ESD REPORT

BUILDINGS THAT BREATHE

Platinum
19 Hercules Street, Hamilton

Prepared by Fuse Architects
October 2021

BUILDINGS THAT BREATHE GUIDE CHECKLIST

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CONTEXT

1. ORIENTATE YOURSELF

The tower orientation and layout design maximises river views and captures natural light, while reducing heat load from the sun and achieving an appropriate relationship with neighbouring buildings.

1.1 LOCATION & ORIENTATION

The site is located within the Northshore Hamilton Priority Development Area, which is characterised by an emerging skyline of 15-23 storey towers. As part of the Superior Design process, the proposed development is for a 29 storey tower and will be perceived as an iconic landmark for the surrounding development.

The project site is located within 5km of Brisbane CBD and Brisbane Airport and is primarily accessible by private car, bus, ferry and bicycle. The proposed development is located within 1km of Bretts Wharf Ferry Terminal and the main bus stop heading to both Brisbane CBD and Brisbane Airport.

The site is approximately 7,637m2 with a gentle slope up of RL3.0m on Hercules Street to RL4.5m on Main Street. The site is surrounded by built forms, with a series of residential towers to the south, hotel to the east and park to the north. Immediately adjacent to the west is a pending DA for a commercial block of 2-3 storeys.

1.2 MASSING & INTERNAL LAYOUT

The tower split form and slenderness provide an appropriate setting for optimal sunlight penetration. The slight bow in the long elevation line further helps create a slim silhouette to the tower. The north façade introduces sleeves that increase in size as you move up the tower. The introduction of double height sky gardens every three levels on alternate ends of the building assist with the breakdown of the tower mass. The terraced roof form creates a visually interesting roof line in lieu of just chopping the tower and further accentuates and articulates the tower form

The proposed site has the following view corridors:
- Immediate views to the park and Ascot
- Greater views to Brisbane Airport
- East facing views to Brisbane River
- South facing views to Brisbane River and distant views to Mount Cotton
- South west views to Brisbane CBD

As the proposed 29 storey tower dominates over much of Hamilton, there will be uninterrupted views from level 20 upwards.

1.4 STREET ACTIVATION

Facing Hercules Street is the Gateway into the site, from the Park to the heart of the proposed precinct. A large central opening sets up the visual corridor to the Brisbane River. This Gateway can be clearly visible from Hercules Street, and has a lightweight reflective mirror finish cladding to capture and reflect the greenery of the Park and the activity of the gate itself

With the proposed ground floor tenancies having a height variety of approx. 5-13m across the site, there are ample opportunities for the creation of flagship retail tenancies with maximum shopfront presence. Creation of mezzanine levels will also aid to activate frontages and provide multiple usages within the ground floor podium level.

Residential lobbies have been positioned in key locations, namely along Hercules Street for Stage 1 and within the civic courtyard for Stages 2 & 3, to provide for both day and night time presence to the precinct.

Back of house amenities has been strategically located away from the destinational centre. This offers a better and safer pedestrian amenity, avoiding the likelihood of ‘dead spaces’

2. OCCUPY OUTDOOR SPACES

The project's ambition is to capture the essence of Brisbane, a subtropical city through its organic approach in form, composition and spatial relationship that open at all key levels with an integrated landscape strategy.

2.1 CITY ROOMS

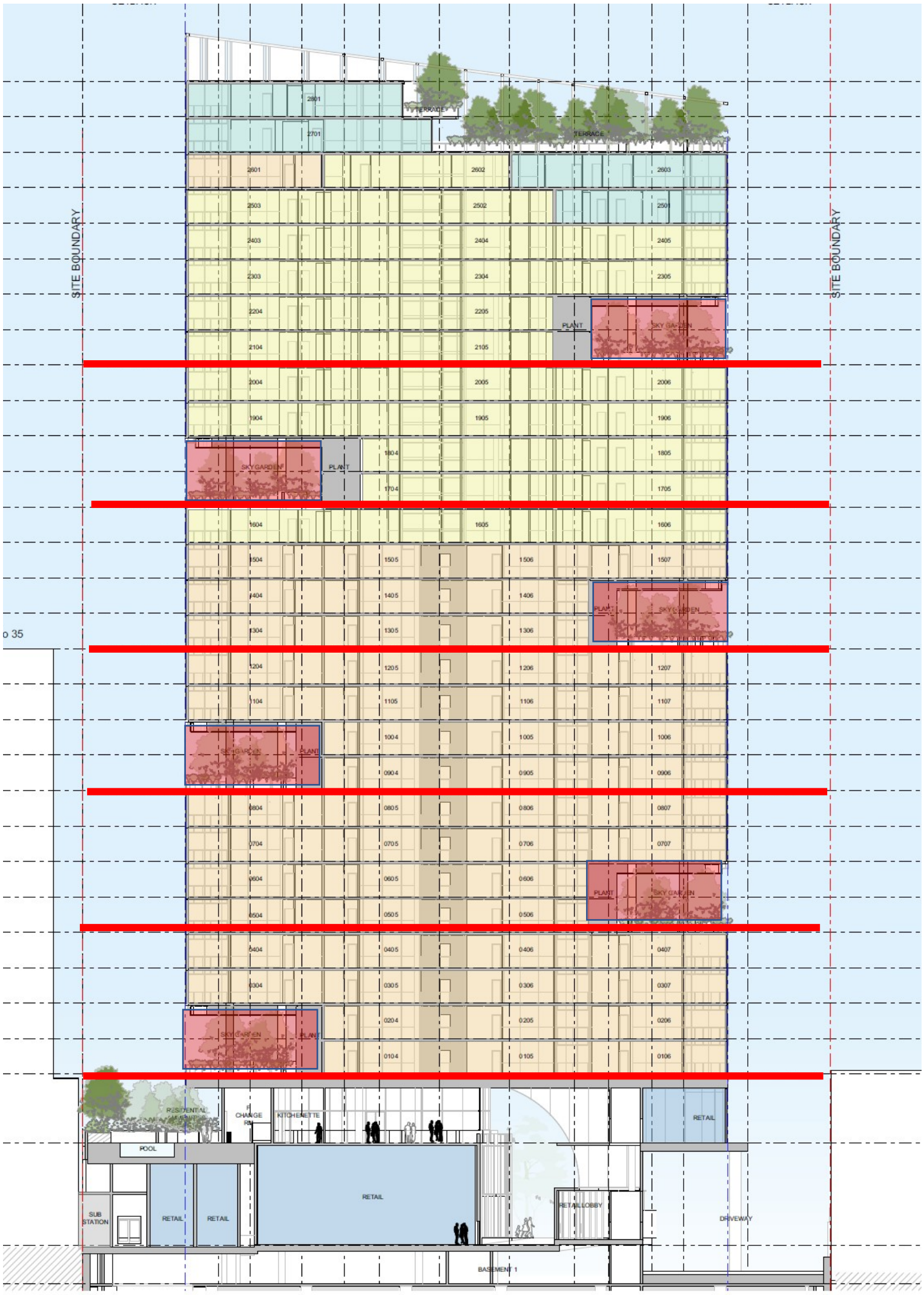
The outdoor spaces vary in scale and volume from top to bottom.
They include:

- Eroded ground plan spaces for rest, shade and landscape
- Cross-block links
- Pocket neighbourhood park
- Top of podium landscaped and function spaces for residents
- Breakout outdoor sky garden spaces throughout the tower
- Private sky terraces on roofs for homes in the sky

The ground plane provides for a dynamic series of spaces that are a fully accessible and permeable environment which is active on all frontages.

2.2 SKY GARDENS

Fundamental to the design is the incorporation of a series of communal, shared outdoor sky garden spaces, scattered throughout the tower, allowing residents to use the space that may be closer to their home. These sky gardens are beautifully landscaped, and allow opportunities for residents to gather and connect with immediate neighbours. These are spaces for respite, play or just to be outside to enjoy the views to the Brisbane River. But ultimately it is envisioned that each sky garden will develop their own character as a reflection of the smaller community's' needs and requirements that occupy those adjacent levels.



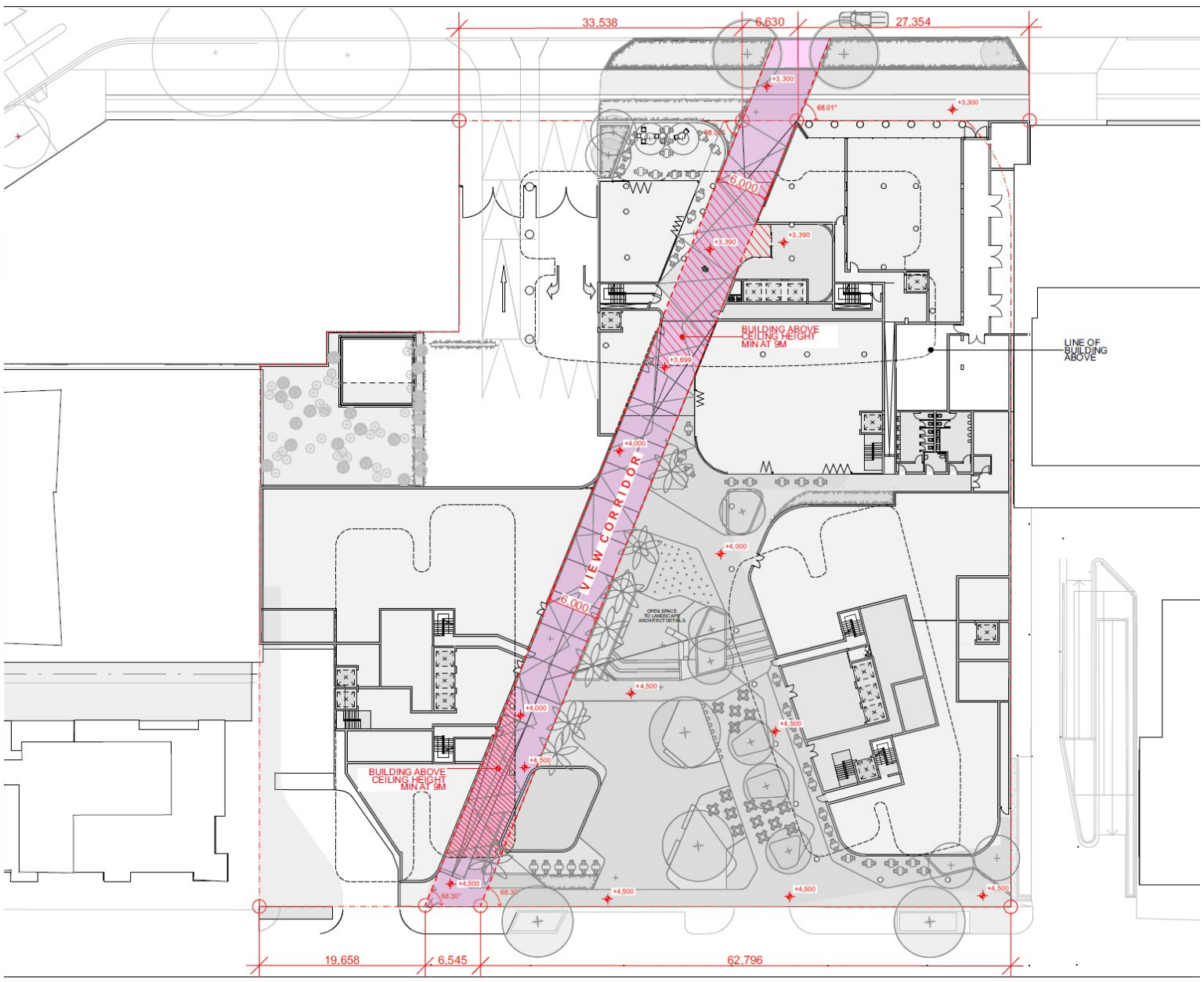
2.3 BALCONIES

The balconies on the towers for each apartment have been design to be integrated with the overall façade of the building. The balconies are shielded from the environment by the extension of the glassed balustrades beyond the slab line to create sheltered openings.
Balconies on the north increase in size the higher you go in the tower.

2.4 LANEWAYS & CROSS-BLOCK LINKS

A strong visual and physical movement corridor exists through the development site, linking the Brisbane River to the newly developed Hercules Park. This connection functions greater than just a visual connection, it also offers greater pedestrian connectivity throughout the greater Northshore development area.

- Palm avenue to frame the visual 'River Corridor' - without blocking view corridor towards the river
- Overhead catenary lighting - create a sense of festivity and exploration, frames the entrances.
- Feature pavement treatment. Use of stone with earthy tones giving reference to the Brisbane Tuff rock.
- Terraced levels between the river basin and the river mouth offers a break in the journey and opportunity whilst still retaining a visual and physical connection, that allows opportunities for gathering and performances, such as open-air cinema nights.
- Central water play pop jets in the central plaza brings a playful fluid interaction with water, that comes and goes with the tides, which allows a flexible, evolving use of the plaza.
- Entry feature / signs, incorporating the use of water features that offers cues to the river flowing through the site.
- Folded edges of the plaza, signage and terraces allows levels to be lifted and tilted to assist with deep planting.

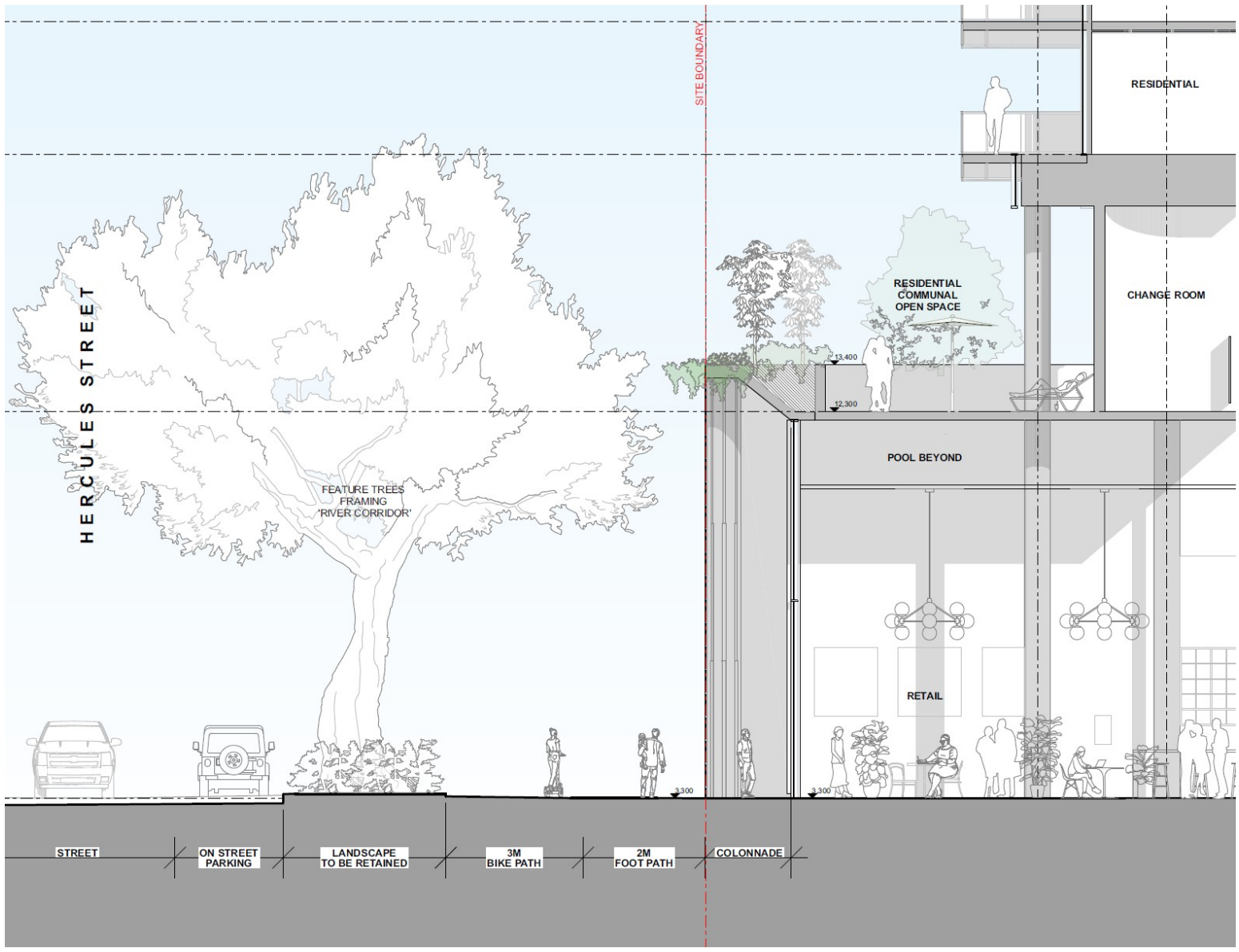


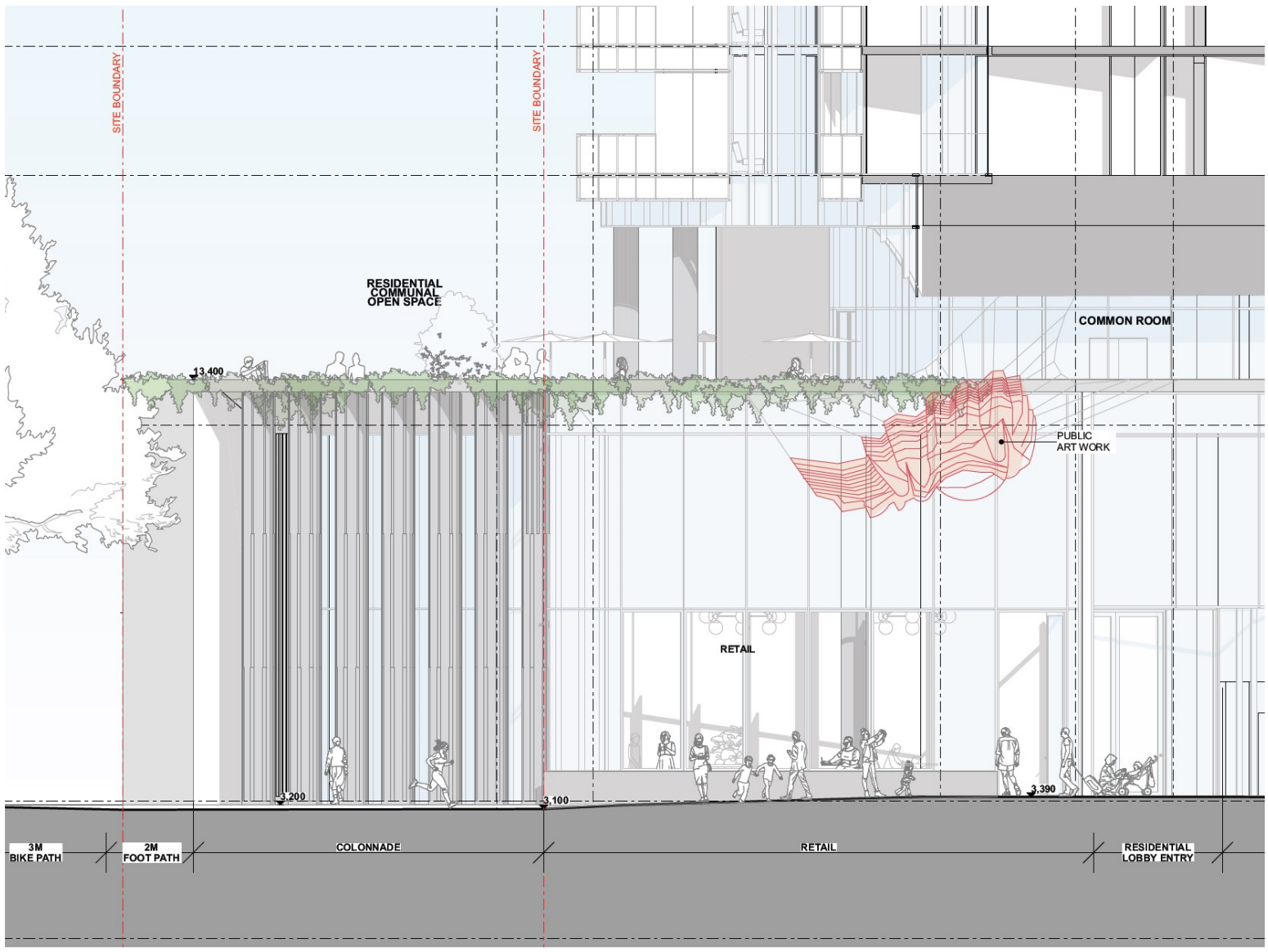
3. ILLUMINATE WITH DAYLIGHT

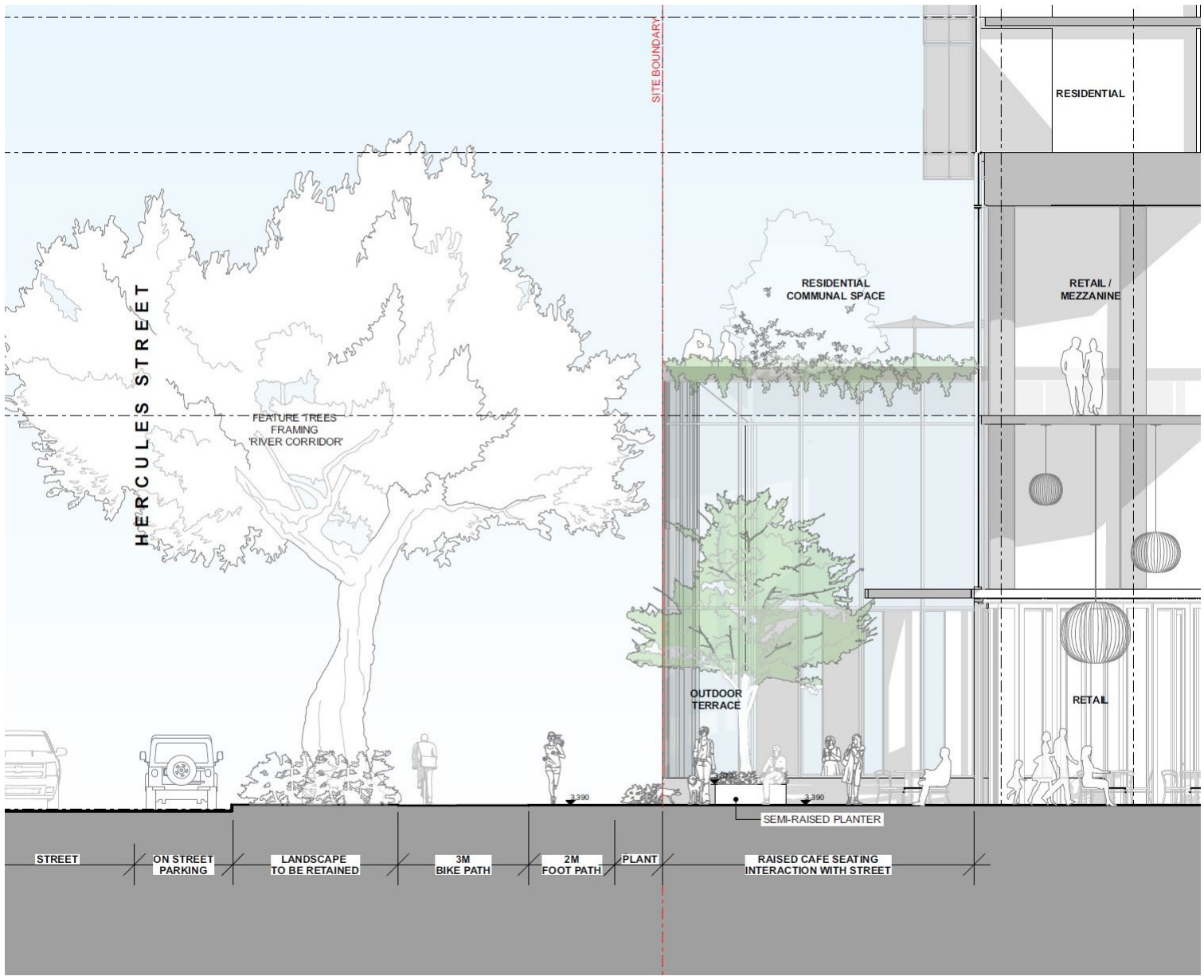
Slender split tower forms maximise daylight penetration into each dwelling. High-performance double-glazing units and floor to ceiling vision panels for a high level of light in the views are due to the large percentage of the floor plate having an aspect ranging from eastern to southern exposure. Glazing is veiled with ceramic fretting for shading. The extent of fretting/shading is scaled in response to orientation and micro climatic, i.e. more on the north than the south.

3.1 BUILDING SETBACKS

Both the podium and tower have the required setbacks from boundaries and future towers.

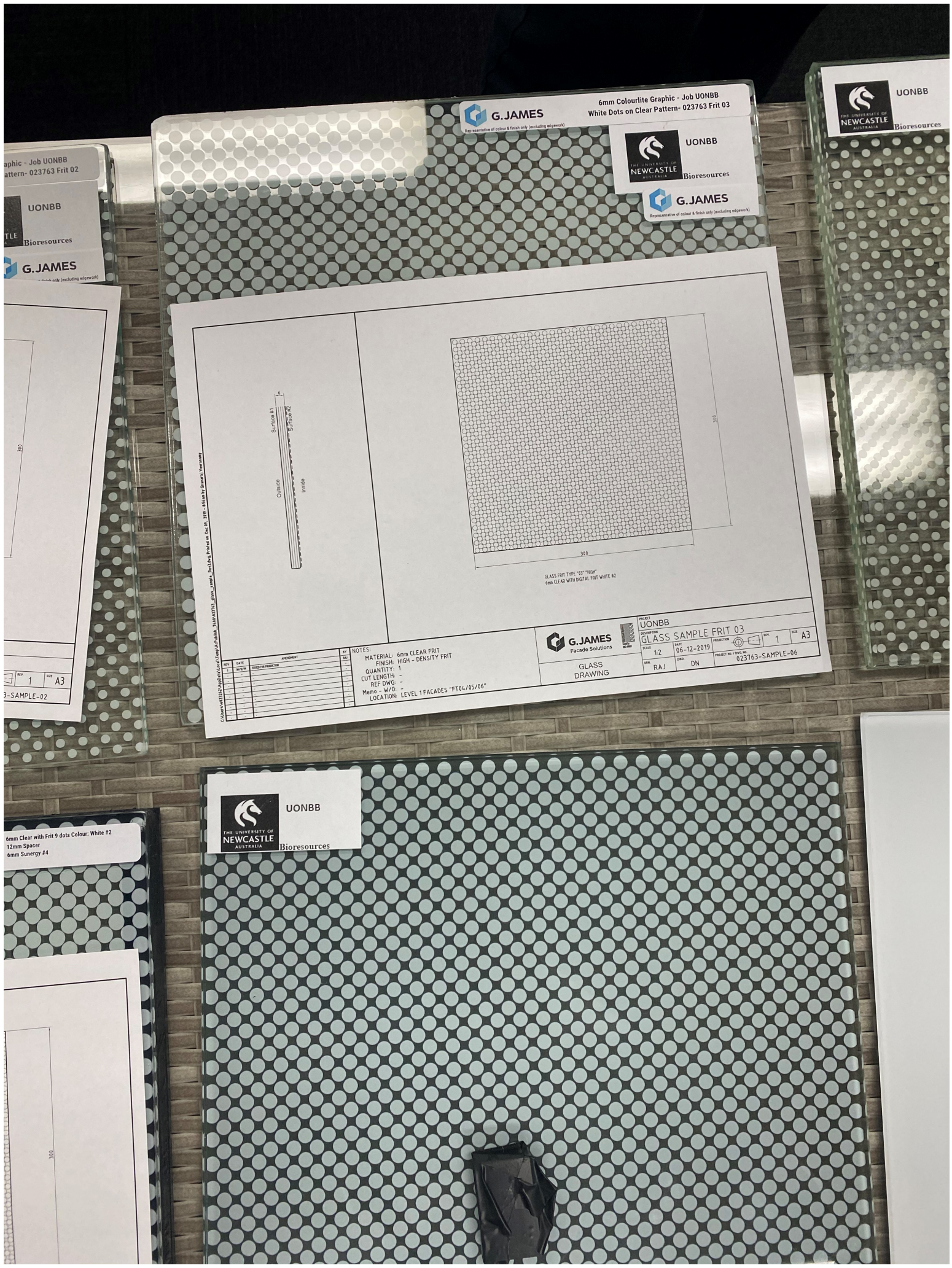




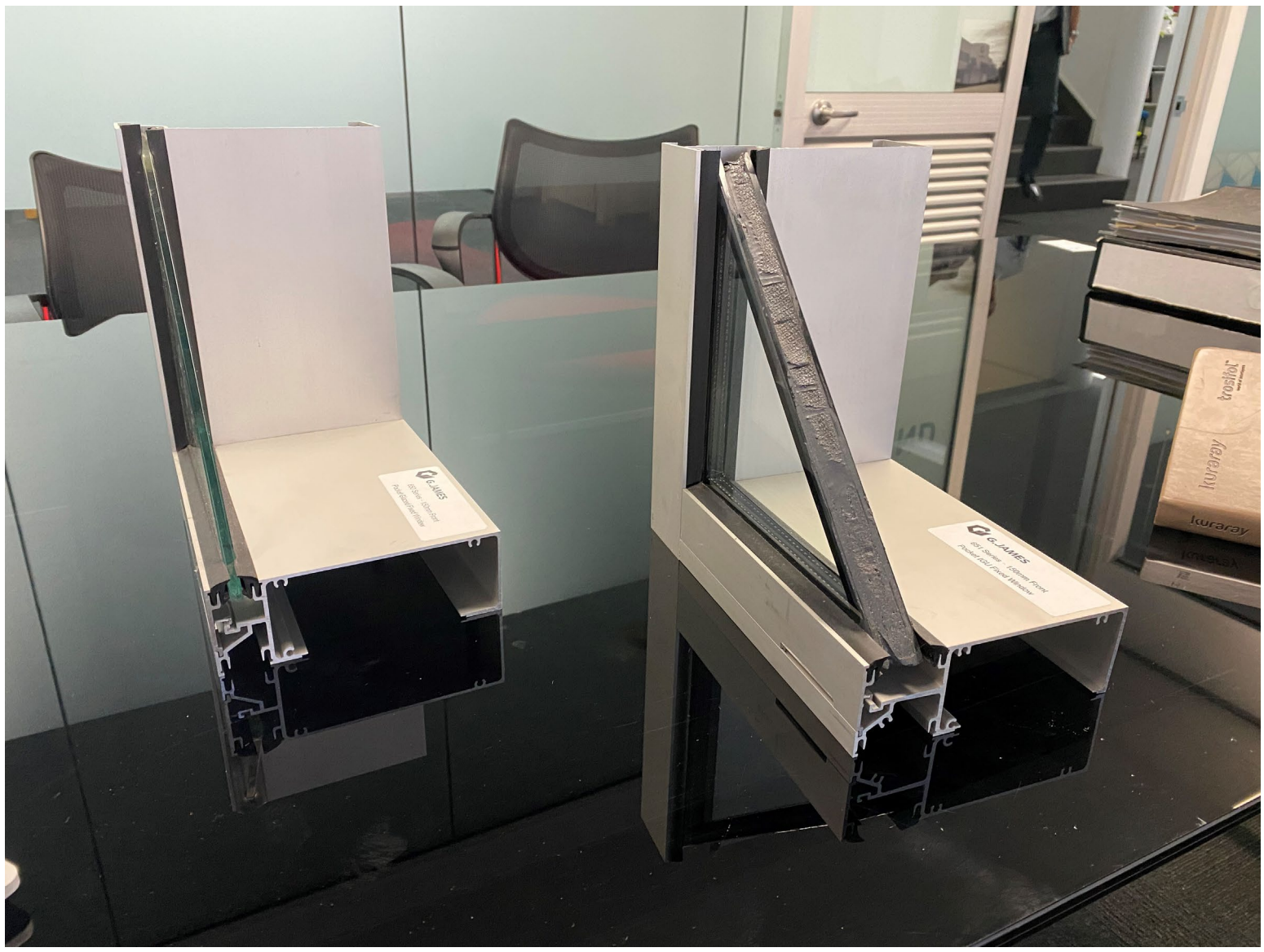


3.2 GLAZING

The glazing performance proposed is 50% VLT. Glazing is veiled with ceramic fretting for shading. The extent of fretting/shading is scaled in response to orientation and micro climatic, i.e., more on the north than the south.



Variation in fretting density



The public podium is designed as a fully active street building with a series of connected spaces. The building tower above is shaped allowing light to spill into the proposed cross-block link.

4. NATURAL AIR & VENTILATION

Platinum is designed to embrace the subtropical climate of south east Queensland. The various façades throughout the proposal are designed to open up to allow ventilation, openings are maximised to allow light in and views out. Views are protected from the western aspects.

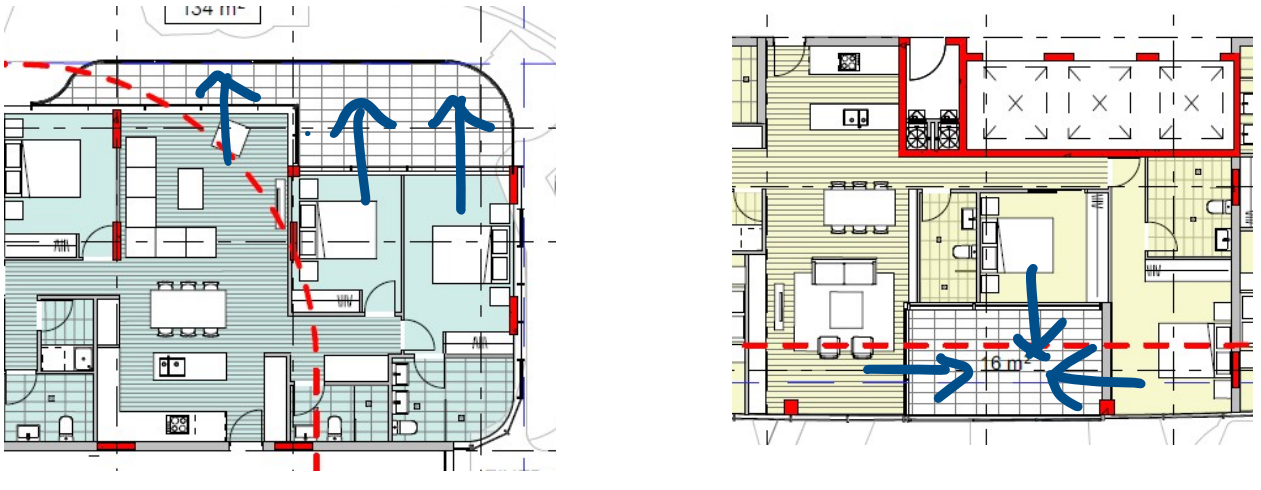
4.1 OPERABLE WINDOWS

Larger operable windows and doors to apartments are located off balconies to help shield them from the sun and wind at high levels. The balconies are shielded from the environment by the extension of the glassed balustrades beyond the slab line to create sheltered openings. These are supplemented by smaller operable awnings windows in the main window wall façade.

These façades are uniquely Queensland and allow the façade to be porous when conditions avail.

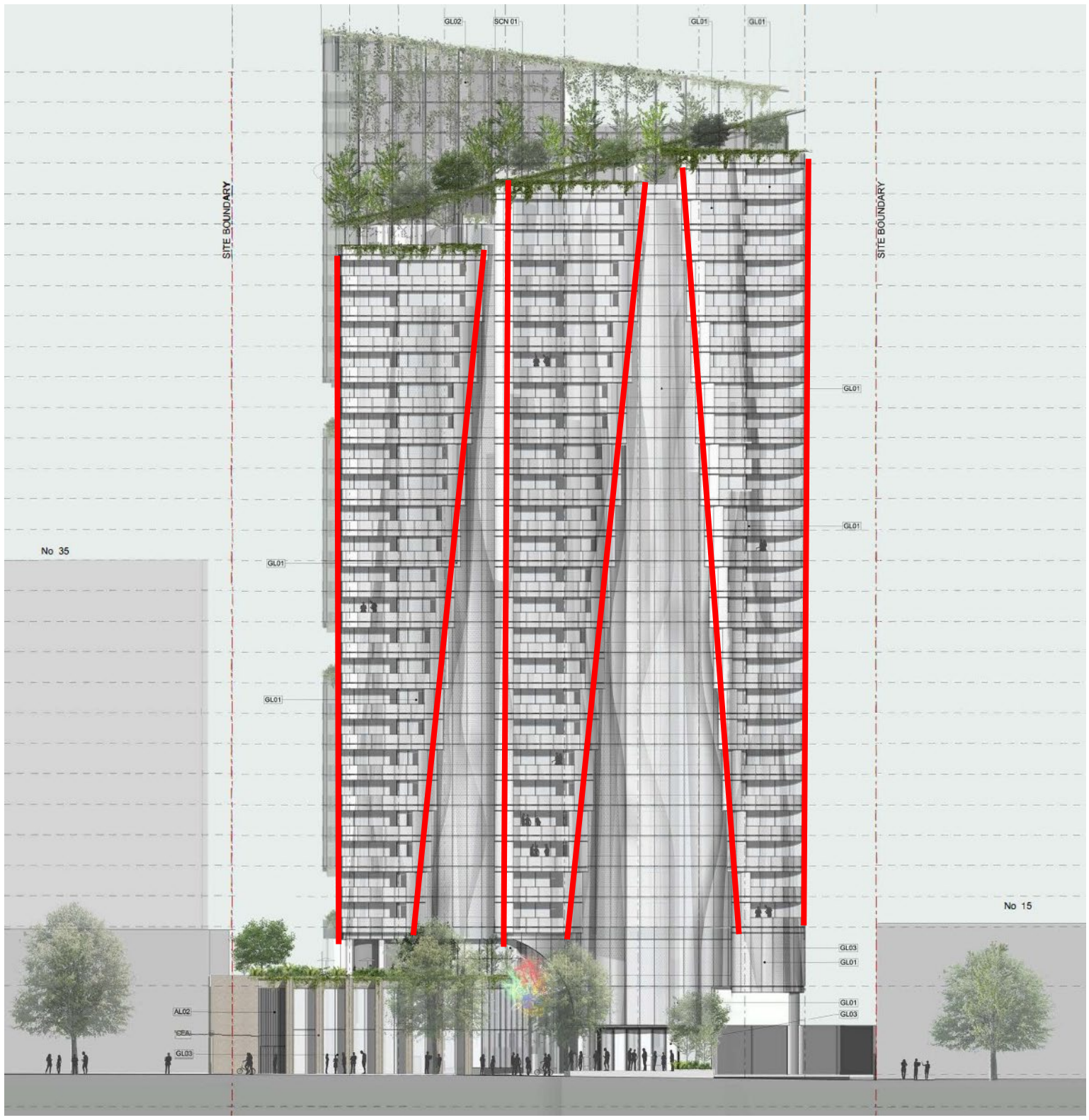
4.2 DOORS & OPENINGS

Within the podium and multiple sky gardens within the tower, openable doors are used to allow for large openings to occur that connect with the outdoor space.
The new through site links retail spaces blending with their environments to allow people to gather seamlessly between inside and out.
Larger operable windows and doors to apartments are located off balconies to help shield them from the sun and wind at high levels. The balconies are shielded from the environment by the extension of the glassed balustrades beyond the slab line to create sheltered openings.
Awning windows are used for openings in the main façade.

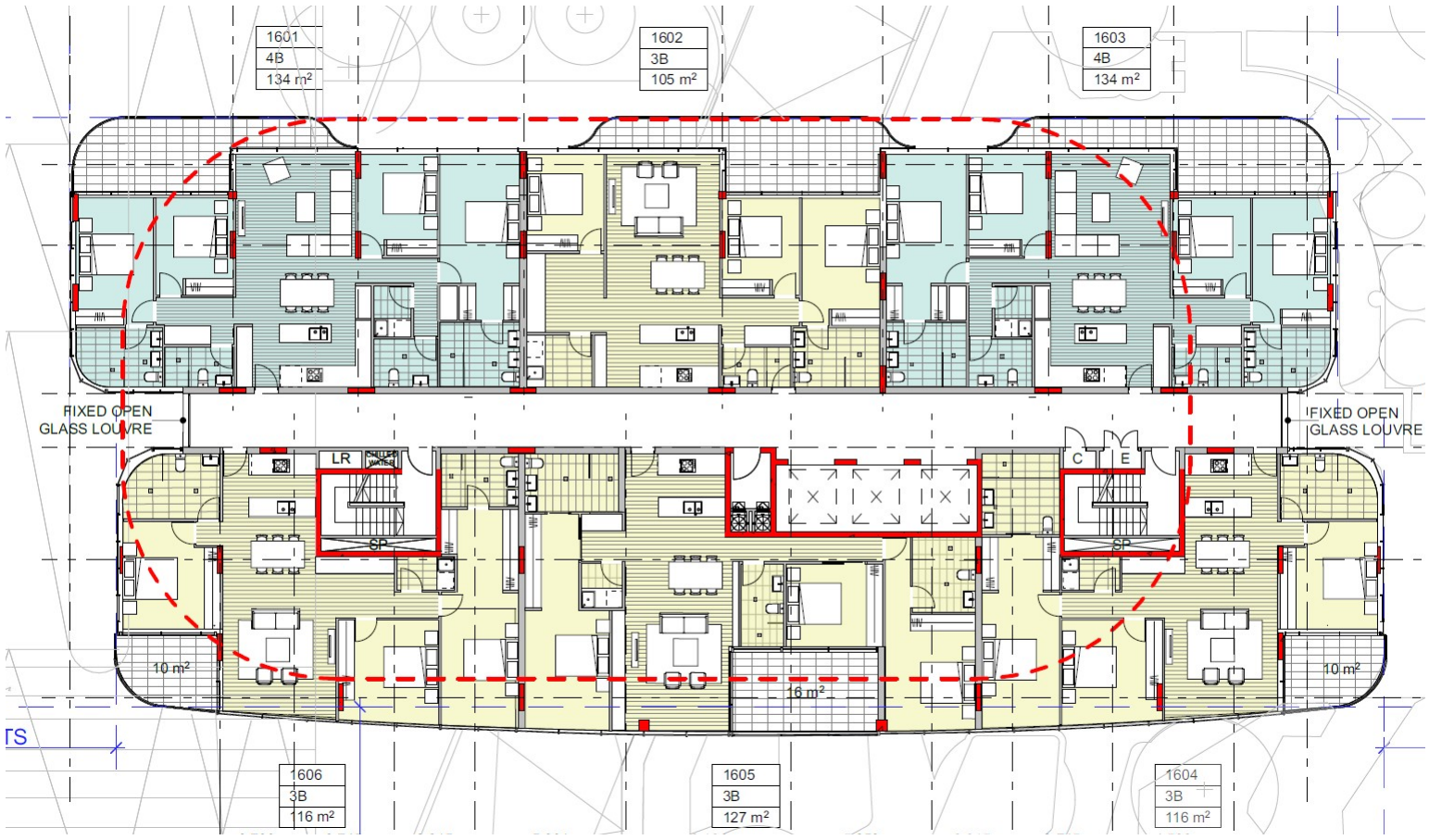


Doors and windows openings onto sheltered balconies

Balustrades extending to create sheltered external spaces

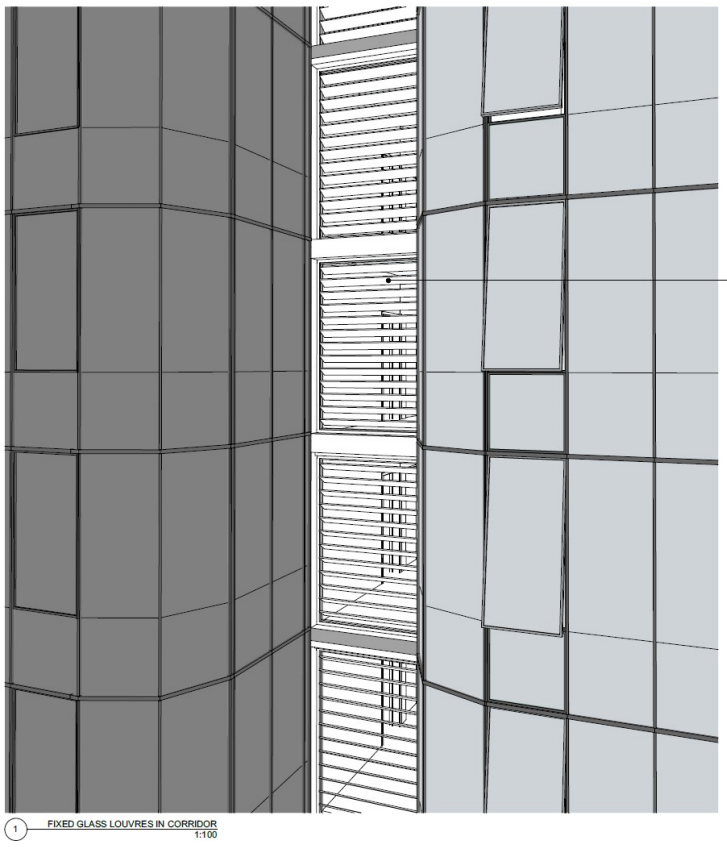


Balcony shelters become wider as you go higher in the building where apartments are more affected by wind.

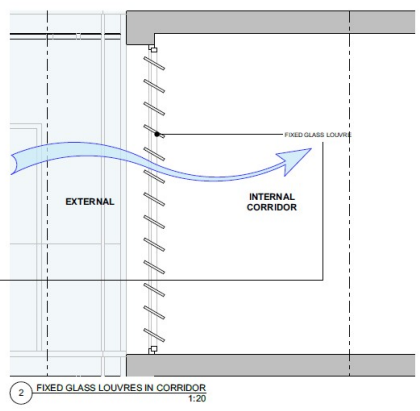


4.3 NATURAL VENTILATION

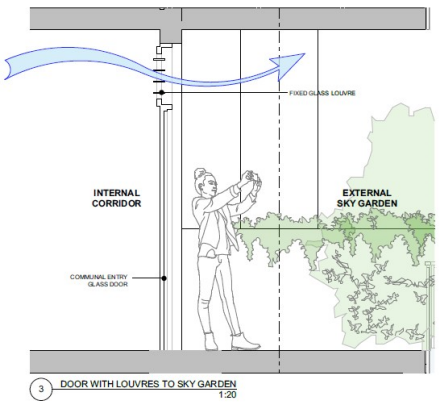
Significant energy, CO2 and operational savings exist from incorporating external sky gardens, which facilitate natural ventilation within the proposed tower (external climate permitting). The proposed development employs a mixed mode solution which uses mechanical plant during less suitable times of the year as the best way to ensure comfortable internal conditions are maintained.
A dynamic façade is proposed which alters the free areas to suit rapidly changing conditions. This approach will be developed which will likely require trickle ventilation in winter and larger openings in summer, whilst being robust against wind pressures and velocities.



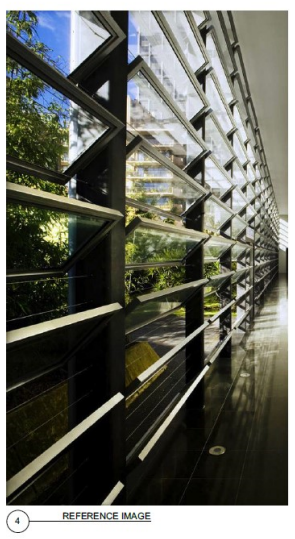
1 FIXED GLASS LOUVRES IN CORRIDOR
1:100



2 FIXED GLASS LOUVRES IN CORRIDOR
1:20



3 DOOR WITH LOUVRES TO SKY GARDEN
1:20



4 REFERENCE IMAGE

5 CROSS VENTILATION DIAGRAM
1:50

The north facade of the building acts as an environmental screen that shades the tower from solar glare and gain, still allowing residents inside views out over the city. The open seams along the north will run the full height of the tower, forming a “vertical boulevard” of stacked outdoor balconies beginning at the green foot of the building and running through to the sky terraces.
This sustainable facade system reduces the overall energy consumption of the building without any moving parts or complicated technology.
The façade is layered with:

- Fritted glass to provide sun access and better amenities to living areas
- Window Wall system incorporating Fritted glass to provide shading

All these combined elements will allow residents to enjoy Brisbane’s subtropical climate, with deep recessed corner balconies for sun-shading, combined with landscaping elements to further soften the building.

North Elevation – is defined by the projecting balconies that increase in width as you go higher

South Elevation – balconies are recessed into the form of the tower.

5.0 SHADING & PROTECT

The proposed form planning and site's proportions and aspects allows for over 70% of the development to have 4 favorable aspects towards the south and east.

Shade and protection have been conceived as an important aspect of the proposal's architecture and has the following elements that help protect occupants and public from wind and rain while creating a unique subtropical architecture.

5.1 AWNINGS & COLONNADES

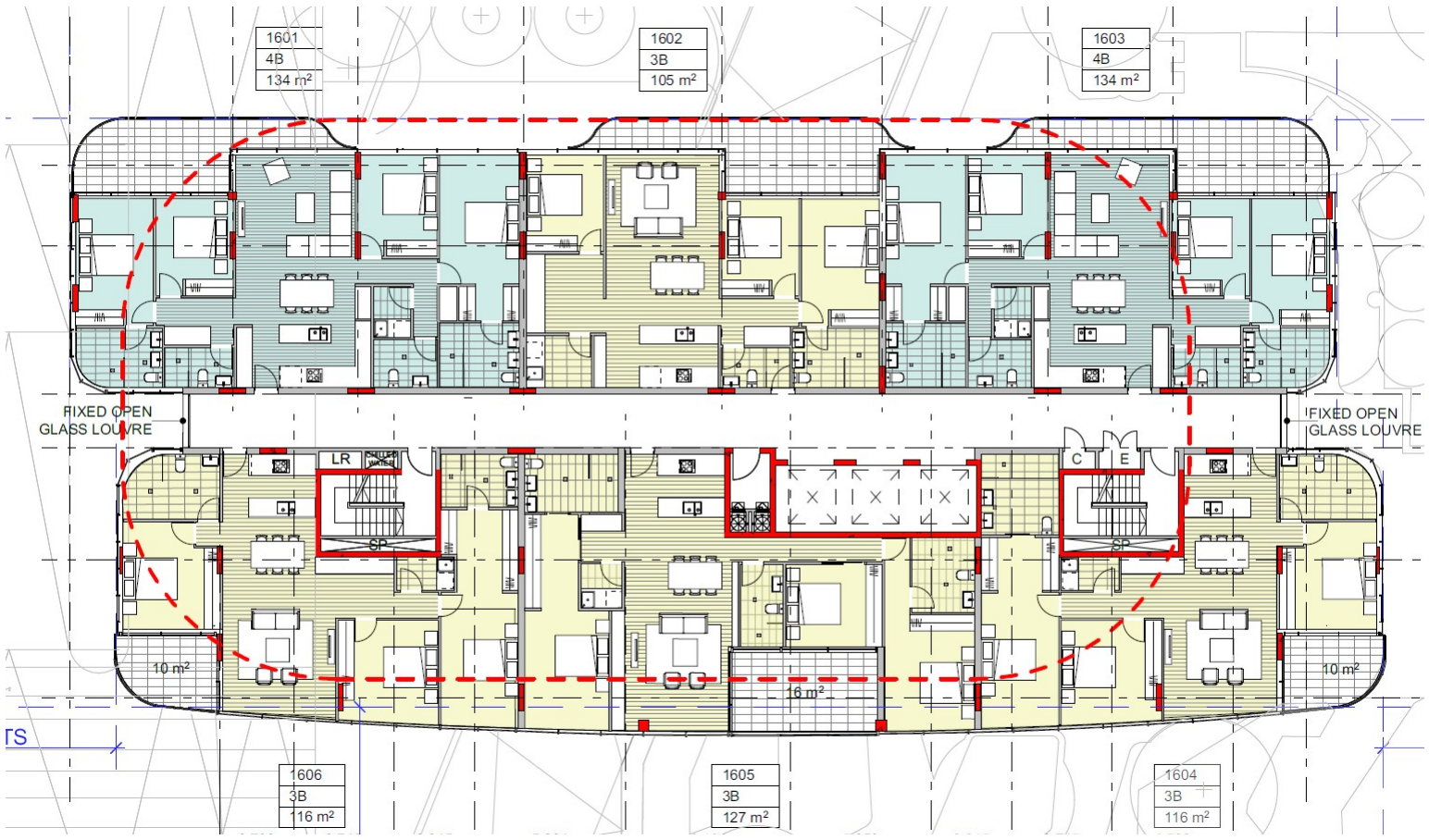
A glazed awning provides protection to part of the site where the tower hits the ground. The podium utilises a colonnade as its interface with the street.

5.2 EXTERNAL SHADING DEVICES

Baked ceramic fritting veiled over the glazing provides shading to the glazing. Balustrades extend beyond the line of the slab to protect and shade openings.

5.3 SHADE STRUCTURES

Within the two sky terraces, floor plates are organically planned to create various spatial compositions and landscaped opportunities. It is proposed that the façade is designed / shaped to deflect solar and wind. This allows occupation of the high level external spaces. Dynamic planning allows for deep recessed spaces providing protection from wind and rain creating a new micro-climate.



6. LIVING GREENERY

Living greenery is critical to the Platinum concept, capturing the essence of Brisbane as a subtropical city. The sky-garden outdoor courtyard terraces and elevated gardens create a landscape veil within the built form, delivering a truly sub-tropical development. The landscape will have a resort aesthetic that creates a sense of retreat for local families to meet and socialise. The ground-plane will bring a high level of sophistication, quality, integration and activity.

6.1 VERTICAL GREENERY

Green spaces are created throughout the sky gardens and sky terraces both in vertical and horizontal planes.
The horizontal surface either growing vertically or hanging within spaces provides a rich amenity for the occupants. The tower green spaces are afforded by multiple architectural planning shifts which significantly celebrate the various social spaces within each rise.

6.2 ELEVATED GARDENS

Fundamental to the design is the incorporation of a series of communal outdoor sky garden spaces scattered throughout the tower and private sky terraces to the homes on the upper levels.
The sky gardens afford residents the opportunity to use a shared communal area space that may be closer to their home. These sky gardens are beautifully landscaped, and allow opportunities for residents to gather and connect with immediate neighbours. These are spaces for respite, play or just be outside to enjoy the views to the Brisbane River. Ultimately it is envisioned that each sky garden will develop their own character as a reflection of the smaller community's needs and requirements that occupy those adjacent levels.
The sky terraces provide an outdoor space for entertaining and living usually associated with detached homes. This assists in providing a diversity of housing typology across the project.

6.3 INTERNAL PLANTING

Opportunity exists for internal plants in the residential lobby and enclosed communal spaces on the podium.

6.4 GROUND PLANE GARDENS

Defined by its public realm and curated retail offer, the ground-plane of Platinum will be destinational. Unique to the existing Northshore typology, it will offer a series of intimate subtropical spaces that connect with its surrounds and come together in an activated deep green square.

6.5 MAINTAIN THE GREENERY

Horizontal gardens will be accessible from the common areas for maintenance. While height and/or width restricts access, safety systems will provide ongoing maintenance. Regular inspection would be undertaken to maintain irrigation, drainage and fertilisation. Planting depths will vary depending on vegetation types but will typically range from 300 to 1000mm deep.

The planting strategy will focus on maximising horizontal planting opportunities, ensuring that plants are supported in the best possible growing environment, creating a stable, lush and low maintenance landscape. Specialist plant species have been chosen for their ability to thrive and adapt to low light and high wind environments. A mix of plants will be incorporated to ensure strength and variation in the structure of the podium planting. Allowing for plant species that have adapted to similar natural environments as that of the sky gardens will ensure a reliant plant palette that will grow and strive in an environment that requires much less maintenance than a green wall structure.

7. IDENTITY MATTERS

Platinum is envisaged as a place marker along the through site connection between Hercules Street Park and the Brisbane River. It is Platinum's ambition to capture the essence of Brisbane through its planning, form composition of spatial planning, integrated landscape, and environmental performance. All elements that embrace the subtropics and becoming an emblem for Brisbane.

7.1 CHOICE OF MATERIAL

Material pallete includes

- Two white translucent glazing on the north facade and black / tinted glazing on the south facade to reinforce contrast between the two split forms that conform the tower.
- Varied ceramic fritting baked onto the glazing glass on the facades to create the illusion of movement.
- Translucent white glazing balconies with varied shapes and areas provide an environmental drape on the north facade of the building.
- Aluminium screen at the top of the building resulting in a three storey green roof that articulates the top of the tower, provides better amenity to upper units and greater diversity of dwelling types.
- Light weight mirror finish soffits create a vivid connection between the sky gardens and the public domain reflecting the greenery and activity at the sky gardens.

7.2 LONGEVITY

All materials selected, being stone, steel, concrete and glass, result in a minimal palette which is selected for its durability and ease of maintenance. The careful curation of material and colour selection will ensure the building will age gracefully.

7.3 PUBLIC ART

It is proposed that the public art be curated and be authentic to its place. We propose the public art to be intertwined into the through site link space below the tower. The artwork will reinforce Queensland Artists within the proposed public space and various spaces being the cross-block link and Burnett Lane.

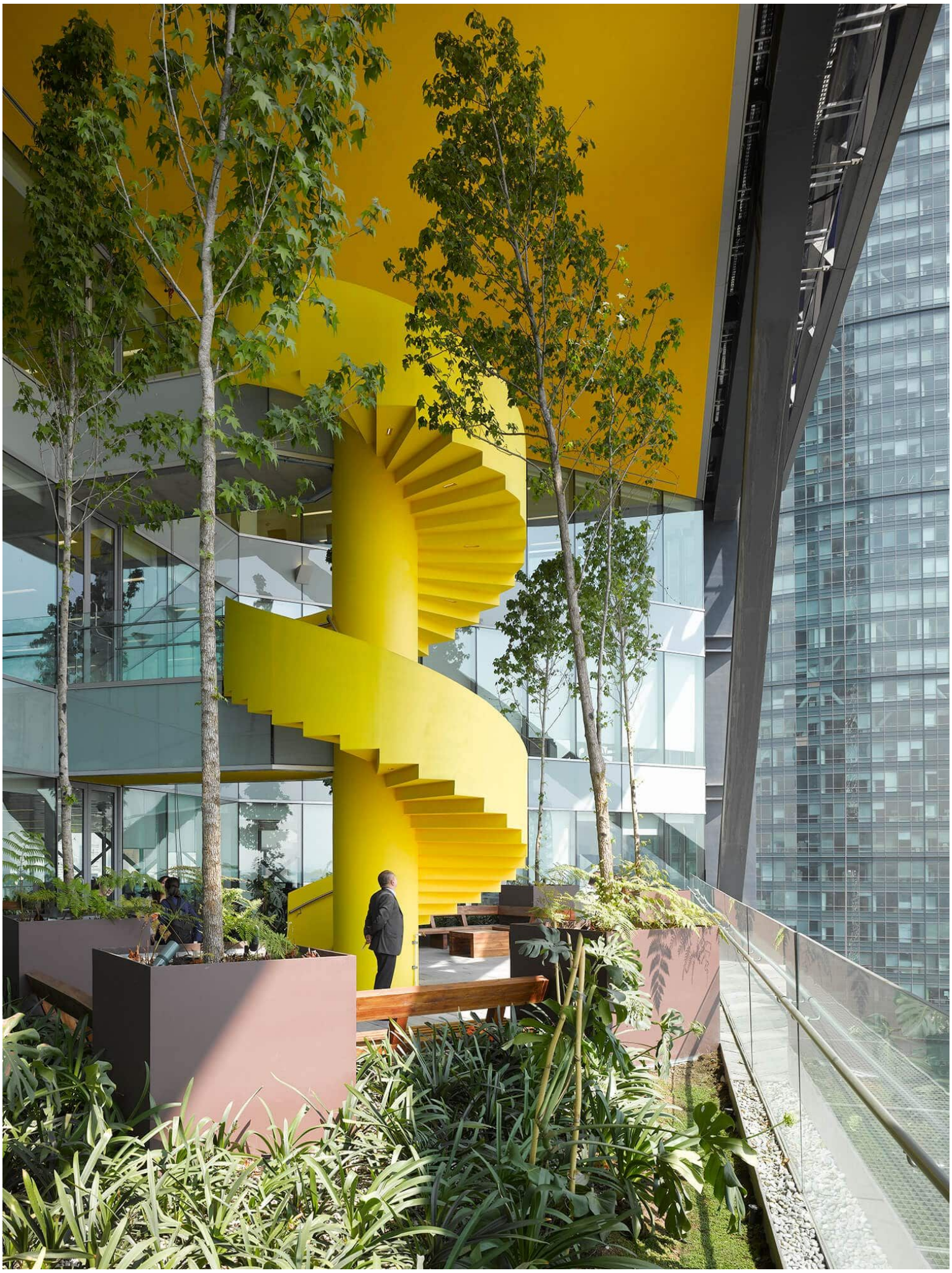
7.4 CREATIVE LIGHTING

Lighting of the ground floor link, podium, the sky gardens and sky terraces will be designed and integrated to celebrate the civic nature of the development.
The external lighting of the various tower terraces and landscaping within will also be a significant gesture in the skyline of Brisbane city.

Warm, relaxed, inviting spaces. Inclusion of subtle warm lighting throughout the landscape.
Spaces will set the tone for how these spaces are primarily used as a respite destination.
Subtle uplighting and overhead catenary lighting sets a beautiful scene, not only from within the space, but also how the space offers a relaxed outlook from within the private residential spaces, as well as the view from down on street level. Lighting on the Mezzanine level will have a different twist on the other three levels, with a strong focus on entertainment and unique features.
The sky gardens also intend to have vertical, outdoor 'community gardens', which is recommended to include horticultural grow-lights.

8. REDUCE ENERGY & WASTE

Green spaces are created throughout the sky gardens + sky terraces both in vertical and horizontal planes.
The horizontal surface either growing vertically or hanging within spaces providing a rich amenity for the occupants. The tower green spaces are afforded by multiple architectural planning shifts which significantly celebrate the various social spaces within each rise.



8.1 ENERGY & TECHNOLOGY

Environmental and sustainable design initiatives have been applied to properly address the Brisbane climate and site constraints. Some key ESD features considered in the design include:

- Deep balconies, defined by translucent white glazing on the north facade provided shade and minimise heat gains in the summer,
- Operable windows and sliding doors maximise ventilation and take advantage of cross ventilation to corner units,
- Individual split air-conditioning system is adopted throughout the development, offering high energy efficiencies by providing individual climate control to each unit,
- All general lighting within internal common areas will use energy efficient LED fixtures controlled by PIR sensors (excluding architectural feature lighting)
- High performance glazing
- High efficiency air conditioning systems
- An energy metering system

8.2 WASTE & WATER

Water will be collected and stored in a rainwater tank for use on the significant landscaping that has been included in the design. Grey water will also be collected for use on landscaping.

Provision will be provided for suitable collection of waste including:

- Compost in communal gardens
- Co-mingle recycling
- Dedicated chutes to maximize recycling from building occupants
- Large appliance storage for reuse or recycling
- During construction, 90% or above of construction waste will be diverted from landfill.
- Stormwater management to reduce pollutants in drain discharge

8.3 ACTIVE TRANSPORT

The site takes advantage of all forms of public transport in close proximity.

The Kingsford Smith Drive riverside promenade and cycle path now links Portside to the Brisbane CBD with the proposed development encouraging bicycle use by providing accessible bike store for both patrons and residents. Ferries are available on the Brisbane River.

OTHER ENVIRONMENTAL SUSTAINABILITY ISSUES COMMITMENTS

a) water use / collection / savings / re-use
b) deep planting and, for example, provision of root space in basement parking (as detailed in the Urbis Lanscape Design report)
c) 5 star rating systems air-conditioning systems to be installed in addition to fans to living areas
d) energy use / metering / sharing – individually smart metered apartments
e) electric charging points are to be provided for select vistor car spaces, with the infrastructure established for home owners to extend power to personal car spaces to install their own charging station
f) solar panels are to be inciporated where possible on the podium buildings