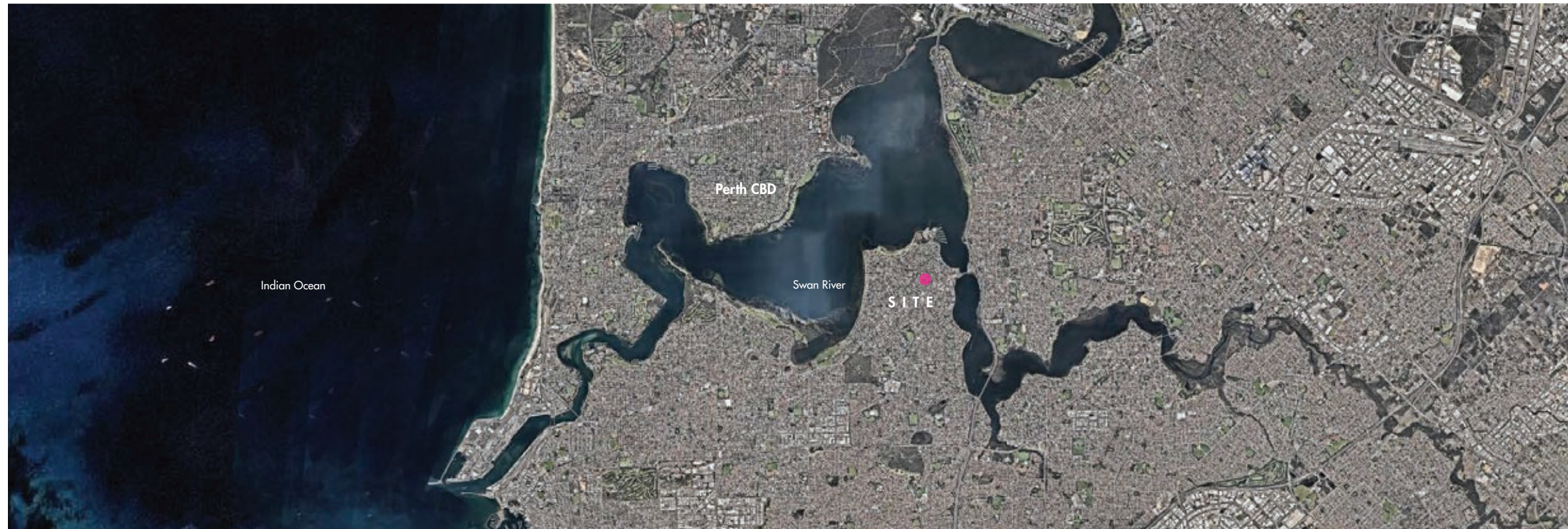
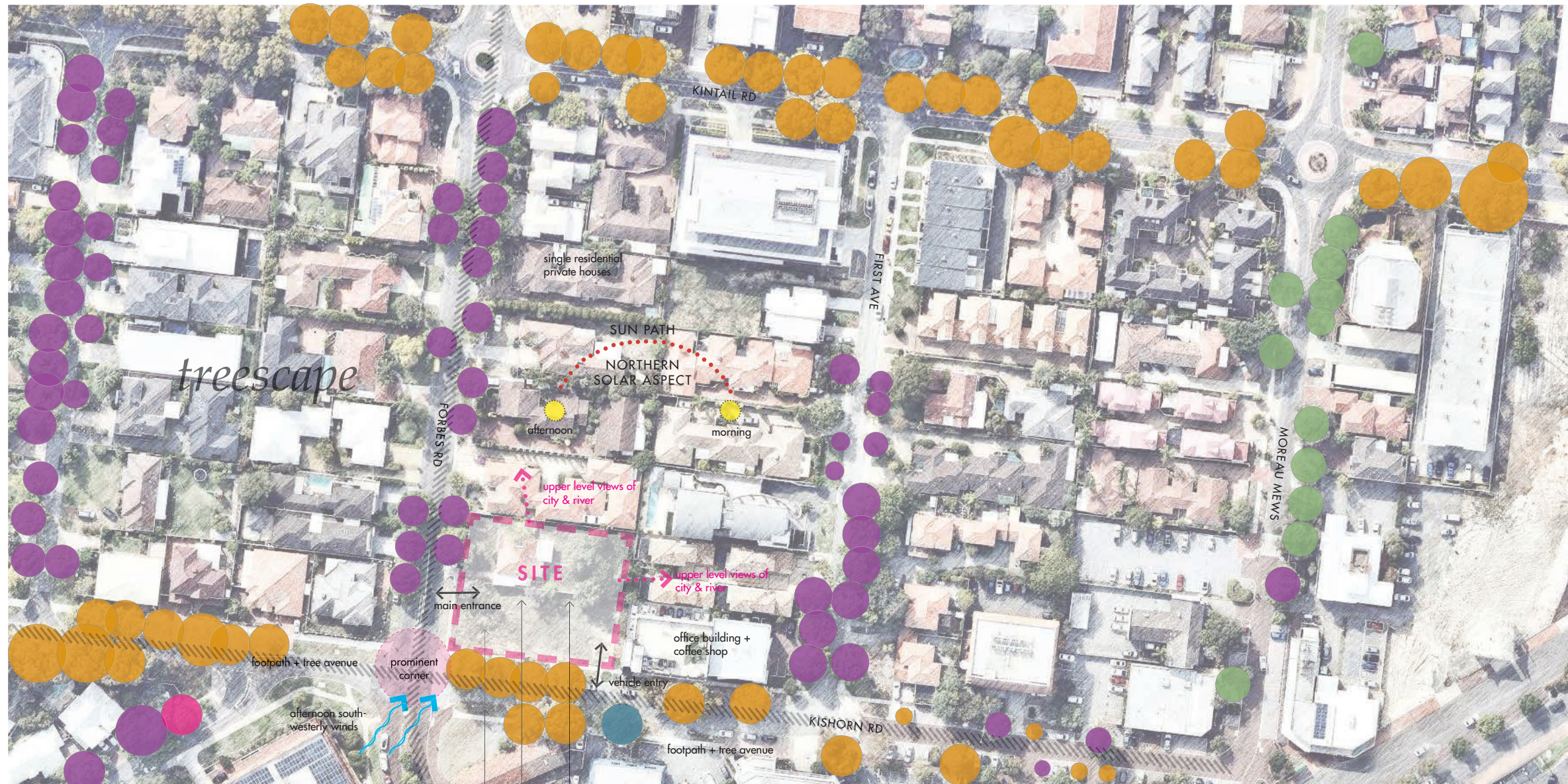


FORBES Residences
Applecross, Western Australia

Landscape Schematic
Revised DRP Issue - 190917







Existing Neighbourhood Street + Site Condition

STREETSCAPE
Existing street trees provide a large scaled tree address to the site. The views from the site across the street are largely of commercial premises.

PANORAMA
The project site will be both highly visible and allow panoramic views from the upper levels.

EXISTING SITE VEGETATION
The existing site does not have any vegetation of note.



Jacaranda Mimosifolia (Jacaranda)



Platanus Acerifolia (London Plane)



Agonis Flexuosa (Willow Myrtle)



Bauhinia Sp. (Purple Hong Kong Orchid)



Melia Azedarach (Chinaberry)

EXISTING LANDSCAPE KEY

Immersed in a Landscape

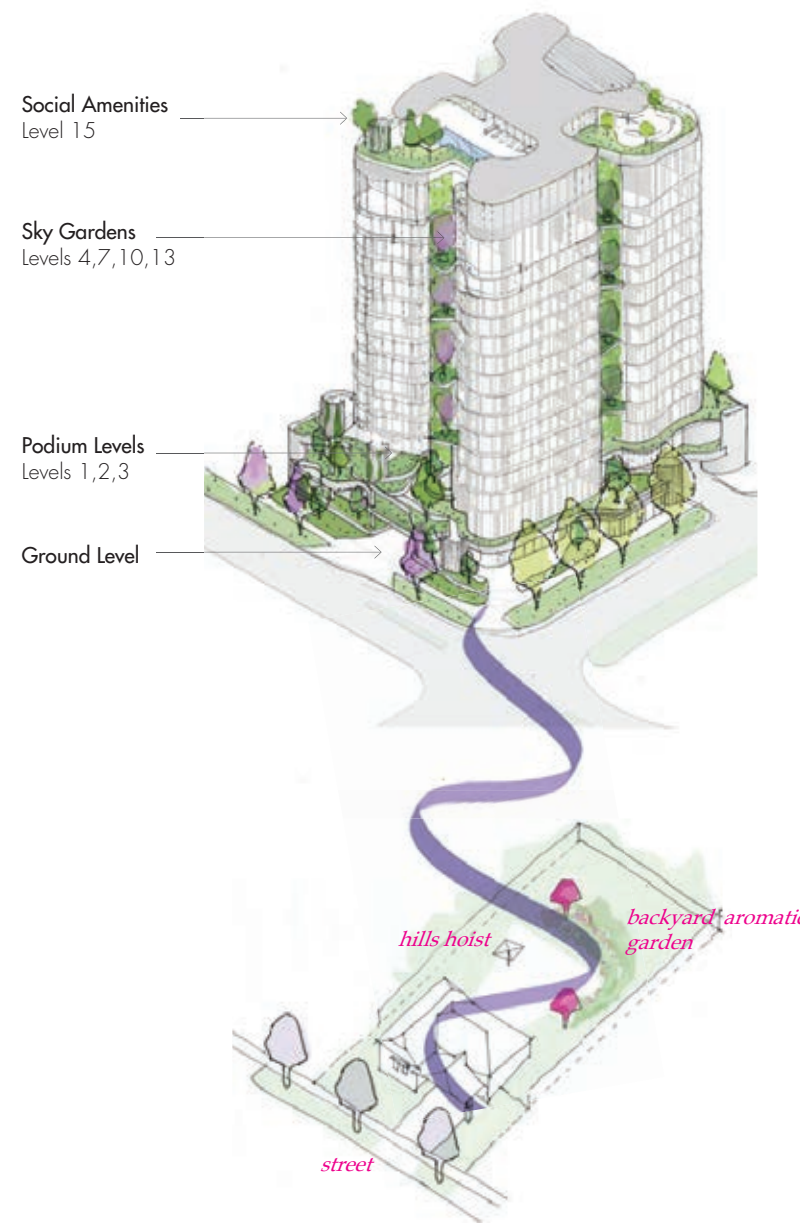
The landscape design for the Forbes Residences has been considered as a primary element by the team and has been purposefully integrated into the planning and articulation of the residences since the project's inception.

One of the unique qualities of the locale would have to be the large trees lining both sides of the streets to Applecross. Their filtered canopies provide a welcoming presence for all driving and walking at street, providing a front address for each residence. The trees frame, guide and provide an enduring single marker for all in the landscape. Generous sized suburban backyards offer refuge for life. The locale's eclectic and exotic suburban landscapes offer familiar memories in flower, texture and aroma. Tree houses, hills hoist and cultivated gardens present.

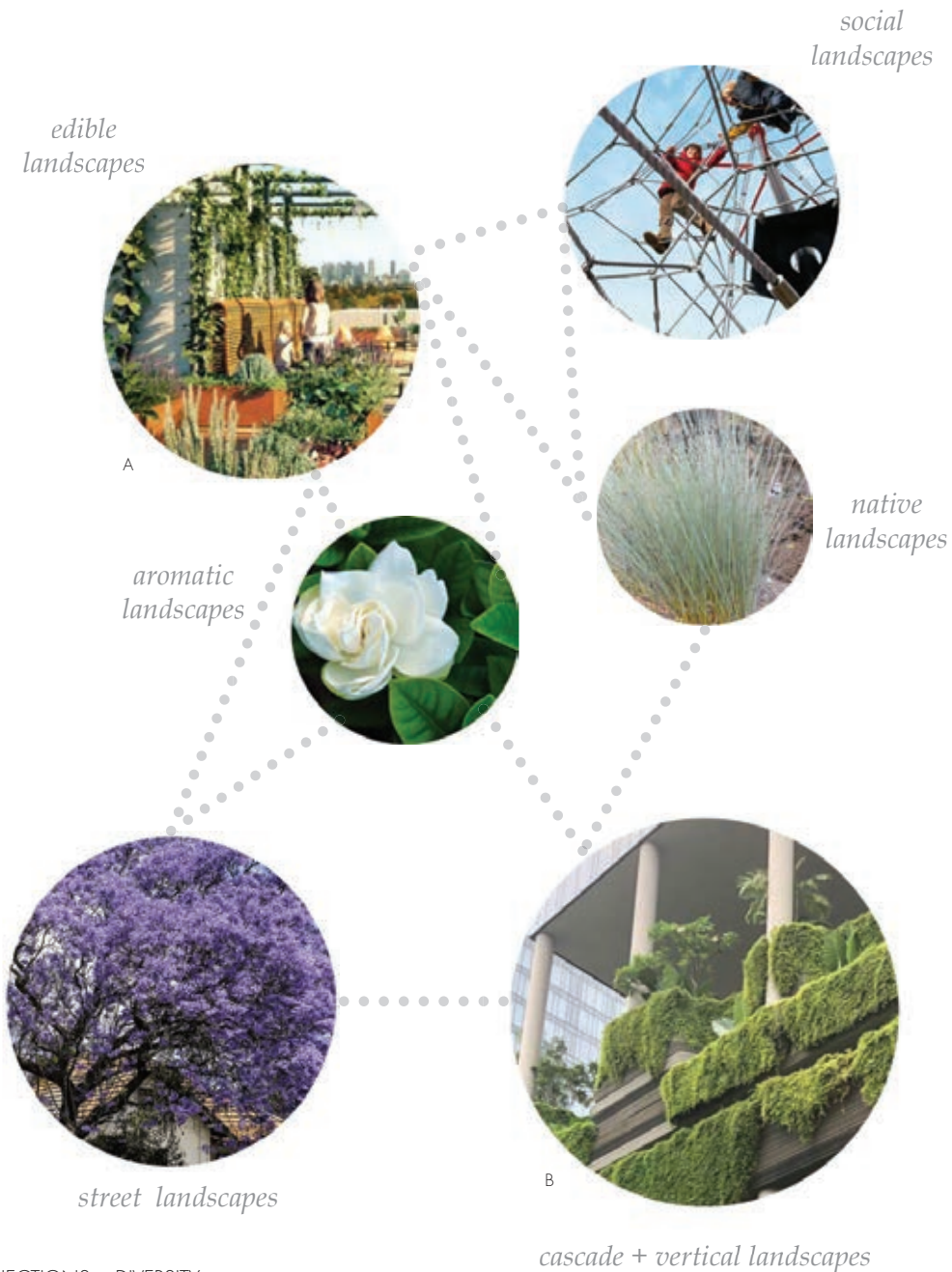
The project's landscape design echoes these features, interpreting them for a multi-levelled environment. The landscapes provides a soft layered link to all the floors, providing continuing landscapes trellises and sky gardens, echoing the street, providing a welcome for arrivals and residents.

The roof level features a landscape podium and enclosed amenities as shared spaces. The landscape character has been conceived as an Australian native landscape, suitable for winds and climate.

A number of the landscape elements proposed have been demonstrated in a number of completed projects by the team, reflecting a continuing commitment and employment of strategies that have been effectively realised in practice.



CONCEPT IDEA
interpreting an Applecross residential landscape



LANDSCAPE CONNECTIONS + DIVERSITY

Image Key
 A. One Central Park, Sydney
 B. WOHA - Park Royal on Pickering

Landscape Connections

Suburban gardens are disappearing with Perth's densification, reducing external social amenities and diverse garden spaces. We are hoping to establish in the proposal, real connections with people and landscapes. At street level, at the front door and in the social gathering areas. Throughout the upper levels, aromatic and productive gardens can be experienced by all.

Cascading + Vertical Landscapes

Reflecting the project's strategy of continuing landscape to all the levels, cascade and vertical landscape elements have been provided in a variety of ways.

To the ground and podium levels, continuous native plantings of cascade plants have been provided to all the edges, providing a soft ribbon layer to the lower levels. Selections have been based on plants that are resilient, low maintenance plants and have a naturally occurring pendulous habit.

Extensive vertical plantings to three sides, extend to all the building's levels. They will be a significant landscape element that will be unique to the building's elevation and experience from the internal circulation areas (often neglected in recent residential developments). It is proposed that the vertical garden elements be provided by linear planters placed every 1.5m in height, with a fixed trellis wire system. A green wall cassette system has not been envisaged as a viable solution due to its high water, maintenance requirement and often high plant failure. Instead, plant selections will be resilient clinging type affixing to the trellis structure. Plantings will be paired with a mix of plantings of lower and extended height plant types to provide green coverage. These plants can typically be found in Perth as backyard's fence coverings.

In between these trellis elements, three skygardens continue at Level 4,7,10 and 13. Trees inset in raised planters and an integrated anchor system will provide soil provision and stability for their growth.

Given the significance, complexity and the challenge of providing such an extensive vertical green infrastructure, these vertical planting elements will have continuing input during design development and analysis of documentation and input by Deep Green Landscaping, who are a specialised vertical softscape expert for the Perth environment. This input will include review to the solar, reflection, wind, landscape soil, trellis + plant selections and a review of irrigation documentation. It is proposed that this analysis and accompanying certification be submitted as part of the Building License Issue as a commitment to provide a system that will provide a sustained outcome. This process will allow for good process and accurate rigor of the documented proposals.

Vertical green elements require life cycle care and consideration to include design and maintenance. Some vertical green elements can be costly to maintain, fail and are simply not practical to maintain. We do believe that trellis systems have value for multi-residential projects. The project's team approach is to involve this expertise at the beginning of the project and to continue into it's maintenance with a company that has proven examples of installed examples which have thrived over a reasonable period of time in Perth.

From a development point of view, viable and sustainable outcomes are imperative given the impact that they have on strata responsibilities and costs.



MATURE TREE PLANTINGS



PODIUM PLANTING
efficient water output: contained & blanketed

Diversity in our Landscapes

Along with the vertical trellis planting selections, the landscape proposal purposely sets out to have the best of both worlds: pairings of exotic and endemic plant selections. Some exotic species can provide suitable low water selections for shaded areas, flowering displays and aromas. Endemic selections can offer robust and resilient plant selections for our climate. Productive garden selections will also be represented throughout the project. The building's top level will feature predominantly Australia native plantings, celebrating their variety and potential to provide 'lushness' without reverting to overseas landscape idioms.

Thriving Landscapes

Mature tree and feature plant selections will be specified, along with dense plantings as to provide a significant landscape environment at opening.

However the completion of a project is only just the beginning for new landscapes. Key considerations are needed to achieve thriving outcomes: Appropriate plant selections for site, orientation and solar/shade access and the installation of good size plantings. The ongoing maintenance that is critical for long term outcomes and the design and its installation needs to envisage its future care by others.

i) Responsibility of Maintenance

The key for long term success is to ensure that the majority of visible landscape elements from the street and public amenities will be taken care of by the body corporate/strata rather than the individual. This reduces the potential risk of negligence and failure. As such, access provisions will be embedded into the strata guidelines and these areas will be cared for and reticulated as a whole. As the visible areas are part of the strata responsibility, there is a shared interest in ensuring that these landscapes are looked after and maintained.

ii) Maintenance Access

All landscaped areas will require ease of access for checking of reticulation, nutrient replenishment and general plant tidying. Plant selections will be made period seasonal maintenance required, rather than intensive care. Plant selections will be made based upon their requirement for seasonal maintenance only, rather than constant intensive care. Consideration for fixed ladder access to vertical trellis garden elements have been included.

Sustainable Landscapes

WATER EFFICIENT LANDSCAPES

With the majority of the soft landscape being situated in planters as contained situations, there is an opportunity to provide a co-ordinated strategy for a water efficient landscape. Collectively, this would feature

- i) plant selections (low water requirement)
- ii) reduction in evaporation losses
- iii) efficient water supply
- iv) water recycling

Plant selections

In principle, the majority of the softscape ground planting selections are endemic and have a low water requirement. The scheme will also include some feature exotics; offering flowering, deciduous tree and shade qualities. Whilst these exotics echo the locale's existing suburban gardens and seasonal variety, there are also appropriate for shaded situations and offer deciduous habits for winter solar access.

Reductions in evaporation loss

The majority of plantings are located in raised planters. The insulated merits of the constructed planter materials and thicknesses will assist in reducing water evaporation loss. Gravel mulching selected for wind will also provide a blanket layer for reducing water evaporation. As noted in irrigation below, the irrigation is provided below the mulch layer which offers greatly improved efficiency.

Efficient water supply

All plantings will be irrigated via efficient inline drip irrigation system which will cater for water mains and recycled water supply. Where achievable, the plantings will be hydro- zoned according to water requirements. This allows the reticulation to the endemic plantings to be separately controlled and greatly reduced following their establishment period.

Water recycling

The project will also include infrastructure and provision for a significant capacity for re-using water for irrigation, consistent with WA Health Department guidelines for multi-residential developments and use.

As the recycled water is gathered from multiple sources (multi-residential) a grey water recycling system has been appropriately sized for a maximum of 5000L per day. This system will collect water from Short Stay Accommodation showers and handbasins and EoT shower facilities, and be stored for a maximum of a 24hr period. The ozone treated water will be dispelled via the dripline.

This will be sufficient to water the ground, first and second level plantings. Any top-up requirements during summer and irrigation to the upper levels will be provided via the same dripline system from the mains water supply.

WIND INITIATIVES

Given the buildings exposure to winds and potential building downdrafts, trees will be permanently guyed with appropriate wiring supports and anchors.

Permanent vertical trellises elements secured to the building will provide permanent support for the vertical plantings. The planting selections will be developed in conjunction with the specialist softscape installer to suit aspect and environment.

Summary of Responses

Responses to previous DRP queries that reflect the current design proposal have included as a summary below.

DRP Query

Further commentary is needed on the provision and maintenance from a water perspective for the softscape, given Perth's climate and the proposed greywater infrastructure, which can be costly and easily switched off by the owners into the future.

Response

The design proposes a significant and considered green infrastructure for the project, providing a unique garden environment and a counter to the urban heat island sink effect.

Water usage for this landscape has been carefully considered in terms of reduced load for population, re-use and efficiency measures.

REDUCED WATER LOAD

Significantly, the water provision for this environment represents a greatly reduced mains water supply requirement when compared to an equivalent population based on traditional suburban housing gardens.

Water expenditure for front and back lawns are saved, verge total areas reduced and central reticulation efficiencies can be achieved. The below comparisons are based on total water loads. Further water load reductions are also provided through water re-use.

Comparison Summary of Residential Water for Garden Loads.

Typical household average in Applecross = 94 KL per year for garden (source: Water corp)

Typical Forbes Apartment = 12 KL. Landscape total divided between units (1000kl per year / 88 units) (Irrigation consultant)

SIGNIFICANT WATER RE-USE

The project also has embedded an alternative water supply infrastructure and delivery. A grey water system which will re-use water from the end of trip shower facilities and short stay accommodation showers and handbasins will provide the majority of water to the total landscape. It represents a more effective strategy than rainwater collection due to the limited rainwater capture area and onerous tank provision requirements.

Mains water load for landscape further reduced by over 50% using grey water recycling.

It is understood that grey-water technology is emergent and relies on specific proven expertise and deliverables. The proposed system (Advanced Waste Water Management Systems >5000lt per day) is in effective operation for over 3 years and can provide tangible benefits. It is Health Department approved and requires minimal maintenance.

More efficient water distribution will be achieved using sub-surface dripline technology.

The proposed grey water technology will be integrated with the reticulation design and delivery to achieve this benefit.

Water efficient dripline appropriate for grey water and sustained delivery will also be included. Dripline technology will be sub-surface and more efficient than typical spray systems, with evaporation loss reduced compared to wasteful water over spraying and wind drift. over spraying and wind drift.

DRP Query

Further commentary is needed for the green walls on water use and maintenance viability

Response

One of the key elements for the landscape are a series of green trellis walls that extend up the building's elevations.

Dedicated horizontal planters being provided (i.e not vertical soil/planting medium arrangement) with a minimum of two to each level

These are to be trellis type plantings and not the water intensive cassette type commonly known for failure in Australia.

The planting selections are climbing vine plantings (Ipomea sp.) that can be readily found in Perth's suburbs, covering with ease suburban back and front fences.

Due to the robust nature of these plants, these plantings are the only planting type provided to these planters.

Additional response: Supplementary information by a specialised softscape installer has been provided as an appendix item to this query.

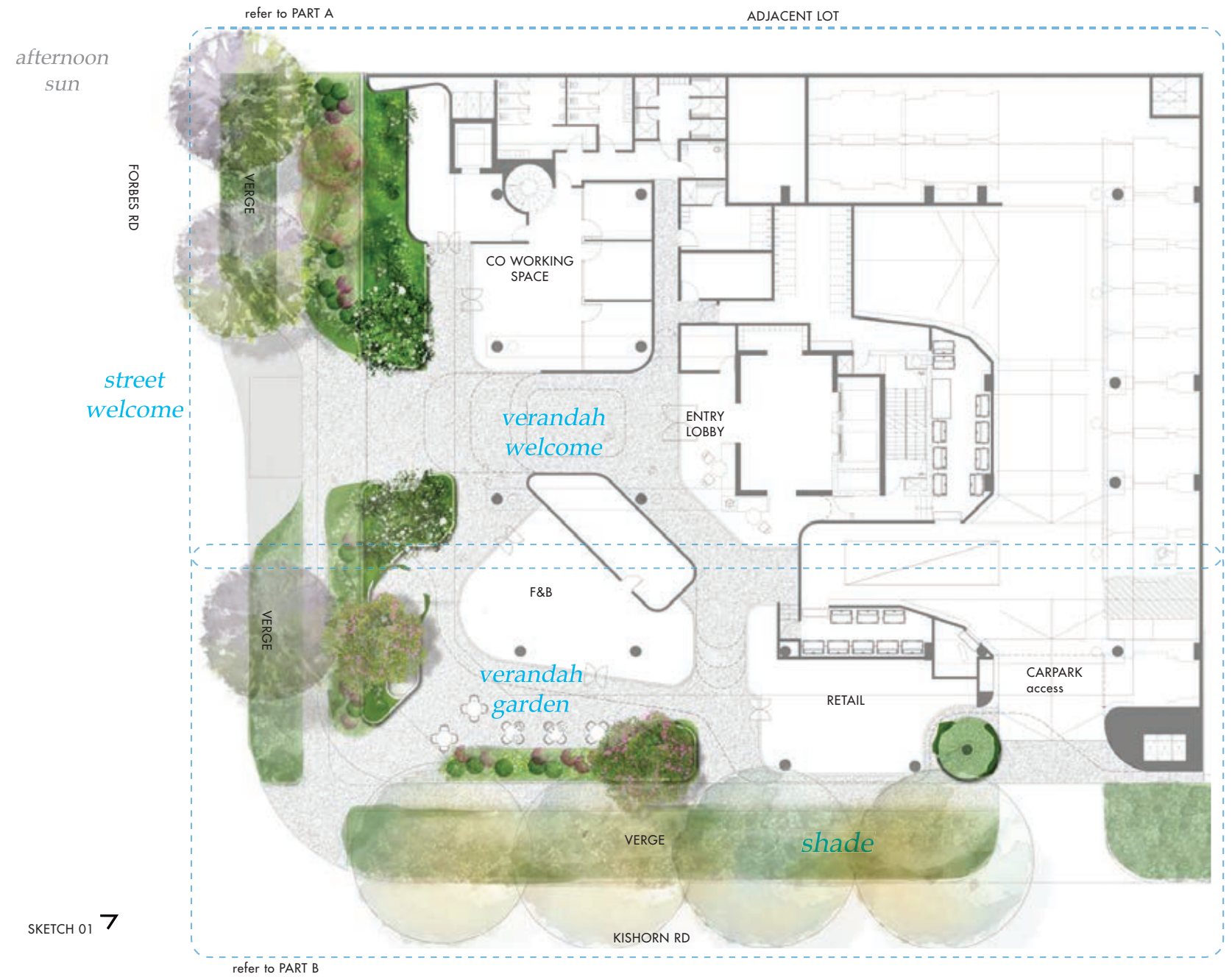
DRP Query

Tree Plantings to the south side need to be appropriate for shade.

The tree selections to the south side take into consideration the reduced solar access.

The selected trees will accommodate shade and also the incidental solar reflections from the glass that will occur.

LANDSCAPE PLAN
Ground Floor Overall



morning sun



PROJECT REFERENCE
Porte Cochere Foyer Landscape
TIERRA - Metropolitan Hotel



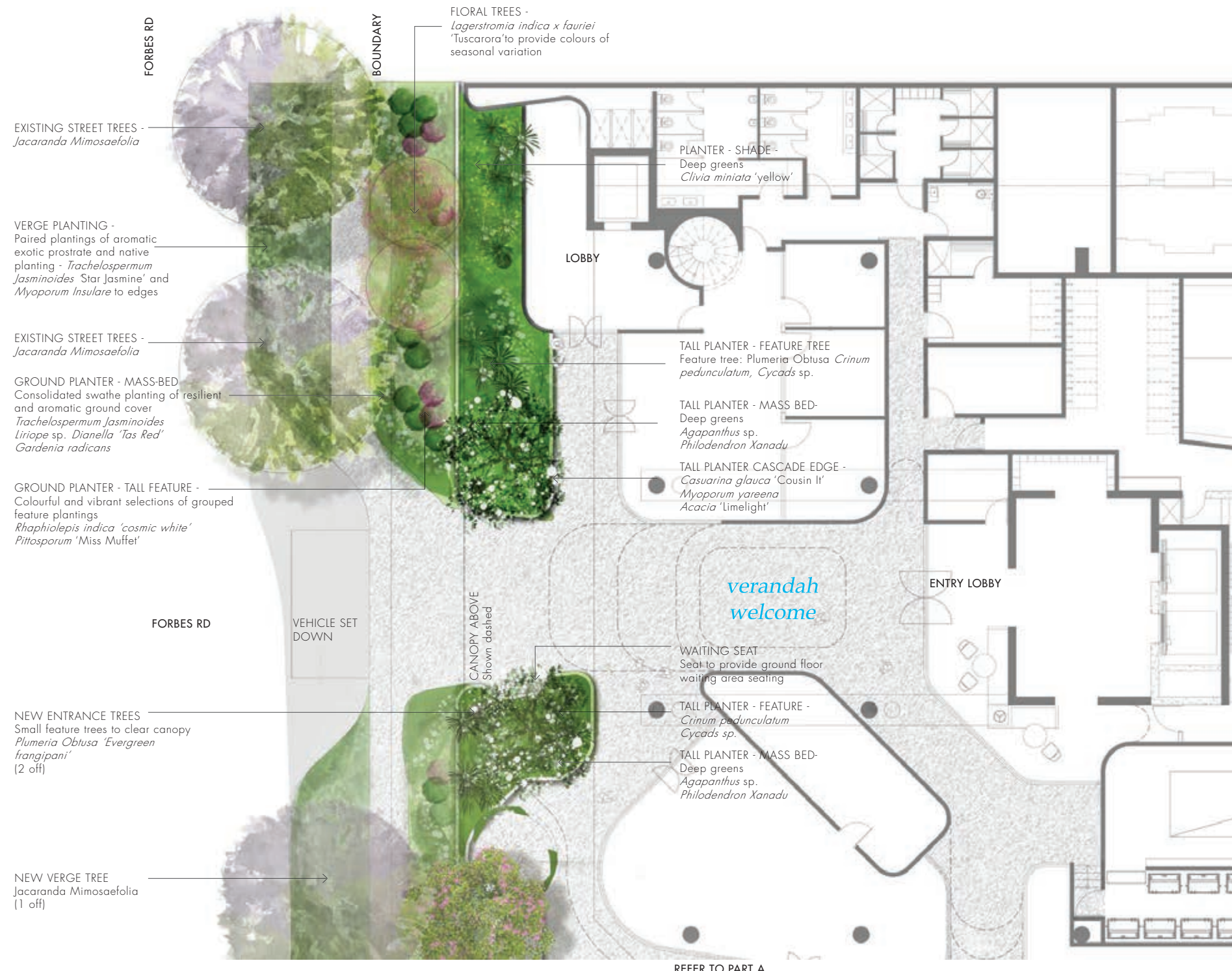
JACARANDA AVENUE



CORNER SKETCH - VIEW 01



LANDSCAPE PLAN
Ground Floor - part A

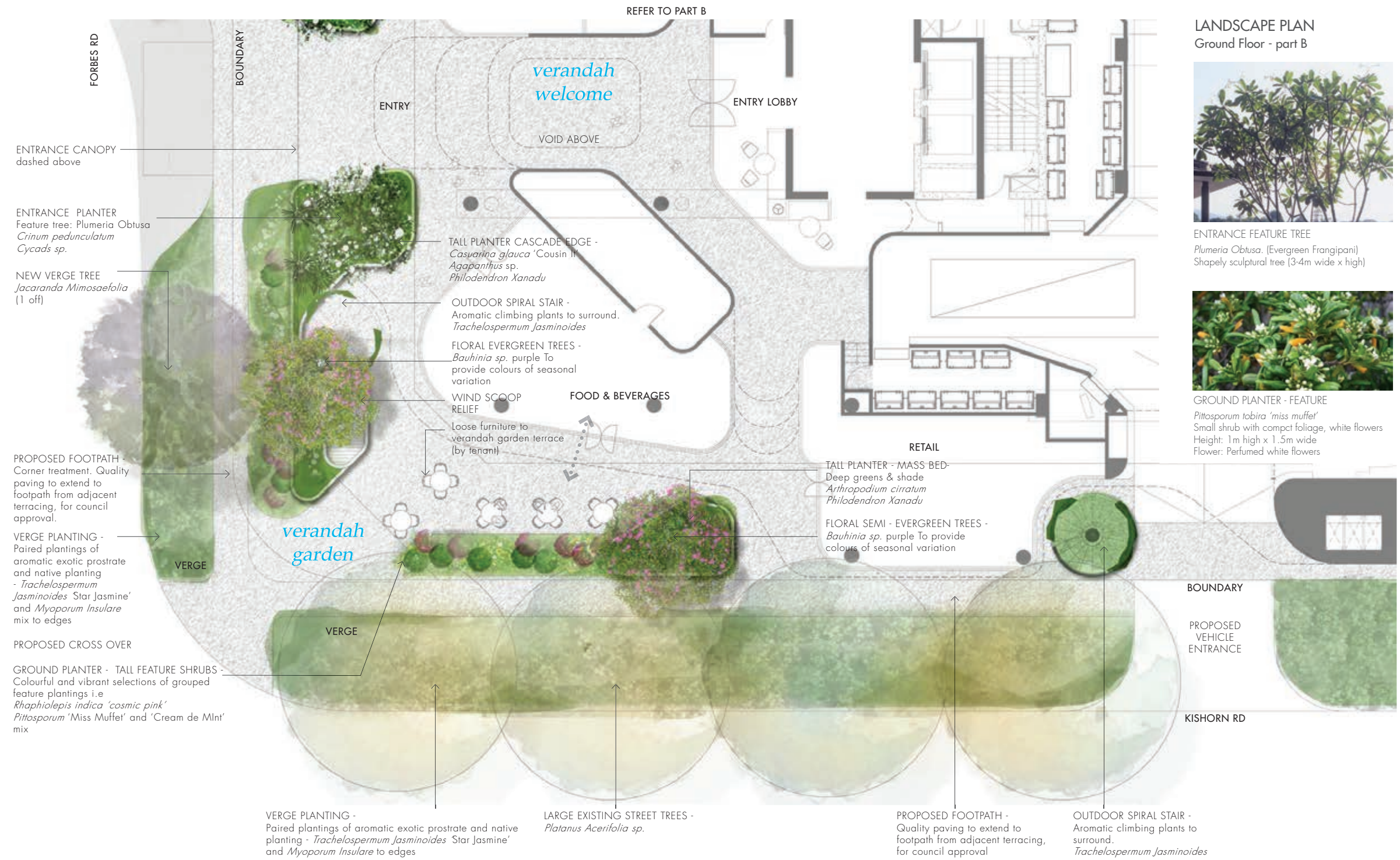


STREET TREE + SKYPARK TREE
Jacaranda mimosaefolia 'Purple Jacaranda'
Deciduous tree with green soft foliage yellowing prior to shedding.
Height: 10m high x 8m wide.
Flower: purple bell shaped flowers.



FEATURE SMALL TREE
Lagerstroemia indica (Crepe Myrtle)
Specimen tree with a broad spreading crown, and masses of flowers. Red-bronze autumn foliage colour and exfoliating bark
Height: 5-6m x 5m wide.
Flower: White/deep pink flowers in summer.





LANDSCAPE PLAN
Ground Floor - part B



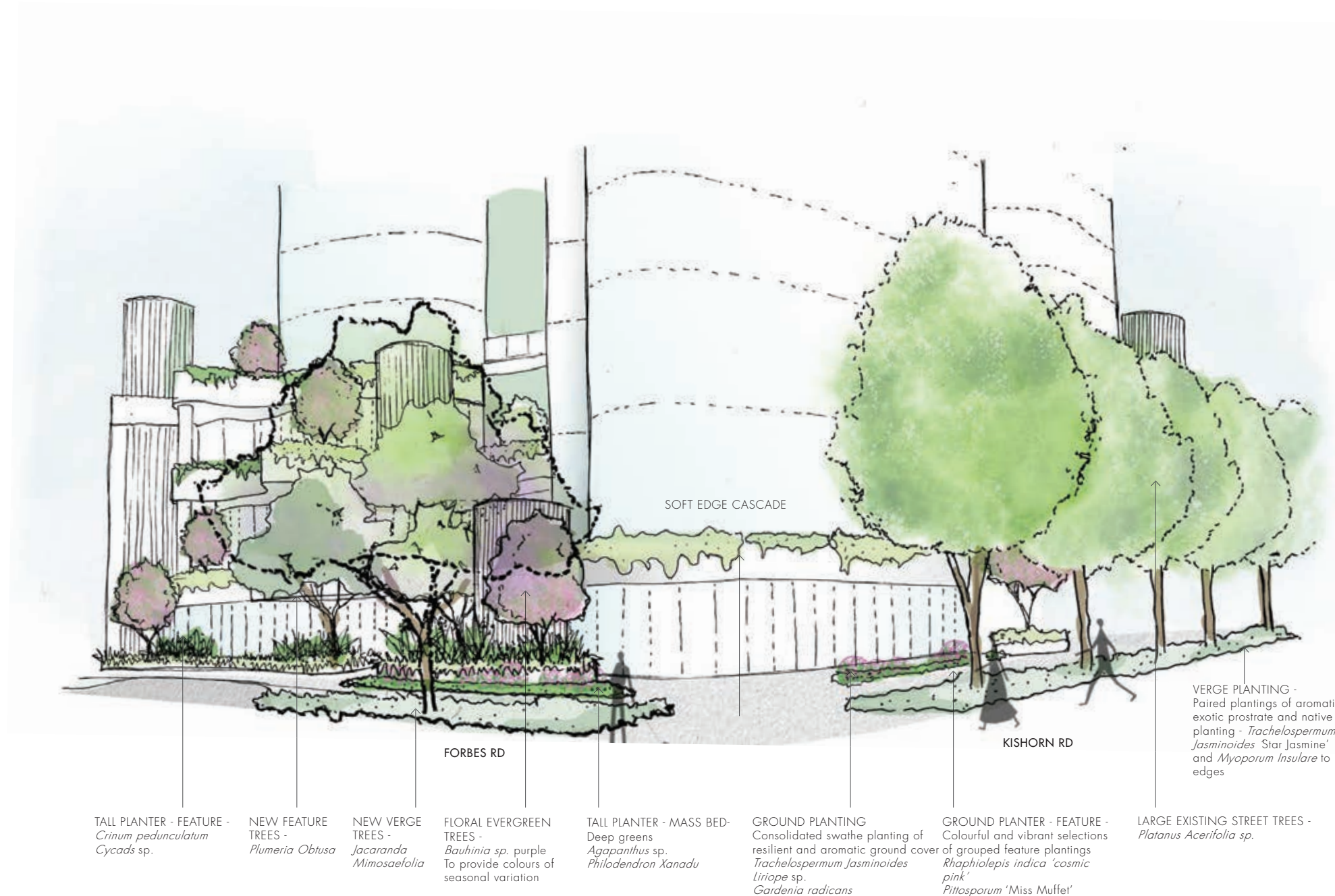
ENTRANCE FEATURE TREE
Plumeria Obtusa. (Evergreen Frangipani)
Shapely sculptural tree (3-4m wide x high)



GROUND PLANTER - FEATURE
Pittosporum tobira 'miss muffet'
Small shrub with compact foliage, white flowers
Height: 1m high x 1.5m wide
Flower: Perfumed white flowers



LANDSCAPE SKETCH 01
Ground Floor



TALL PLANTER - FEATURE -
Crinum pedunculatum
Cycads sp.

NEW FEATURE TREES -
Plumeria Obtusa

NEW VERGE TREES -
Jacaranda
Mimosaeifolia

FLORAL EVERGREEN TREES -
Bauhinia sp. purple
To provide colours of seasonal variation

TALL PLANTER - MASS BED-
Deep greens
Agapanthus sp.
Philodendron Xanadu

GROUND PLANTING
Consolidated swathe planting of resilient and aromatic ground cover
Trachelospermum Jasminoides
Liriope sp.
Gardenia radicans

GROUND PLANTER - FEATURE -
Colourful and vibrant selections of grouped feature plantings
Rhaphiolepis indica 'cosmic pink'
Pittosporum 'Miss Muffet'

LARGE EXISTING STREET TREES -
Platanus Acerifolia sp.

VERGE PLANTING -
Paired plantings of aromatic exotic prostrate and native planting - *Trachelospermum Jasminoides* 'Star Jasmine' and *Myoporum Insulare* to edges



TALL PLANTER - BED PLANTING
Philodendron 'Xanadu'
Evergreen, low height shrub with deep foliage
Height: 1-1.5m high x 1m wide



TALL PLANTER - BED PLANTING
Agapanthus orientalis 'Queen Mum'
Glossy strap leaves with flower spikes
Height: 1.5m high x 1.2m wide
Flower: Large white/blue flowers in Summer.

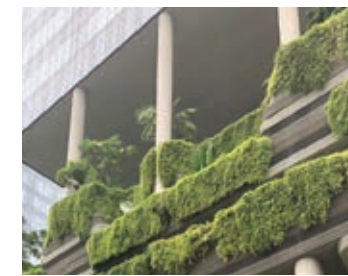


TALL PLANTER - FEATURE PLANTING
Crinum Pedunculatum (Spider Lily)
Broad strappy leaves.
Height: up to 2m high.
Flower: Perfumed white flowers in late Spring to Summer.



TALL PLANTER - FEATURE PLANTING
Cycas Revoluta (Japanese Sago Palm)
Decorative Cycad with symmetrical form.
Height: 1m wide x 1-3m high

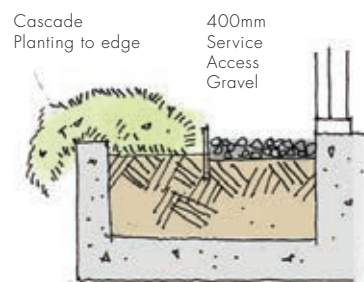
LANDSCAPE PLAN
Level 1 Podium Overall



PROJECT REFERENCE
Entrance cascade landscape
WOHA - Parkroyal on Pickering



SOFT EDGE CASCADE PLANTING
Acacia 'Limelight'
Australian native with lush weeping habit.
Height: 50cm high x 1m wide
Casuarina 'Cousin It'
Prostrate dark green with dense foliage
Height: .15 high x 3m wide



SECTION DIAGRAM A - SOFT EDGE CASCADE



LANDSCAPE PLAN
Level 1 Podium - part A



CASCADE EDGE
Planting Mix:
Casuarina glauca 'Cousin It'
Myoporum yareena
Acacia 'Limelight'

FLORAL EVERGREEN TREES -
Bauhinia sp. purple To
provide colours of seasonal
variation

soft edge
cascade

FEATURE PURPLE PLANTS -
Breynia 'Ironstone'
Phormium Tenax purpureum

FEATURE TALL PLANTING -
Zamia + *Phormiums*
'Green Dwarf'

FEATURE SMALL
EVERGREEN TREES
Plumeria Obtusa
'Dwarf Singapore Pink'

FRUIT TREES
Select fruit tree

URBAN ORCHARD
Citrus tree and raised
vegetable/herb gardens

urban
orchard

VOID BELOW

SKY PARK TREE
Jacaranda Mimosaeifolia
(Medium sized, deciduous type)

B I

GROUND PLANTING-
Dianella sp. *Lomandra*
Trachelospermum Jasmineides

OUTDOOR SPIRAL STAIR -
Aromatic climbing plants to
surround. *Trachelospermum*
Jasmineides

soft edge
cascade



URBAN ORCHARD
A collection of dwarf fruits in raised
planters with herb mixes.



CONSIDERED ACCESS



SMALL FEATURE EVERGREEN TREES
Plumeria Obtusa 'Dwarf Singapore Pink'
Shapely sculptural tree with lush green foliage
Height at Maturity: 2.5m x 1.5m wide.
Flower: Pink flowers with yellow centres.



FEATURE SHADE PLANTS
Clivia miniata 'yellow'
Lush strappy leaves, ideal for shade
Height at Maturity: 0.6m x 0.6m wide.
Flower: Yellow flowers

GROUND SHADE
PLANTING-
Philodendron 'xanadu'
Arthropodium sp

FEATURE SHADE PLANTS-
Clivia miniata 'yellow' sp.
Cycad sp

PLANTER -
(SERVICE ACCESS) -
Gravel mulch

SMALL SHADE TREE-
Bauhinia sp. white



SKY PARK TREE
Jacaranda Mimosaeifolia
 (Medium sized, deciduous type)

raphiolepis
 garden



SHADE FLOWER GARDEN-
 Lush low planting mix:
Liriope muscari
Arthropodium cirratum
Agapanthus mix

SMALL TREE
Jacaranda Mimosaeifolia alba
 White flower
 (Medium sized, deciduous type)

agapanthus
 garden

LANDSCAPE PLAN
 Level 1 Podium - part B



Raphiolepis. - Reference Image
 ornamental with splendid display of flowers

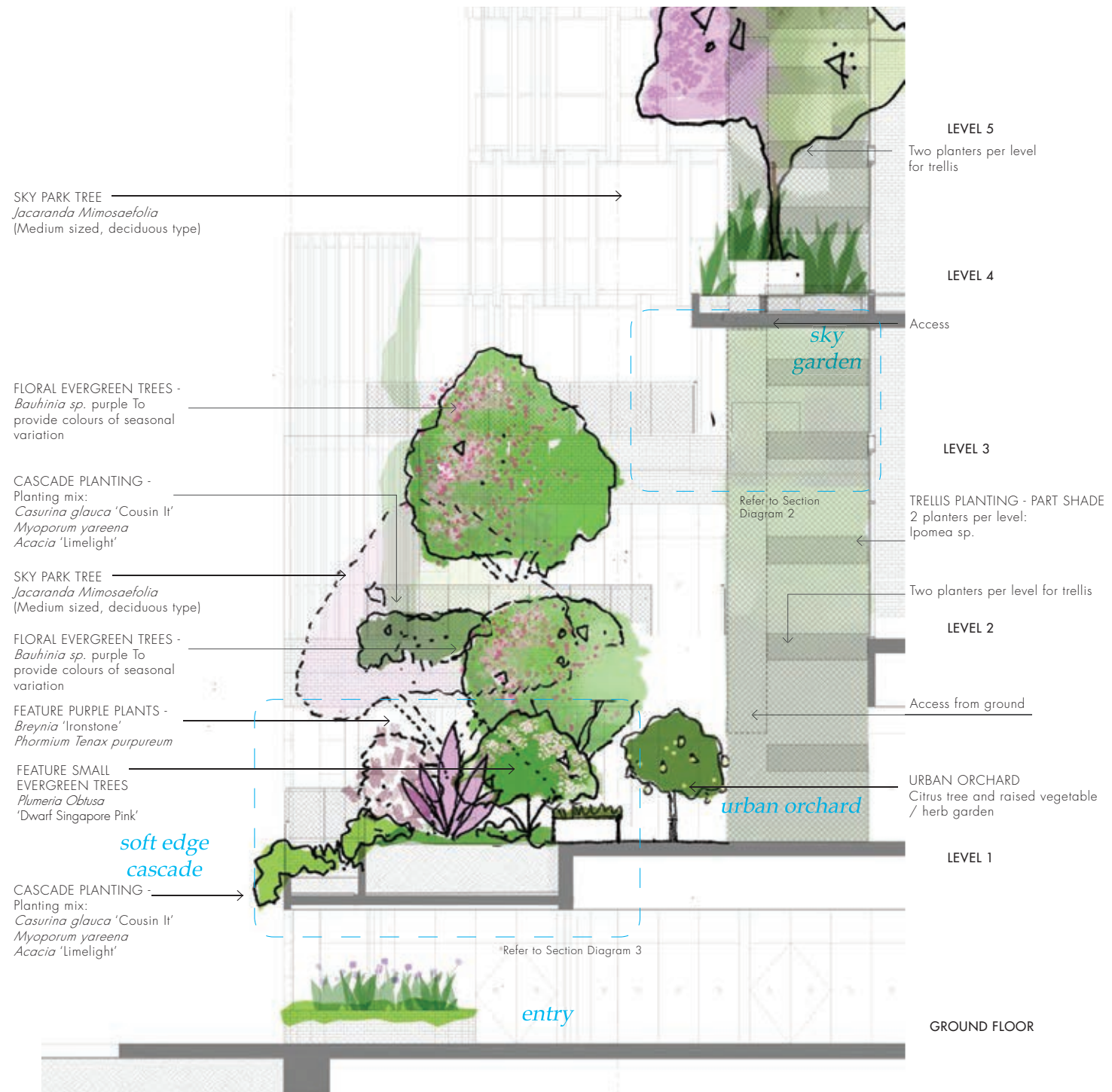


Agapanthus mix. - Reference Image



SKY PARK TREES
Jacaranda Mimosaeifolia alba





SECTION DIAGRAM - URBAN ORCHARD + SKY GARDEN (Typical)

LANDSCAPE DETAIL
SECTION DIAGRAM



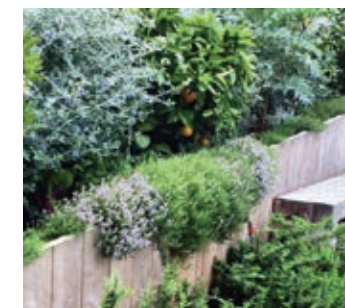
FEATURE PURPLE PLANTS
Phormium tenax Purpureum -
Evergreen perennial, ornamental and robust
Height: 1.8m high x 1.2m wide



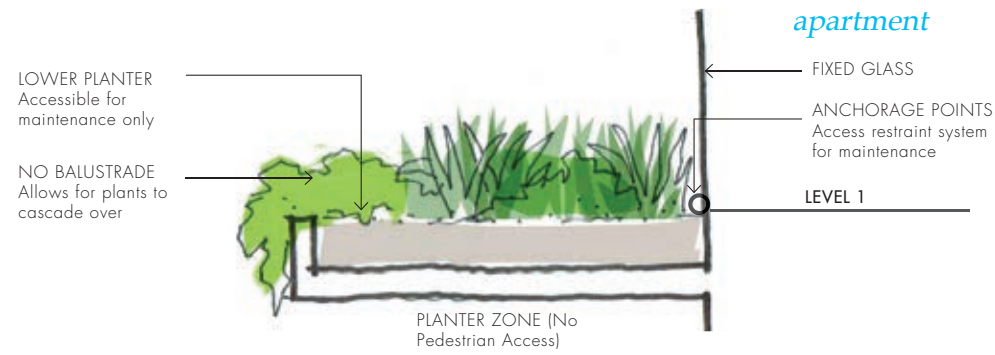
NATIVE FEATURE PURPLE PLANTING
Breynia 'Ironstone'
Evergreen, red-brown foliage plant with a graceful weeping habit. Small green flowers
Height: 1.5-2m high x 1m wide



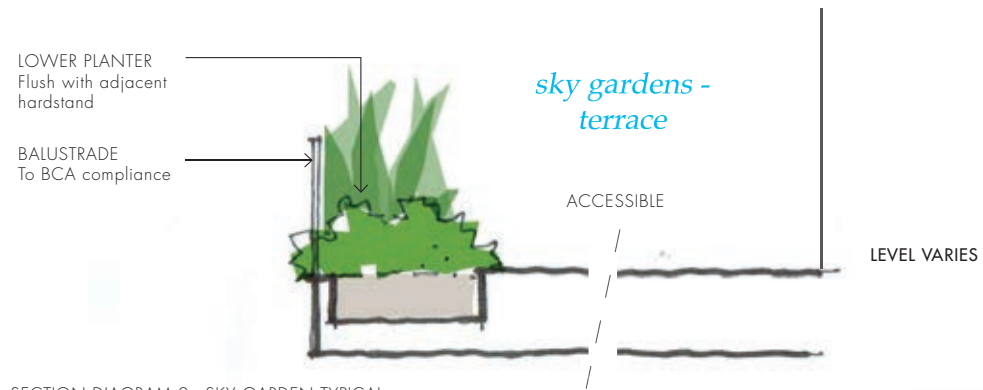
FLORAL EVERGREEN TREES
Bauhinia Purpurea 'Purple Butterfly Tree'
Medium sized orchid tree. Butterfly shaped leaf.
Height: 6-10m x 6m wide.
Flower: large purple/pink flowers in Autumn



REFERENCE IMAGE - URBAN ORCHARD



SECTION DIAGRAM 1 - SOUTHERN PLANTER



SECTION DIAGRAM 2 - SKY GARDEN TYPICAL



SECTION DIAGRAM 3 - WESTERN PLANTER

LANDSCAPE PLAN
Level 2 Podium - Overall



PART SHADE TRELLIS PLANTING
Ipomea sp.
Evergreen climber, purple flowers
Height: 3-5m high x 2m wide



FLOWER GARDEN
Liriope Muscari sp.
Broad strappy leaves with purple flowers
Height: 50cm high x 50cm wide



PODIUM TREES
Tristaniopsis Laurina 'Luscious'
Height at maturity: 7m high x 4-5m wide
Habit: Oval



LANDSCAPE PLAN
Level 3 Podium Overall



PROJECT REFERENCE
Entrance trellis landscape
WOHA - The Met Bangkok



PROJECT REFERENCE
Climbing planting to web mesh trellis system



PLANTING MIX
Phormium tenax 'variegatum'
Height at maturity: 1 m high x wide



LANDSCAPE PLAN - Skygardens
Level 4,7,10,13 (typical)



SKYGARDEN SHADE TREE
Bauhinia Purpurea 'Purple Butterfly Tree'
Medium sized orchid tree. Butterfly shaped leaf.
Height: 6-10m x 6m wide.
Flower: large purple/pink flowers in Autumn



SHADE TRELLIS PLANTING
Trachelospermum jasminoides 'Star Jasmine'
Evergreen vine, hardy, aromatic
Height: 6m high



MASS BED PLANTING - SHADE
Arthropodium cirratum (NZ Rock Lily)
Broad leaf lily, Mass white flowers



LANDSCAPE PLAN
Level 15 Podium Overall

morning sun



PROJECT REFERENCE
Shaded pool environment
by SHMA (Hyde condominium Sukhumvit 13,
Bangkok)



PROJECT REFERENCE
Varied shaded area spaces
by SHMA (Baan san ngam)

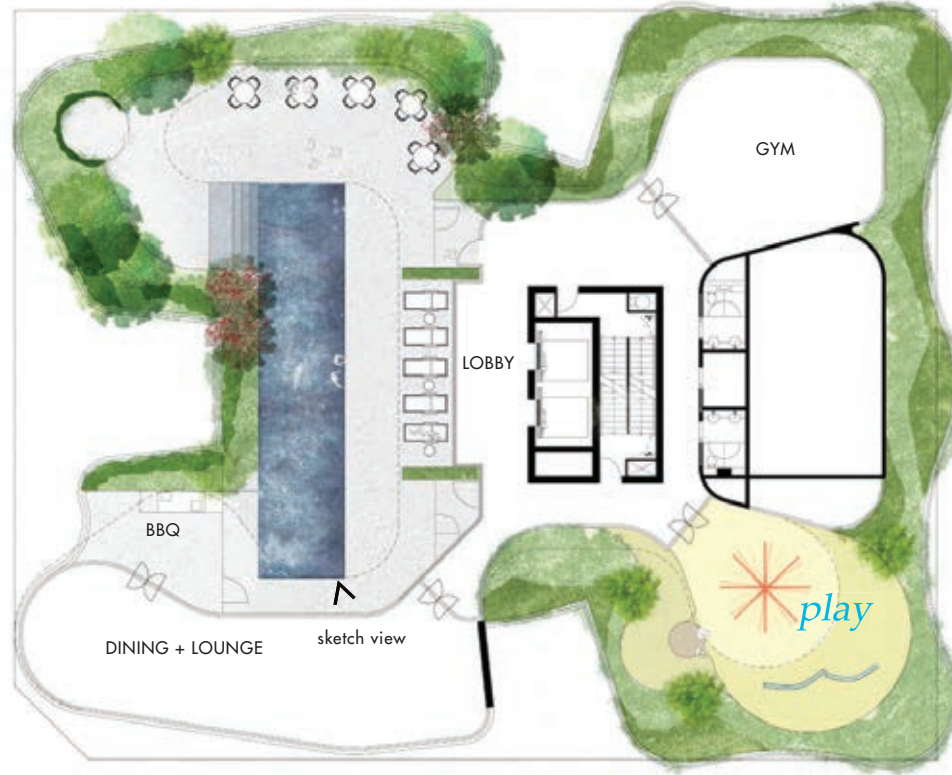


PROJECT REFERENCE - HILLS HOIST CAROUSEL
Play opportunities (Berliner playground + festival)



PROJECT REFERENCE
Native surrounds, city views
by William Dangar - (Cleveland rooftop)

Australian endemic
native surround



afternoon sun

Social Amenities
Level 15

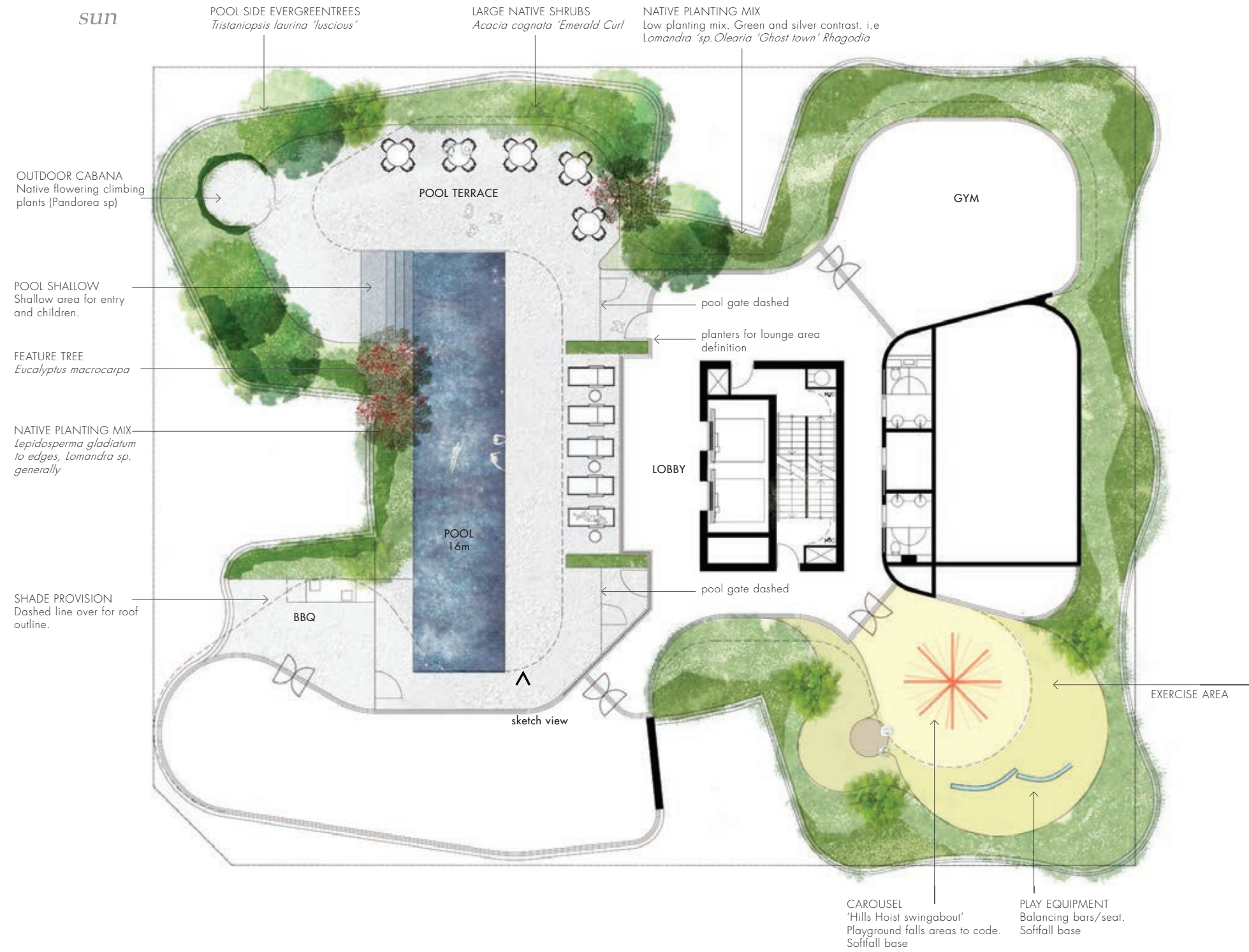


KEY



afternoon
sun

LANDSCAPE PLAN
Level 15 Podium - Part A



LARGE NATIVE SHRUBS
Acacia Cognata 'Emerald Curl'
Height at maturity: 3-5m high x 3-3.5m wide.



FEATURE NATIVE TREES
Eucalyptus Macrocarpa 'Mottlecah'
Height: 3m high x 2m wide. Flower: Red



NATIVE GROUND PLANTING (typ)
Olearia 'Ghost Town' (*Daisy Bush*)
Height: 50cm-1m high x 1m wide



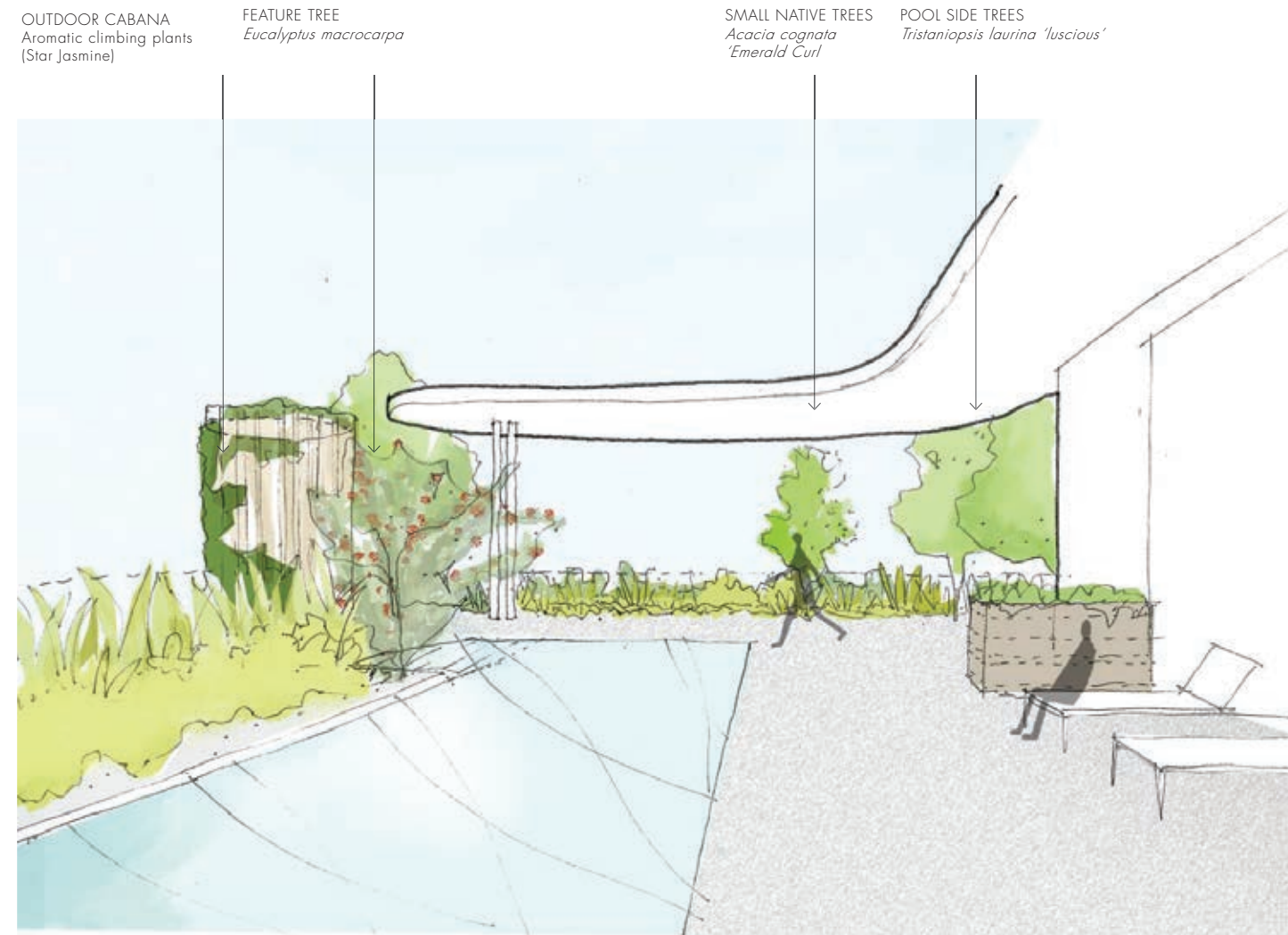
Lomandra 'Lime Tuff'
Australian native, clumping strap leaves
Height: 50m high x wide



Lepidosperma Gladiatum 'Coastal Edge'
Australian native, clumping strap leaves
Height: 1.5m high x 1.5m wide



LANDSCAPE SKETCH
Level 15 -View 01



OUTDOOR CABANA PLANTING
Pandorea pandorana (Wonga Wonga Vine)
Fast growing native climbing plant with heavy profusion of flowers in early spring



POOL + NATIVE PLANTING REFERENCE
Endemic planting to poolside.
Project: Manning Rd Residence. Architects: IPH. Landscape: CAPA



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FORBES RESIDENCES
10 FORBES RD
APPLECROSS
WESTERN AUSTRALIA

Deep Green Landscaping
Deep Green Landscaping has been working on major apartment, shopping centre and office building projects within the Perth area for almost two decades. We are contracted by tier one building companies to construct all of the external works, including hard and soft landscaping, on their large commercial projects. These projects involve a high level of co-ordination and project management between ourselves, the builder, other trades and city councils.
Deep Green specialise in the landscape construction of apartment and office building projects where the garden areas are predominantly installed on suspended slabs. Additional complexities of working on CBD building projects include limited access, multiple trades working in small confined areas and tight time frames. As landscaping is traditionally one of the finishing trades on these projects, we are skilled in dealing with being last on site, and having limited time and space to carry out our works. We have developed many systems to ensure that our supervisors and their teams can coordinate with the other trades on large projects in order to maintain a high level of quality in our finished product.
We will be working closely with the design team to ensure the final plant selections of natives and exotics will thrive drawing on our previous experience on projects such as The Ritz-Carlton Perth, NV Apartments, 140 William St and The Westin Perth, where we have installed a variety of endemic and exotic species to transform the areas into lush, green and inviting spaces.



Plant selections

In principle, the majority of the softscape ground planting selections are endemic and have a low water requirement. The scheme will also have some feature exotics; offering flowering, deciduous trees and shade qualities. Whilst the exotics echo the locale's existing suburban gardens and seasonal variety, they are also appropriate for shaded situations and offer deciduous habits for winter solar access. As the majority of the trees on the upper levels will be installed in planters on the structural slabs, we will be using the Hulk tree anchor system to fix all of the trees to the planters to ensure they are stable for their entire life time.

The majority of plantings are located in raised planters. The insulated merits for the constructed planter materials and thicknesses will assist in reducing water evaporation loss. Gravel mulching selected for wind will also provide a blanked layer for reducing water evaporation. As noted in the irrigation below, the irrigation is provided via a drip system below the mulch which offers greatly improved efficiency.

Where achievable, the planting zones will be hydro-zoned according to water requirements. This allows the reticulation and the endemic plantings to be separately controlled and greatly reduced following their establishment period.





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Corporation PTY LTD

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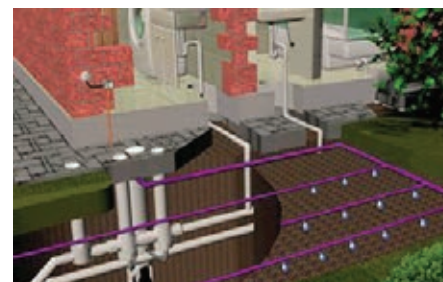
Fax: (08) 9242 2229

PO Box 267 Mt Hawthorn WA 6915

ABN 44 151 608 089

Landscape Watering

The irrigation system that has been designed for this project will use a mix of recycled grey water to the lower levels and scheme water to the upper levels. To keep the irrigation system as water wise as possible, drip irrigation will be used in all garden areas and installed under gravel mulch to ensure that the evaporation rate is as low as possible. In addition to this, the moisture sensors and rain sensors used will be connected to the irrigation controller to ensure that the system only operates when required and delivers only the set amount of water to all garden areas ensuring excess water is not wasted on site. The irrigation controller for this project will have Wi-Fi monitoring capabilities so that the maintenance staff looking after the project can check the moisture levels of the garden areas at anytime from anywhere and they can then remotely adjust any watering requirements to have constant control over the water usage and prevent wastage, ensuring the system is operating in the most water-saving way possible.



Landscape Maintenance

The maintenance of all of the sky gardens and landscaping to this project will be carried out by professionally qualified horticulturalists to ensure that the gardens are always presenting at a high level. Maintenance requirements have been considered and carefully input into the design to ensure that all of the landscaped areas and green wall trellises can be accessed without the requirement for mechanical lifting equipment. All areas will be able to be accessed within each level ensuring that the highest reach the maintenance staff will have will be three meters. The staff will be equipped with extendable pole pruners so that the trees and climbers can be pruned and trained into position to keep the gardens looking good at all times.

The focus of the maintenance to all of the gardens will be to ensure that the gardens are always presented well for the residents and also all of the neighbouring residents that live close by so that the gardens on the building lift the ambiance of the area and improve the well-being of all of the residents and locals around the project.



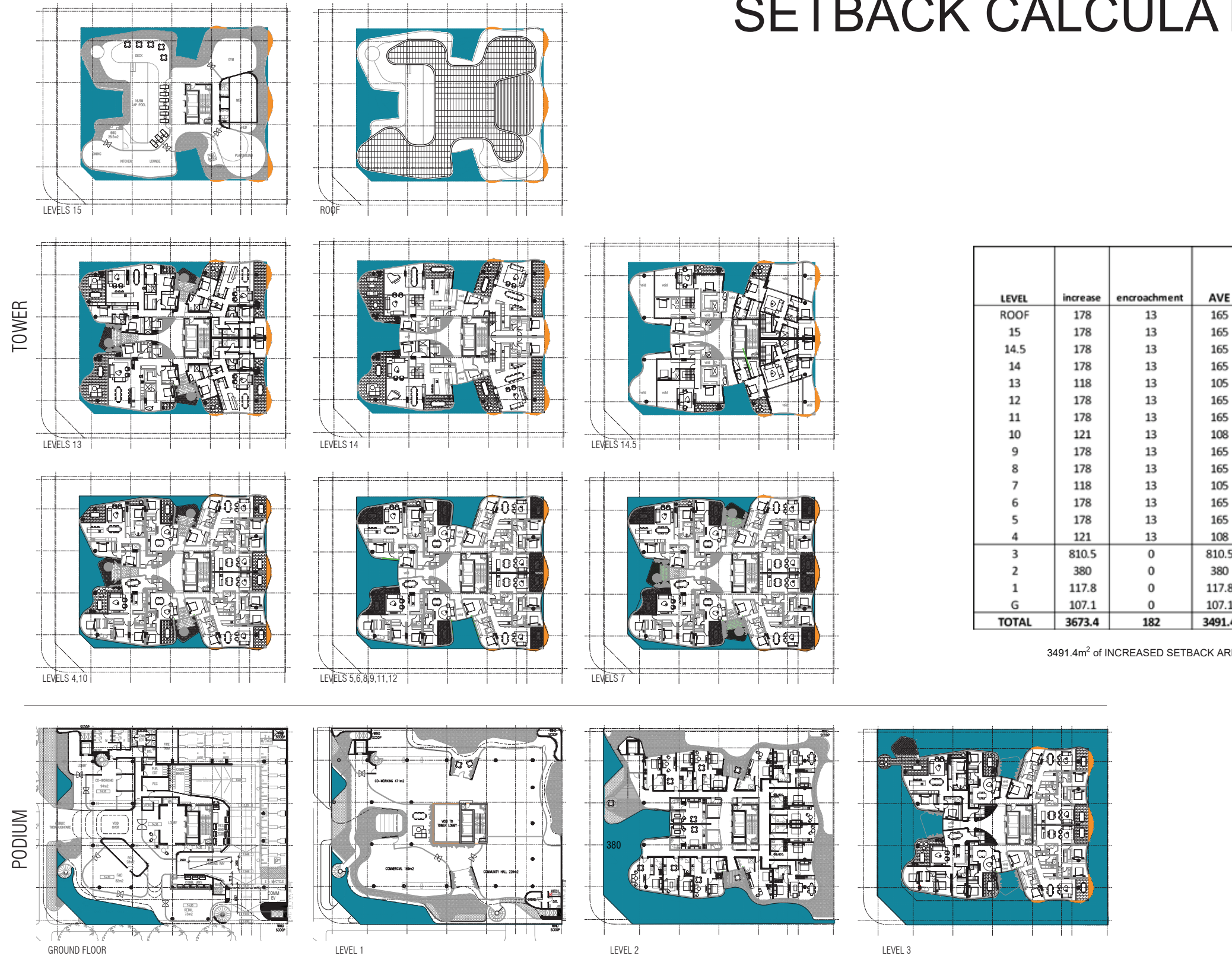
Prepared by

Julian Rose

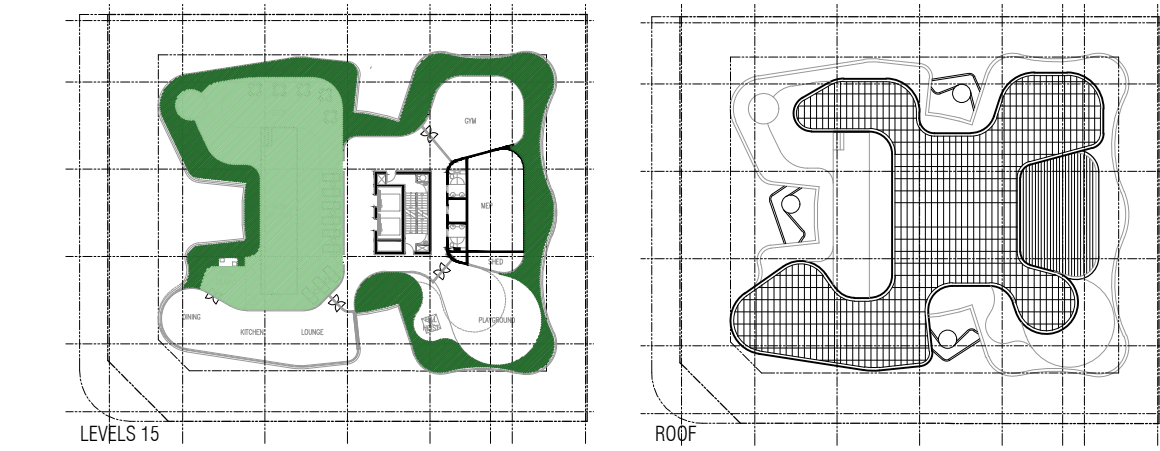
Deep Green Landscaping

Advanced Diploma of Horticulture

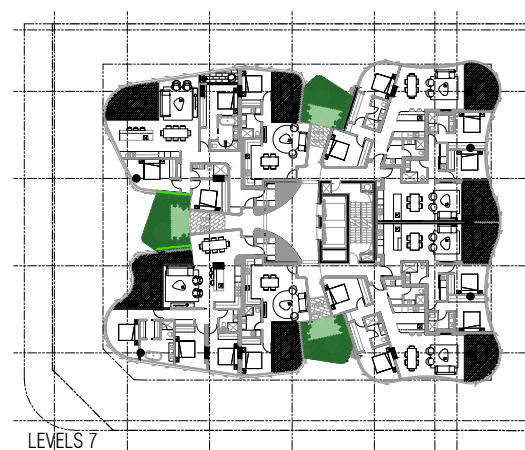
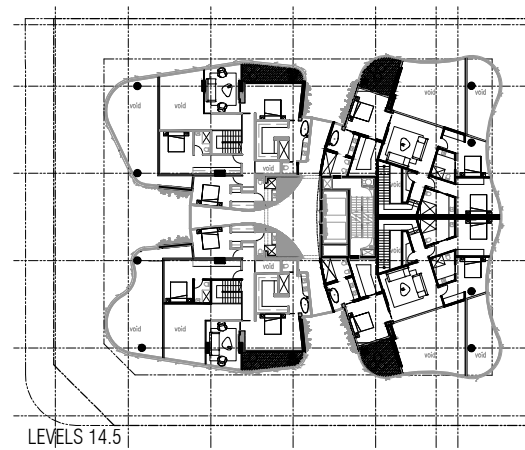
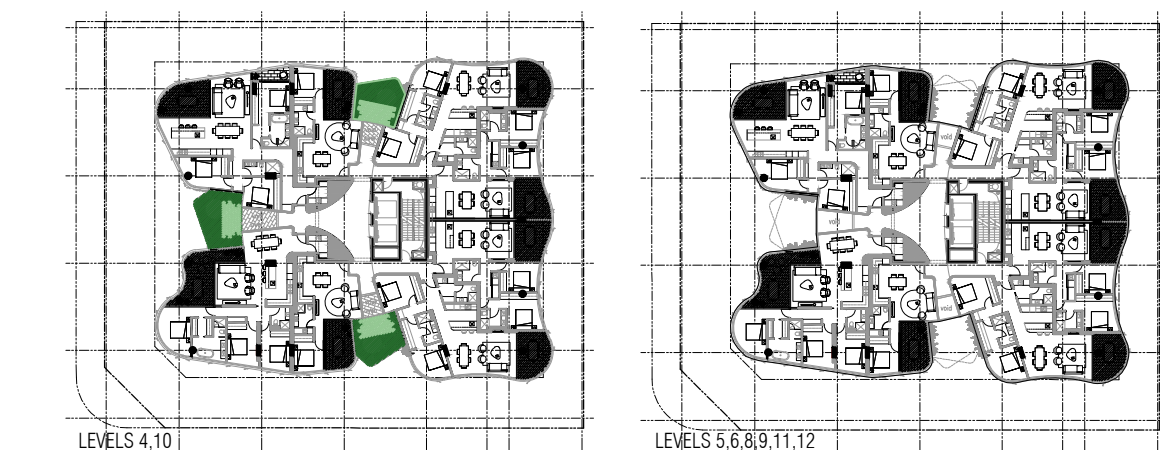
SETBACK CALCULATIONS



LANDSCAPE CALCULATIONS



- LANDSCAPE AREA
- PLANTING ON STRUCTURE
- DEEP SOIL
- BALCONIES > 12M2



BALCONIES > 12M2

| LEVEL | AREA (m ²) |
|--------------|------------------------|
| ROOF | - |
| 15 | - |
| 14.5 | 39 |
| 14 | - |
| 13 | 130 |
| 12 | 108 |
| 11 | 108 |
| 10 | 108 |
| 9 | 108 |
| 8 | 108 |
| 7 | 108 |
| 6 | 108 |
| 5 | 108 |
| 4 | 108 |
| 3 | 123 |
| 2 | - |
| 1 | - |
| G | - |
| TOTAL | 1264 |

TOTAL BALCONY OVER 12M2 AREA
= 1264m²

VERTICAL LANDSCAPE AREAS

| LEVEL | PLANTING ON STRUCTURE (m ²) |
|--------------|---|
| North | 307 |
| West | 330 |
| South | 307 |
| TOTAL | 944 |

TOTAL VERTICAL LANDSCAPE AREA
= 944m²

CBACP REQUIREMENTS

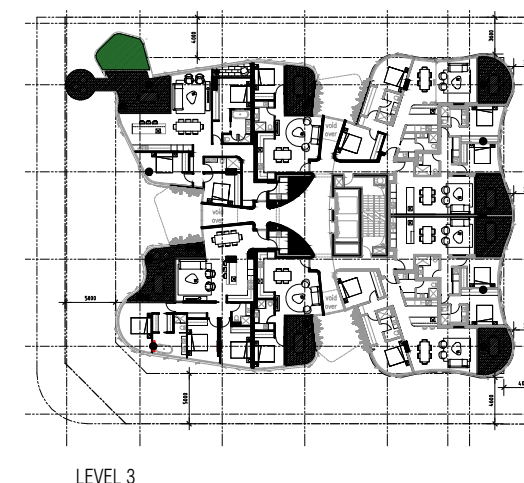
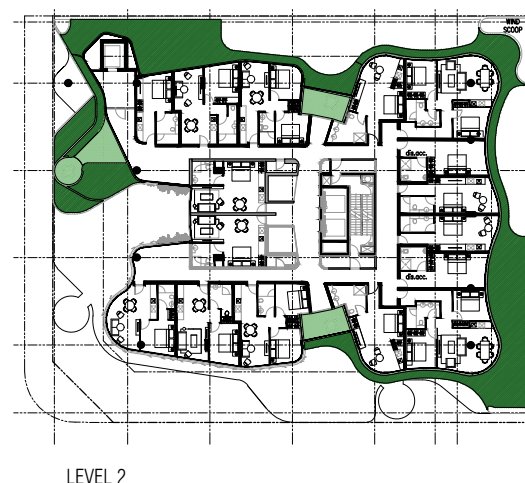
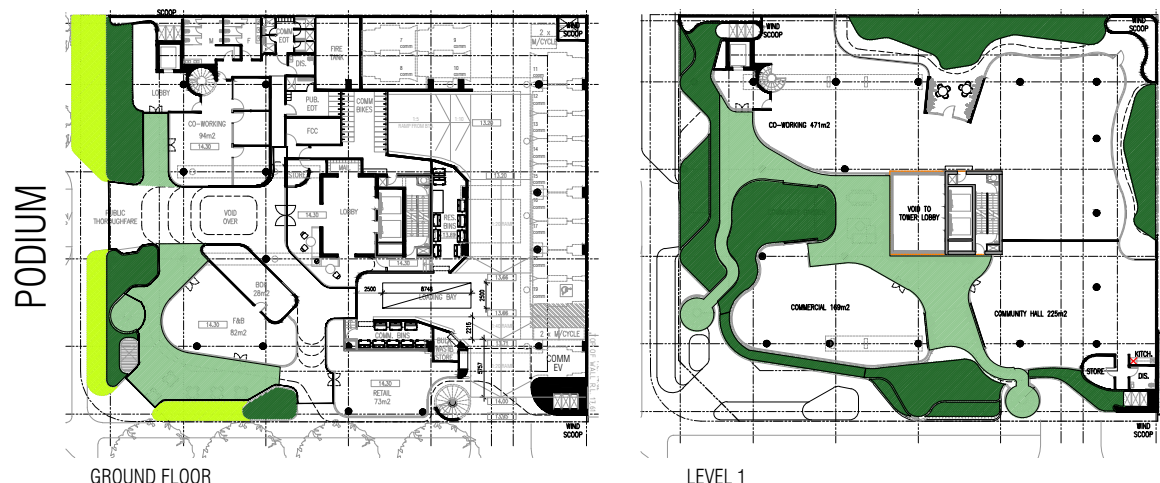
(BALC + VERT + HORIZ) / SITE AREA
 = (1264m² + 944m² + 1899.96m²) / 2023m²
 = 4107.96 / 2023
 = 2.03
203% OF THE MINIMUM REQUIRED IN THE CBACP (Clause 10.3)

WAPC APARTMENT DESIGN POLICY REQUIREMENTS

(HORIZ.PLANTING ON STRUCT + DEEP SOIL) / SITE AREA
 = (1126.06m² + 91.01m²) / 2023m²
 = 1217.07 / 2023
 = 0.60 OR 60%
40% MORE THAN THE MINIMUM REQUIRED 20% IN THE WAPC (Clause 3.4.1)

GREEN PLOT RATIO CALCULATION

(HORIZ.PLANTING ON STRUCT + DEEP SOIL + VERT LANDSC) / SITE AREA
 = (1126.06m² + 91.01m² + 944m²) / 2023m²
 = 2161.07 / 2023
 = 1.07 OR 107%
107% GREEN PLOT RATIO



HORIZONTAL LANDSCAPE AREAS

| LEVEL | LANDSCAPED ZONES (m ²) | PLANTING ON STRUCTURE (m ²) | DEEP SOIL (m ²) | TOTAL LANDSCAPE AREA/LEVEL (m ²) |
|-----------------|------------------------------------|---|-----------------------------|--|
| 15 | 255 | 235 | - | 490 |
| 14 | - | 42.41 | - | 42.41 |
| 13 | 16.74 | 42.43 | - | 59.17 |
| 7 | 16.74 | 42.43 | - | 59.17 |
| 5-6, 8-9, 11-12 | - | - | - | 0 |
| 4 & 10 | 33.48 | 85.2 | - | 118.68 |
| 3 | - | 14.4 | - | 14.4 |
| 2 | 39.46 | 237.7 | - | 277.16 |
| 1 | 199.47 | 340.7 | - | 540.17 |
| G | 122 | 85.79 | 91.01 | 298.8 |
| TOTAL | 682.89 | 1126.06 | 91.01 | 1899.96 |

TOTAL HORIZONTAL LANDSCAPE AREA
= 1899.96m²

TOWER

PODIUM