 0.1m	20
GRE car	GREVILLEA hybrida Carpet Layer	Toothbrush plant	140mm	0.3m x 1m	521
HAR vio	HARDENBERGIA violacea	False Sarsaparilla	140mm	0.15 x 2m	15
JUN con	JUNIPERUS conferta	Shore juniper	140mm	0.3 x 1.8m	87
JUN usi	JUNCUS usitatus	Common rush	140mm	1.2m x 0.5m	294
LIR mus	LIRIOPE muscari	Blue Lily Turf	140mm	0.45m x 0.45m	63
LOM tan	LOMANDRA longifolia 'Tanika'	Mat Rush	140mm	0.6m x 0.65m	436
LOM sun	LOMANDRA longifolia 'Sunrise'	spiky head mat rush	140mm	0.5 x 0.5m	301
MYO par	MYOPORUM parvifolium	Boobialla	140mm	0.5m x 2m	87
NEO gra	NEOMARICA gracilis	Walking Iris	140mm	0.5m x 1m	291
PAT ser	PATERSONIA sericea	Dwarf Purple Flag	140mm	0.3m x 0.5m	49
PLE par	PLECTRANTHUS parviflorus	Cockspur Flower	140mm	0.1m x 0.4m	653
SCA aem	SCAEVOLA aemula	Fairy Fan Flower	140mm	0.35m x 0.5m	63
CLIMBERS/TRAILERS					
PRA ped	PRATIA pedunculata	White Star Creeper	140mm	0.2m x 1m	653
VIO hed	VIOLA hederacea	Native Violet	140mm	0.5m x 1m	297
PAN pan	PANDOREA pandoran	wonga vine	140mm	0.8m x 1m	337
ISO flu	ISOTOMA fluviatilis	Blue star creeper	140mm	0.02m x 0.3m	49
TRA jas	TRACHELOSPERMUM jasminiodes	Star jasmine	140mm	0.5m x 1m	15
PAN jas	PANDOREA jasminoides	Bower plant	140mm	3m x 2m	15
HERBS					
ORI vul	ORIGANUM vulgare	Oregano	140mm	0.5m x 1m	44
THY vul	THYMUS vulgaris	Thyme	140mm	0.3m x 1m	44

Soil types:

Podium planters, GRC roof planters

100mm ANL Planter Box Mix to sit above Sub Planter Box Mix or equivalent. A blend of soil, graded ash, coarse sand, Nepean sand, composted sawdust, Botany Humus Mix and Composted Pine Bark.

Vegetable pods

ANL Complete Vegetable and Seedling Mix or equivalent - composed of 30% Greenlife Soil, 10% Cow Manure, 20% Course Sand, 40% Greenlife with added Dolomite and Complete Fertiliser.

Garden beds

ANL Native Low 'P' Mix™ or equivalent (a low phosphorus native mix blended from soil, coarse sand, composted sawdust and Greenlife). Mulch to be 100mm Eucy mulch or equivalent.

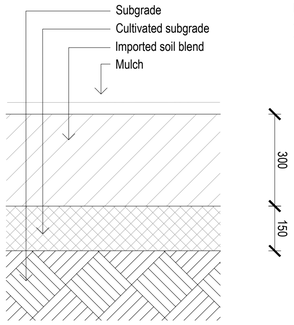
BUSH TUCKER					
TRA inc	TRACHYMENE incisa	wild parsnip	140mm	0.8m x 0.5m	20
ALP cae	ALPINIA caerulea	Native ginger	200mm	1.5m x 0.7m	see above
MAC tet	MACADAMIA tetraphylla	Macadamia nut	45L	5m x 3m	see above
IPO aqu	IPOMOEA aquatica	Water spinach	140mm	0.5m x 0.08m	95

SPECIES OF INDIGENOUS SIGNIFICANCE, ACCORDING TO UNCLE DENNIS FOLEY, HAVE BEEN INCORPORATED

1. **Angophora Costata – our most sacred tree important in death ceremonies and fertility ceremony.**
2. **Alphitonia Excelsa, the Soap Tree, for cleansing the body prior and post ceremony.**
3. **Dodonaea Viscosa, the Sticky Hop Bush which was used to medically. deaden the skin area prior to ceremony.**

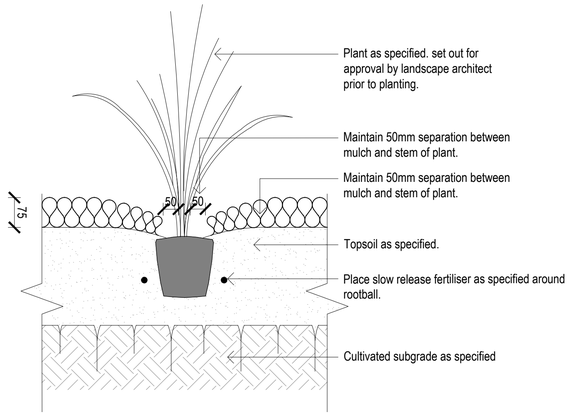
5.0 APPENDIX

5.1 TYPICAL DETAILS

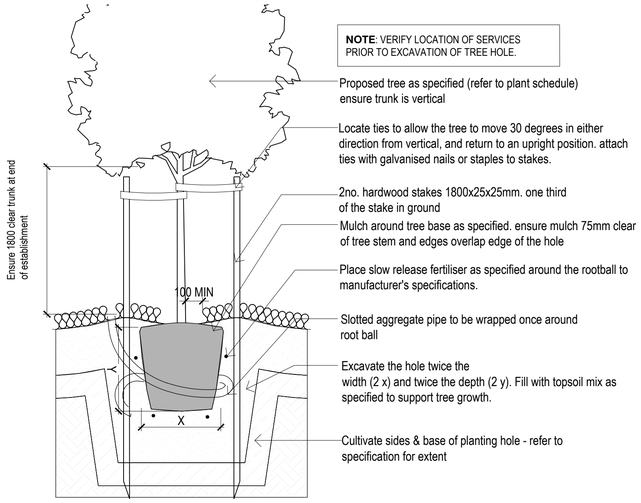


Notes:
- Fill areas of removed asphalt & substrate with soil blend.

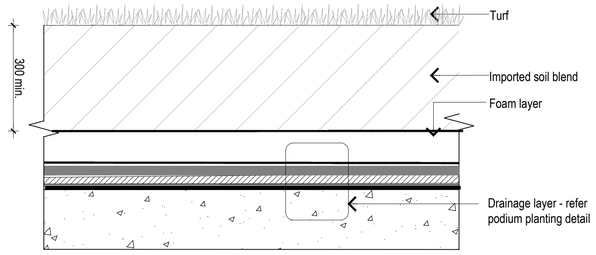
01 TYPICAL PLANTING DETAIL ON GROUND
SCALE 1:10



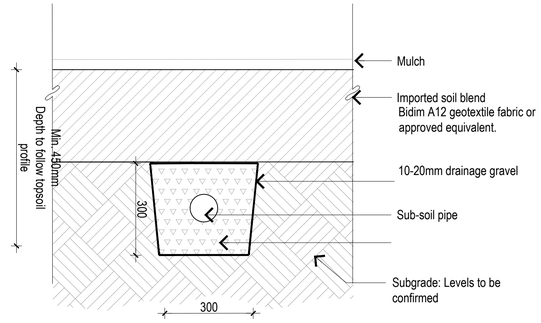
02 TYPICAL PLANTING DETAIL
SCALE 1:10



03 TYPICAL TREE PLANTING IN PLANTING AREA
SCALE 1:20

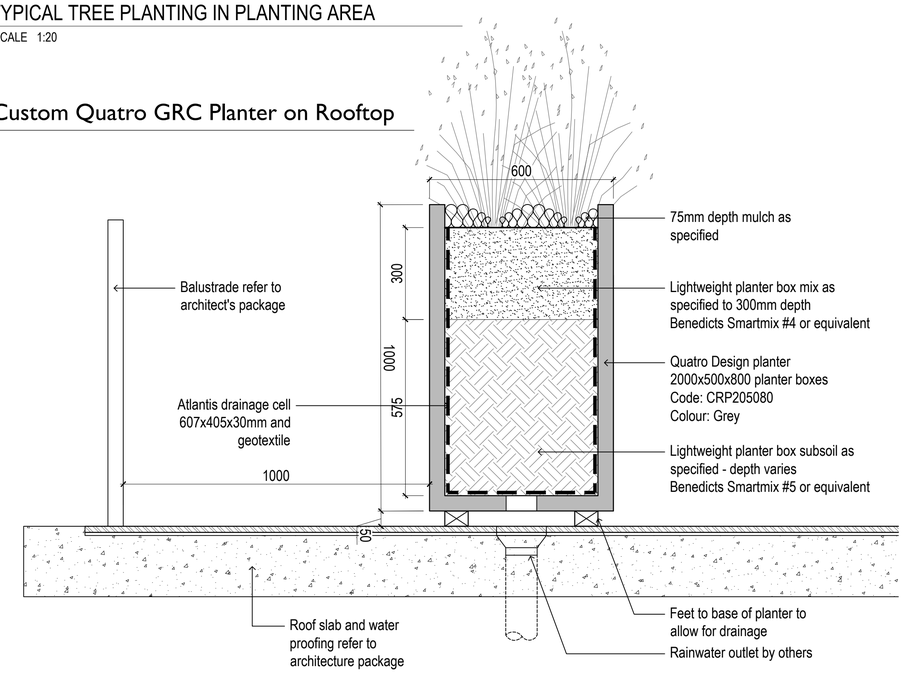


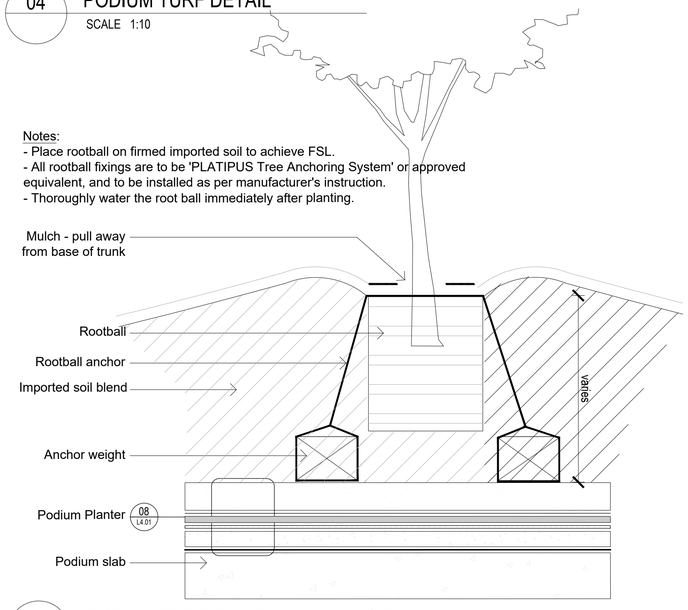
Notes
- Fall all pipes to evenly to storm water system.
- Join drains to UPVC conduits of same diameter when placing under paved areas or any other areas which require a compacted sub-base.
- Sub-soil pipe to be 90mm diameter with filter sock.



05 TYPICAL SUBSOIL DRAINAGE IN PLANTING DETAIL
SCALE 1:10

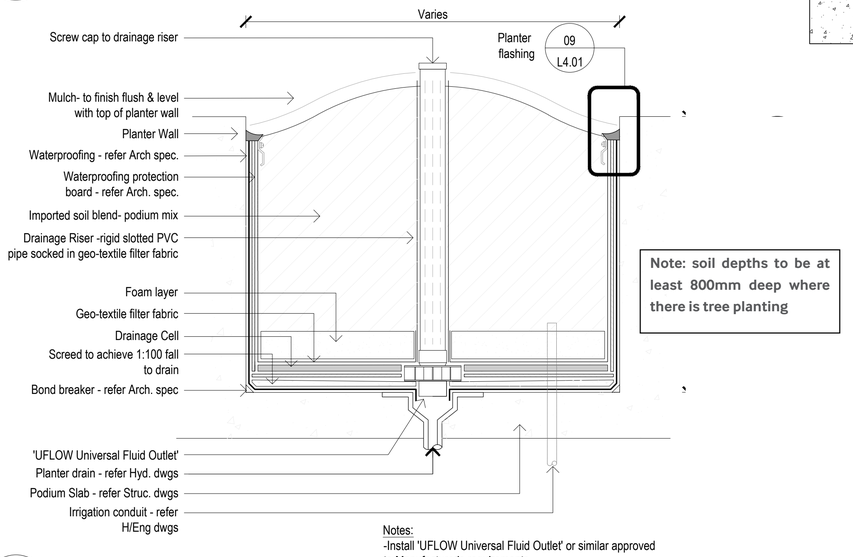
09 Custom Quatro GRC Planter on Rooftop





04 PODIUM TURF DETAIL
SCALE 1:10

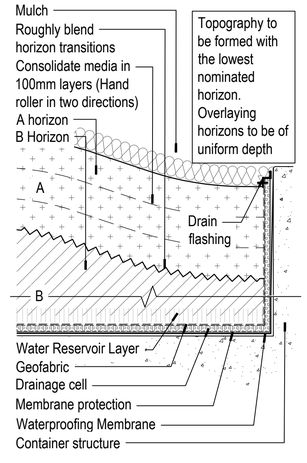
07 PODIUM TREE TYPICAL PLANTING DETAIL
SCALE 1:10



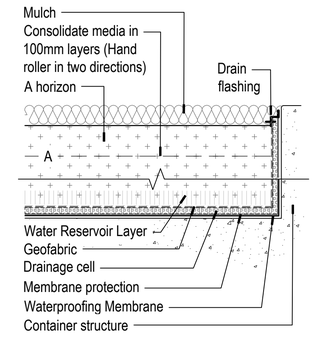
Note: soil depths to be at least 800mm deep where there is tree planting

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

08 PODIUM PLANTER
SCALE 1:10

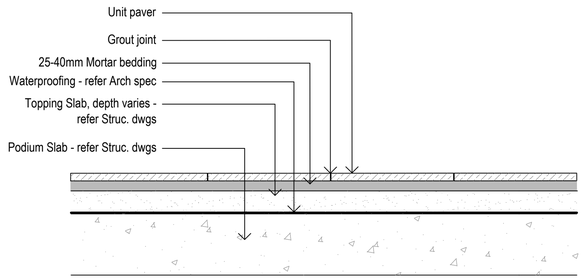


10 Intensive Planting on podium
SCALE 1:10

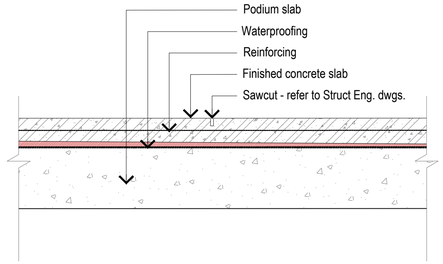


11 Extensive Planting on podium
SCALE 1:10

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

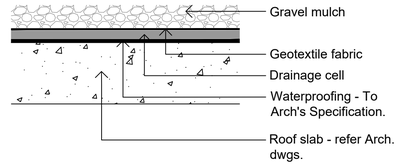


01 UNIT PAVING - ON PODIUM
SCALE 1:10

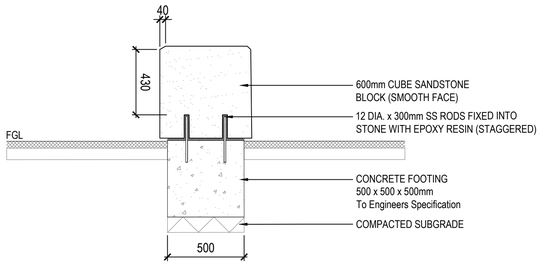


02 INSITU CONCRETE - ON PODIUM
SCALE 1:10

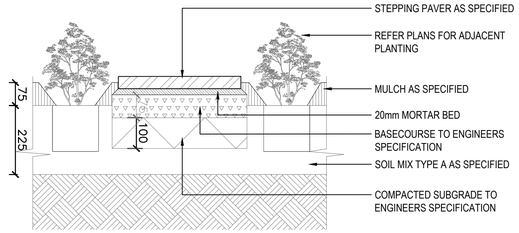
Notes:
Gravel mulch to cover all beams and extrusions in the surface of the roof / planter with a flat and even finish. Undulations in the finished surface will not be accepted.



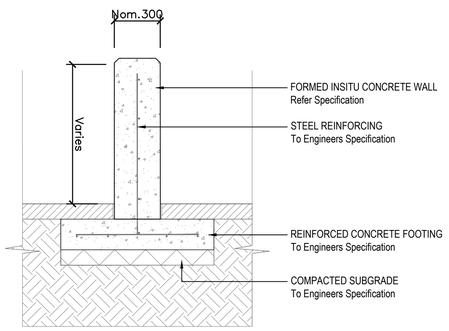
03 GV1 - GRAVEL MULCH ON PODIUM
SCALE 1:10



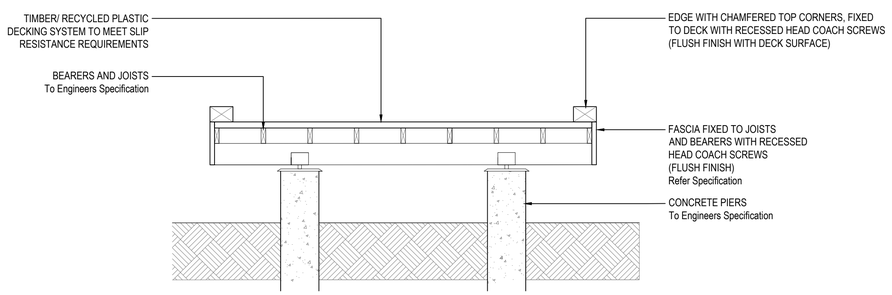
04 SANDSTONE CUBE SEAT
SCALE 1:20



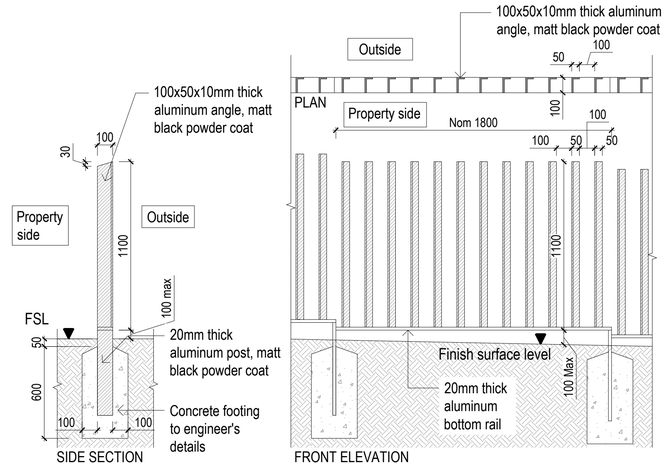
05 STEPPERS
SCALE 1:10



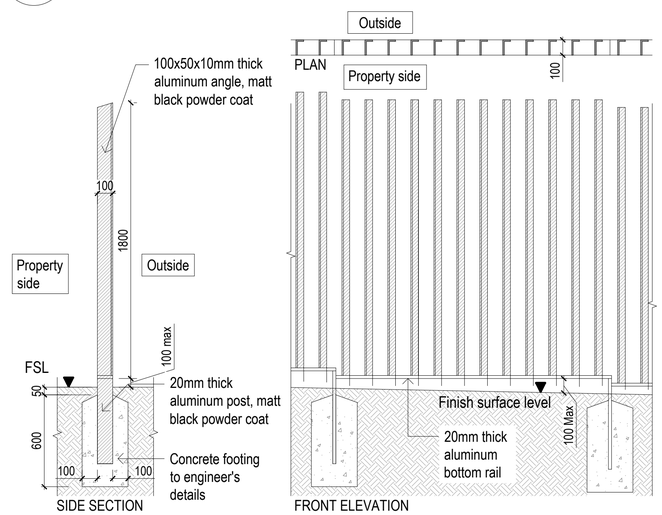
07 TYPICAL WALL
SCALE 1:20



08 TIMBER BOARDWALK
SCALE 1:20



09 Street Front Boundary Fence - Type F2
SCALE 1:20

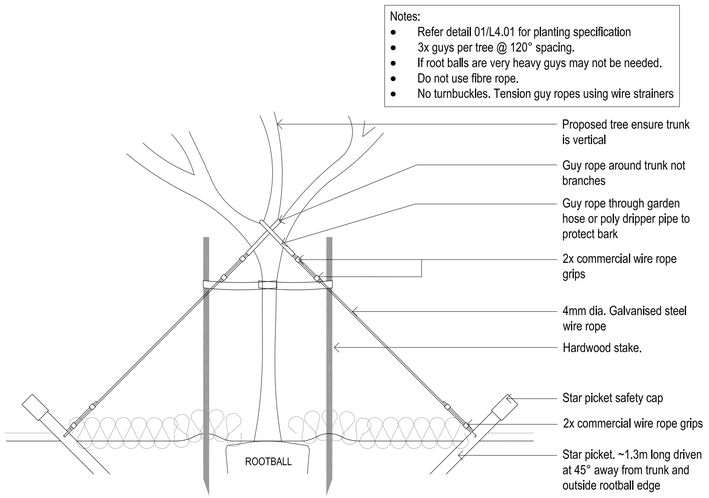


10 Courtyard and Green Spine Fence - Type F1
SCALE 1:20

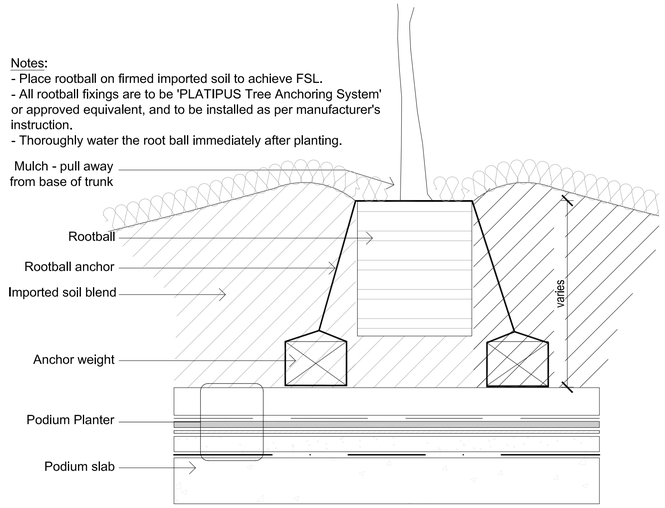
5.2 WIND DETAILS

LANDSCAPE STRATEGY - WIND PROTECTION

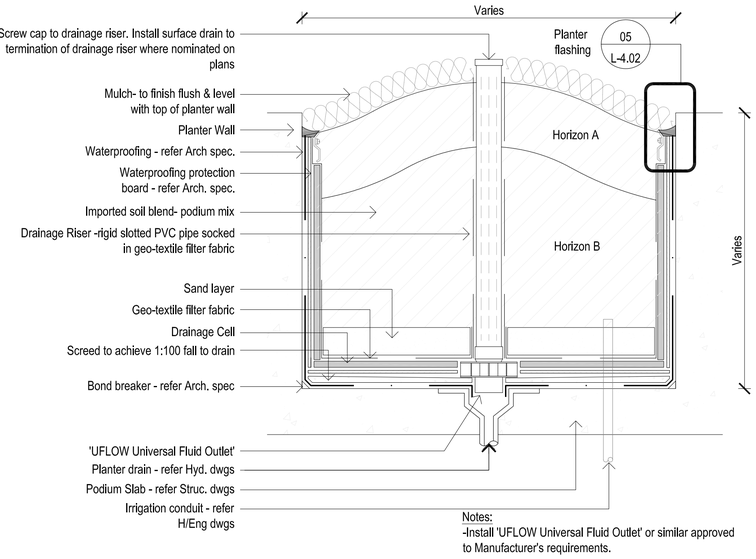
Canopy cover is extremely important in helping reduce temperatures and helping increase biodiversity. New developments often create wind tunnels that effect landscapes on podium spaces which can damage tree species in storm conditions. A series of details including guying, rootball anchoring and deep 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 SHMH 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.