

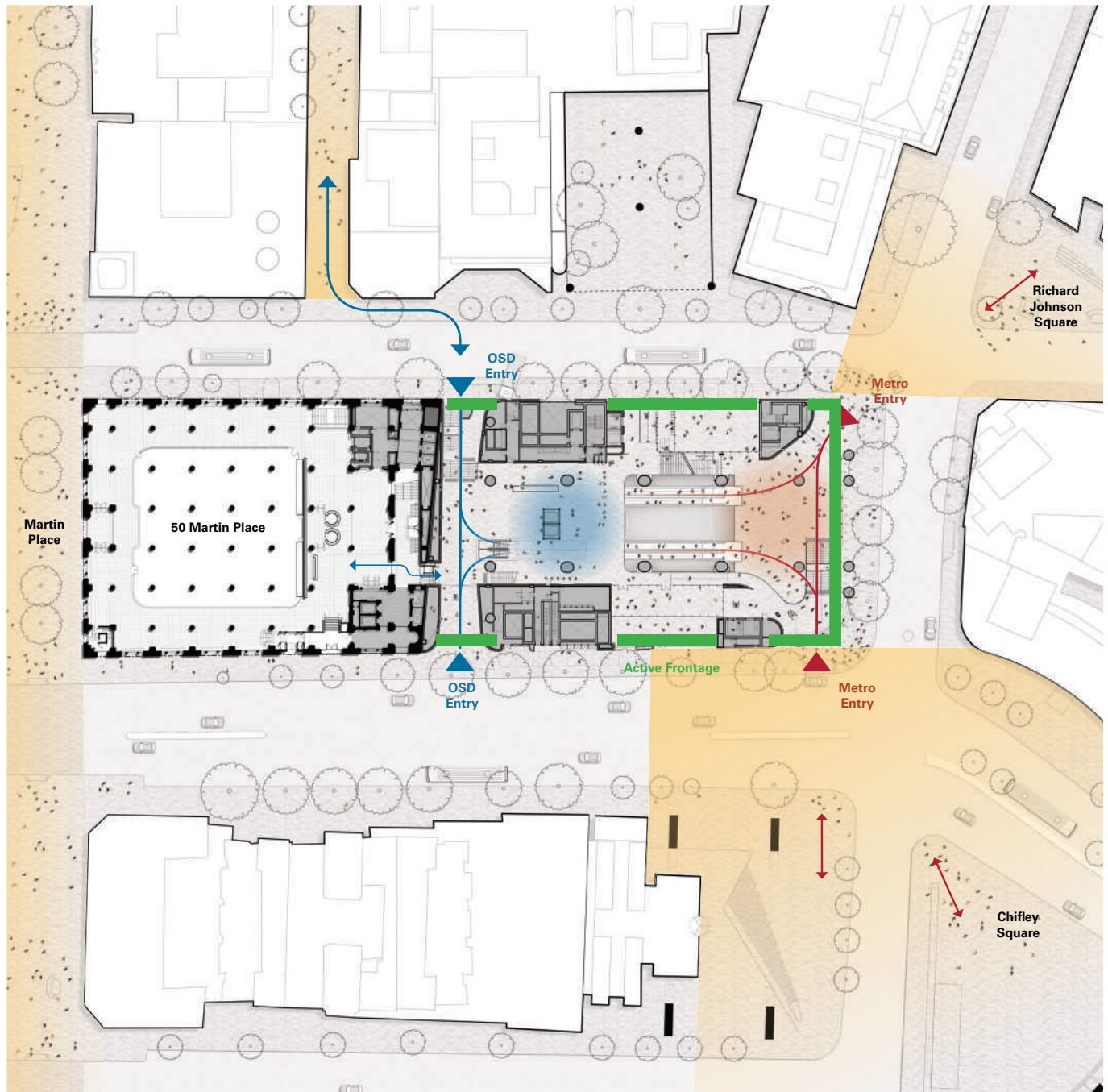
Chifley Square and Richard Johnson Square

The design recognises Chifley Square and Richard Johnson Square as important public open spaces and has a positive impact on their definition and activation.

At the scale of the skyline, the tower serves as marker for these important public spaces as well as marking the changing street grid from the original city grid.

In the urban context, the use of zero setbacks and “reverse” podium alongside neighbouring towers on Hunter Street, forms a strong southern edge to Chifley and Richard Johnson Squares. Defining the edge of the public space, the tower form provides a sense of enclosure to Chifley Square and Richard Johnson Square.

Strong physical and visual connections between these spaces and the North Tower are created for pedestrians. Diagonally symmetrical northern corners of the North Tower directly address Chifley Square and Richard Johnson Square and Metro entries are located at these corners to maximise pedestrian flow and connection to the key public spaces. This is designed to encourage their use as both a destination and meeting place for pedestrians.



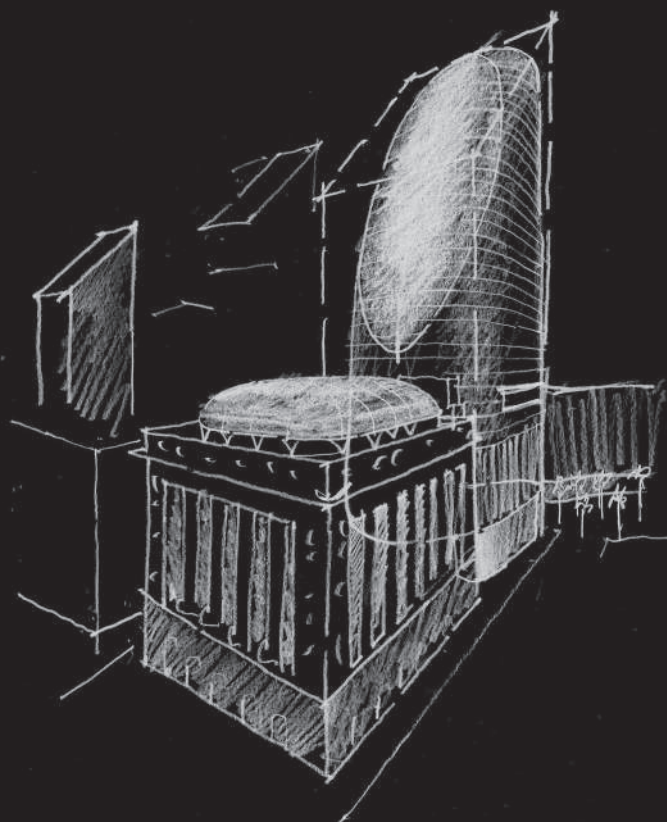
Rendered ground plane

Ground Plane Activation

The design of the North Tower ground plane maximises street level activation and pedestrian connections to surrounding public spaces. It improves site permeability and promotes a convergence of OSD and Metro activities while providing clearly separate entrances for both, and the ground plane is completely open to the public during business hours.

Active street frontages are maximised with a mix of OSD entries, Metro entrances and retail openings along the three street facades. The design also works hard to consolidate Metro services and stack them vertically to minimise impacts on the public domain. An elevated tower reception and lift lobby allows for the suspension of the lift pits above the ground plane which further extends the openness and activation of the ground plane on Castlereagh Street.

The design provides two new east-west connections between Elizabeth Street and Castlereagh Streets which improves the permeability of this city block. The mid-block connection provides access along the southern end of the site connecting to the elevated reception and lift lobby. The two Metro entrances along Hunter St provide a universally accessible through site link along the northern end of the site.



Environmental Amenity

The proposed design has made improvements from Stage 1 SSD DA envelope as a result of modelled corners and overall height.

Solar -

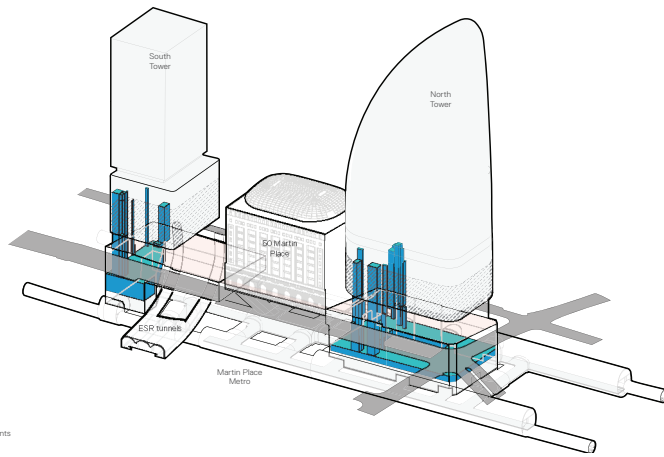
- + The solar impacts of the proposed design have been tested by Virtual Ideas through 3D modelling and analysis. Refer CSWSMP-MAC-SMA-UD-REP-000360 and CSWSMP-MAC-SMA-UD-REP-000370. This analysis has compared the proposed design with the existing condition and approved Stage 1 SSDA envelope.
- + The built form of the North Tower is contained fully within the Sun Access Plane for Martin Place and the analysis demonstrates an improved solar access outcome when compared with the approved Stage 1 SSD DA envelope. In relation to the specific Stage 1 SSD DA condition, the proposed design has reduced the area of shadow cast on Martin Place between the hours of 12 and 2 pm (14 April) by 19.1% when compared to the shadow cast by the approved building envelope,

Wind -

- + The wind impacts of the proposed design have been tested by CPP through 3D modelling and analysis. Refer CSWSMP-MAC-SMA-UD-REP-000380. This analysis has compared the proposed design with the existing condition and approved Stage 1 SSD DA envelope.
- + The aerodynamic form moderates wind impacts at ground level and the analysis has demonstrated that the Stage 1 SSD DA condition requiring the improvement to comfort and safety ratings to be comfortable for at least pedestrian standing at station entries has been achieved

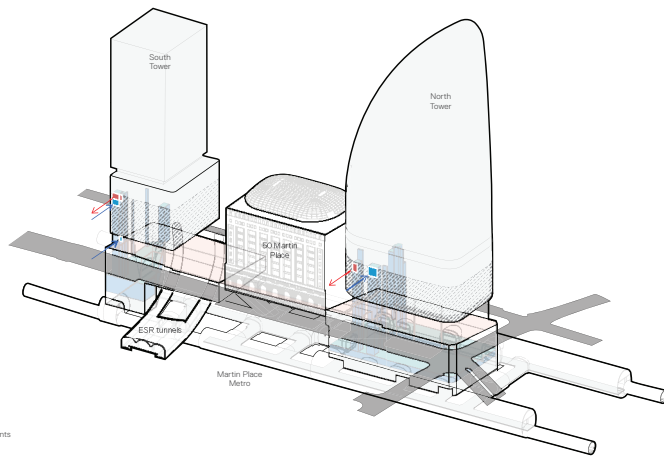
Views -

- + The view impacts of the proposed design have been tested by Arterra through 3D modelling and this has been analysed in the Visual Impact Assessment report been prepared by Tzannes. Refer CSWSMP-MAC-SMA-UD-REP-000400. This analysis has compared the proposed design with the existing condition and approved Stage 1 SSD DA envelope.
- + The built form of the tower is contained fully within the approved Stage 1 SSD DA envelope and does not fill the full extent of it. The analysis demonstrates an improved visual impact outcome when compared with the approved envelope.



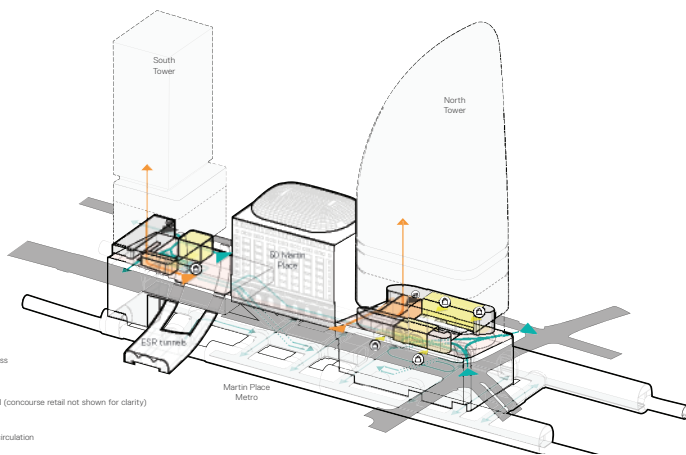
Services Integration

- + Above ground station services carefully concealed and integrated into the facades.
- + Intakes and discharges vertically stacked at the southern corners of the building away from Metro entrances and public spaces.
- + Services are distributed vertically in the tower to minimise ground level impact.
- + Minimised impact on the architecture and public domain.



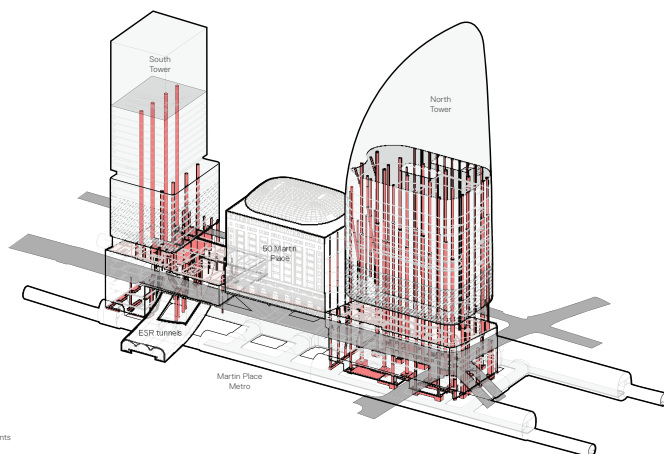
Facade Integration

- + Grilles and louvres are consolidated into regular vertical columns.
- + Above ground station services carefully concealed and integrated into facade.
- + Intakes and discharges vertically stacked along east and west facades at south end of building.
- + Minimised impact on the architecture and public domain.



Pedestrian Flow Integration

- + Clear separation of Metro and OSD entrances.
- + Minimising cross-flow between Metro customers and OSD occupants.
- + OSD lobbies have distinct street addresses.
- + Open plaza below the North Tower improves pedestrian flows.
- + Mid-block connection created.
- + Elevated lift lobbies keep ground level clear for activation and circulation.



Structural Integration

- + Highly integrated structure to avoid transfer slabs.
- + Column arrangement optimised for tower and station, and side core, to allow central atria into the Northern Metro areas.
- + Side core arrangement for clear open floor plates.

Metro Station Integration

The larger site (through the inclusion of 9-19 Elizabeth Street) and the integrated approach to the design of the Metro Station and OSD maximises opportunities and benefits for the Metro Station. The result is grander, more civic scaled station entrances that can accommodate future pedestrian demands and ensure easy and safe interchange for pedestrians, with seamlessly integrated workplace above.

The integration also allows for a more sensitive and nuanced integration of the station entrances into the major civic spaces of Martin Place to the south and Chifley Square and Richard Johnson Square to the north.

The North Tower features an elevated reception together with suspended lift shafts over Castlereagh St, thereby allowing retail units to sit under the elevator core. Access to the commercial lobby for the North Tower is via the proposed through-site connection alongside 50 Martin Place. This strategy allows the corners on Hunter Street at Elizabeth Street and Castlereagh Street to be dedicated to the Metro station access.

The integrated development allows the consolidation of Metro services with North Tower services resulting in a coordinated approach which minimises intrusion of services into the public domain. With the priority to activate the streets and provide through-site connections, the space available for the large service ducts, fire exits and access lifts is very constrained. The scheme minimises the impact of Metro services on the public domain. Plant/BOH zones for tower and Metro are consolidated and primarily located below ground to minimise street presence. The scheme locates the service risers in the parts of the site that have the least value to the activation and amenity of the public domain. To allow for the inclusion of generously scaled spaces in the round levels of the building, the Metro plant rooms and outlets are stacked vertically to minimise the footprint in the publically accessible lower levels. This approach also allows the exhaust outlets to be carefully concealed in the façade design, positioned well above the street.

Daylight access is maximised by levating built forms above ground level where possible - including suspended lift pits, mezzanine reception floor and "reverse" podium arrangement long Hunter Street. These allow daylight access to the Metro areas and create a visual connection between platform and street levels. The "reverse" podium arrangement on Hunter Street, in particular, allows views and daylight penetration down to the Metro station levels.



PLANT LOUVRES

SINGULAR TOWER-TO-GROUND
FORM

PLANT LOUVRES WITHIN FLAT
FACADE AREAS

FACETED GLASS TOWER

PLANT LOUVRES WITHIN FLAT
FACADE AREAS

RECESSED TERRACES

PODIUM TAPERING FINIS

REVERSE PODIUM
TOWER SOFFIT

AWNINGS
PODIUM BASE

Facade

The North Tower design has been developed to reinforce and strengthen the building's key design principles while also integrating services and buildability requirements. The facade is informed by the considered transition between two key components - the glazed tower form in direct response to the surrounding tower typology of Hunter Street; and the solid podium base in response to the character of 50 Martin Place. The tower-to-ground and podium are differentiated through facade details, recessed articulation and alignment with 50 Martin Place.

The tower expression is of faceted, curvilinear glazing panels echoing the glass dome of 50 Martin Place. The resulting organic form will be clad in curtain wall system, horizontally articulated at each floor level. The cladding geometry is resolved to almost entirely flat, four-sided glass panels to create a beautifully faceted reflective form, reminiscent of a cut gemstone. Reflections on the faceted panels give shape and movement to the form.

The tower is clad in two contrasting glazing types which respond to the building's internal programme and contribute to the distinctive external appearance. Reflective glass around the typical office floors supports the workplace environment with moderate daylight and minimised glare, accentuating the building's curvilinear form and faceted cladding.

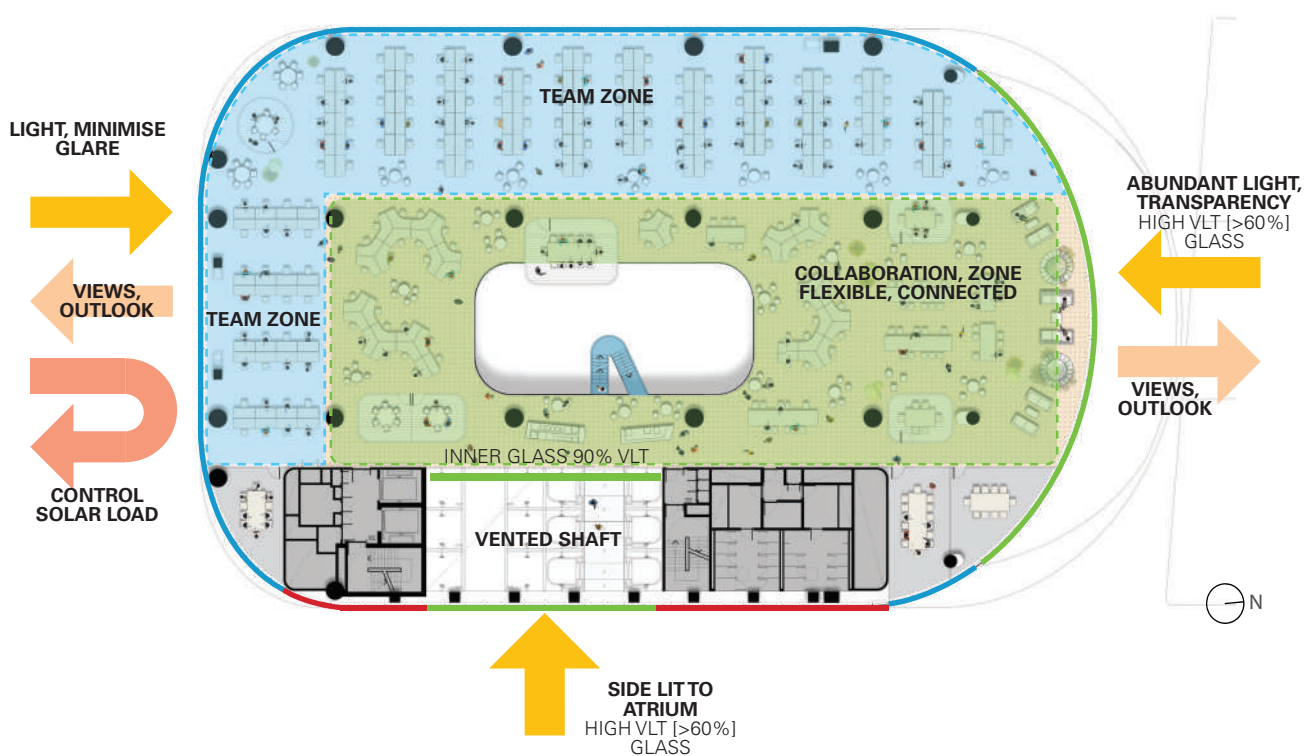
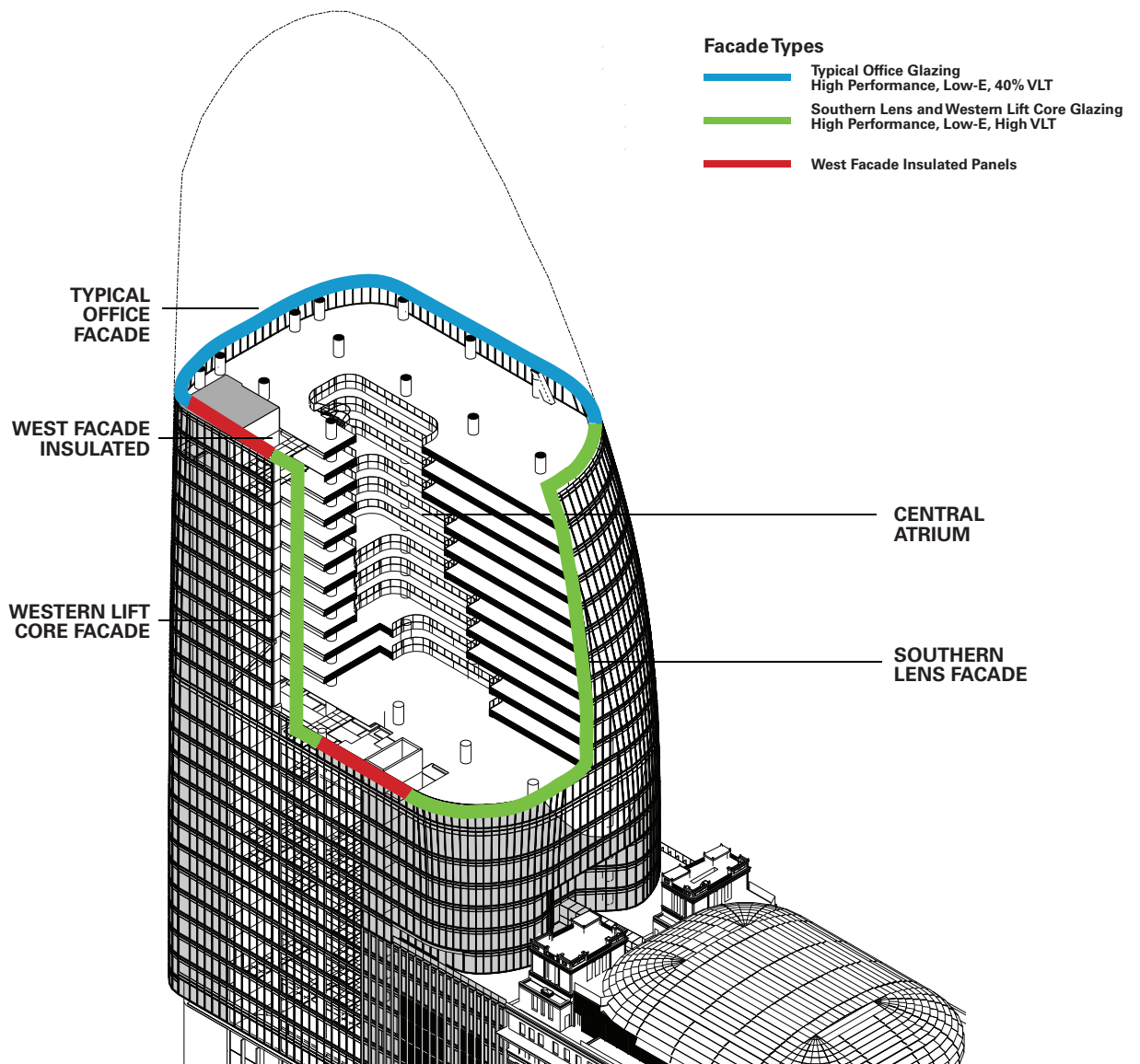
The southern lens facade in contrast, is clad in high transparency and high visual light transmission (VLT) glass to maximise daylight and views from the southern end of the floors. Integrated horizontal sunshading projections control glare and solar heat gain at the upper levels. The western Castlereagh St facade enclosing the lift shafts is also clad with high VLT glass to allow high levels of daylight to side-illuminate the central atria that connect the building's low and mid-rise.

The tower-to-ground form is clearly expressed at both Hunter Street corners, facing Chifley and Richard Johnson Square and the "reverse" podium aligns with the two towers to the east.

On Elizabeth Street and Castlereagh Street elevations the tower extends the streetwall character of 50 Martin Place by expressing a podium consisting of solid masonry base elements; a screen of vertical fins concealing louvre banks laid over the tower glazing between Levels 2 and 9, terminating to recessed terraces at Level 10. This integrated composition reinforces the predominant street wall height established by the 50 Martin Place parapet and articulates a podium distinct from the tower on Elizabeth Street and Castlereagh Street.

Consistent and complementary materials in a family of colour and hue ensure the whole is understood as an integrated composition. Precinct-wide consistency is created through the use of similar stone and metal finishes across South Tower, North Tower and 50 Martin Place.

The following pages discuss the key components of the tower and podium curtain wall facade systems.



Facade

Large Floorplate, Diverse Environmental Qualities

The external appearance, material selection and the articulation of the tower facade specifically responds to Macquarie's workplace criteria, energy efficiency and solar orientation. As a result, the adopted facade system includes a mix of high performance glass, highly transparent glass and external sun shading.

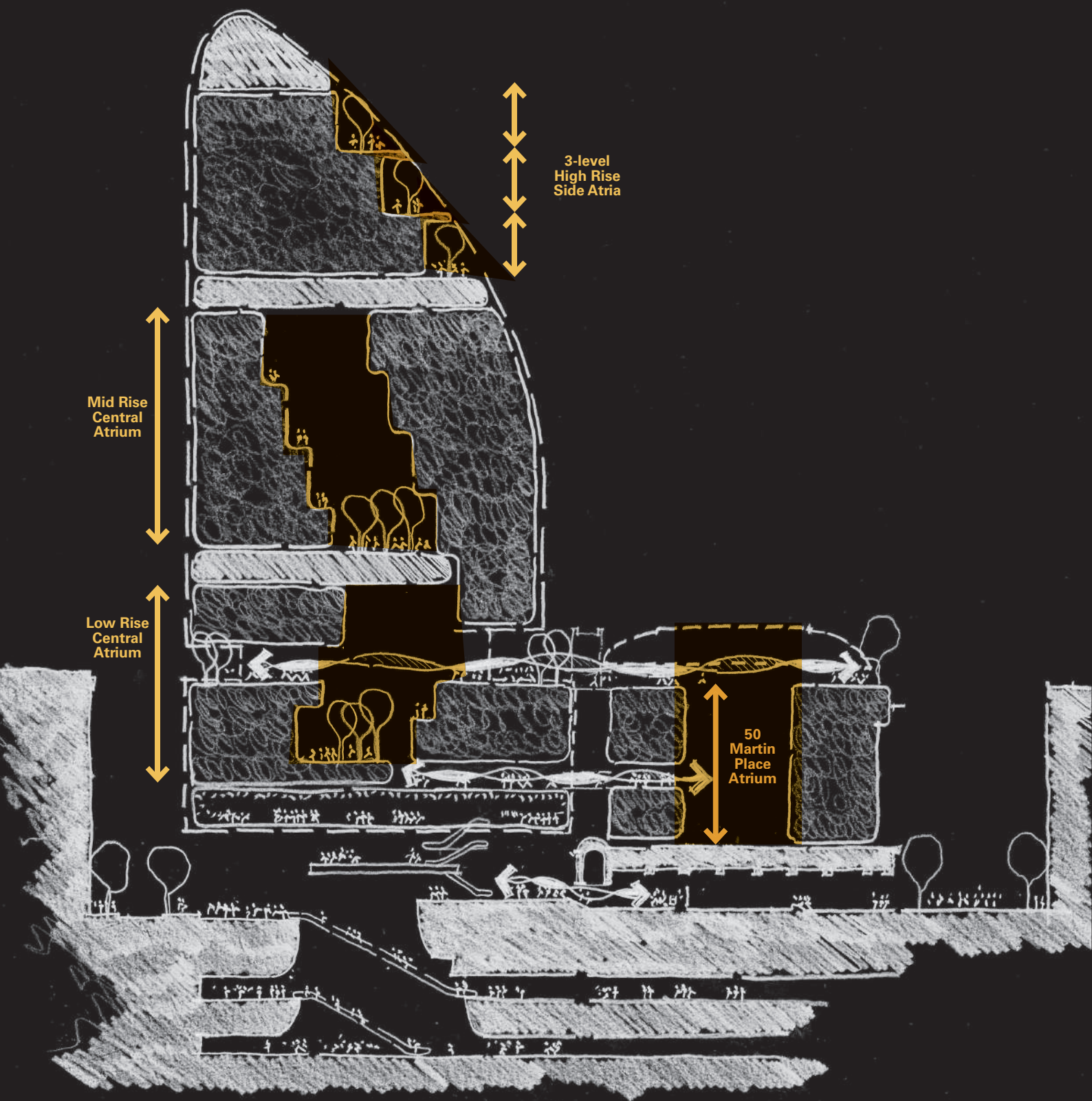
This hybrid solution is developed out of a detailed consideration of alternative facade materials and assemblies that were evaluated against Macquarie's workplace criteria:

- + Large, regular, open floor plates with clear lines of sight.
- + Diverse daylight levels across the large floor plates to provide a variety of environmental conditions.
- + Daylit side-lit atria in the low and mid-rise to physically and visually connect communities of approximately 10 floors.
- + A passive chilled beam mechanical system with fresh air reticulated and delivered at floor level as a combined system that delivers premium internal air quality, occupant control and energy efficiency - consistent with 50 Martin Place and considered best-in-class.
- + Prioritise unimpeded perimeter views with floor to ceiling glazing, avoiding external fixed sun shades.
- + Minimise blind use for thermal control (glare control only).

In response to Macquarie's workplace brief the North Tower floor plate is designed to offer a diverse range of environments that support flexible work styles. This approach is informed by the 50 Martin Place workplace and the North Tower is designed to meet Macquarie's aspirations for its future workplace.

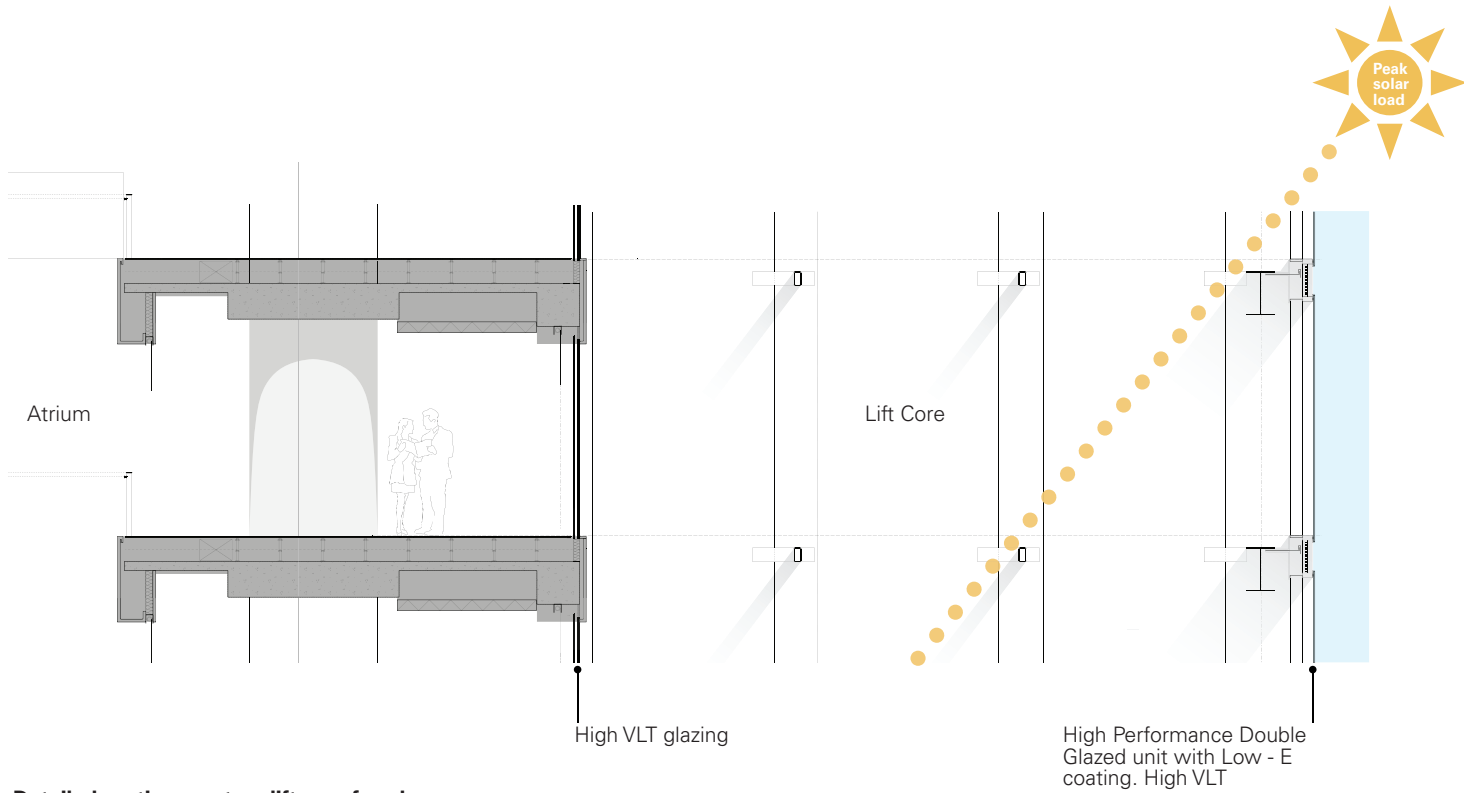
The proposed office floor plates are large and adaptable with a side-lit core and high levels of natural daylight and air quality. The large floorplates with varied VLT facade conditions and central atria (or side atria in the high rise) will offer a wide range of distinctive work areas. This will encourage mobility by providing distinct work environments across the floor.





Atrium Strategy

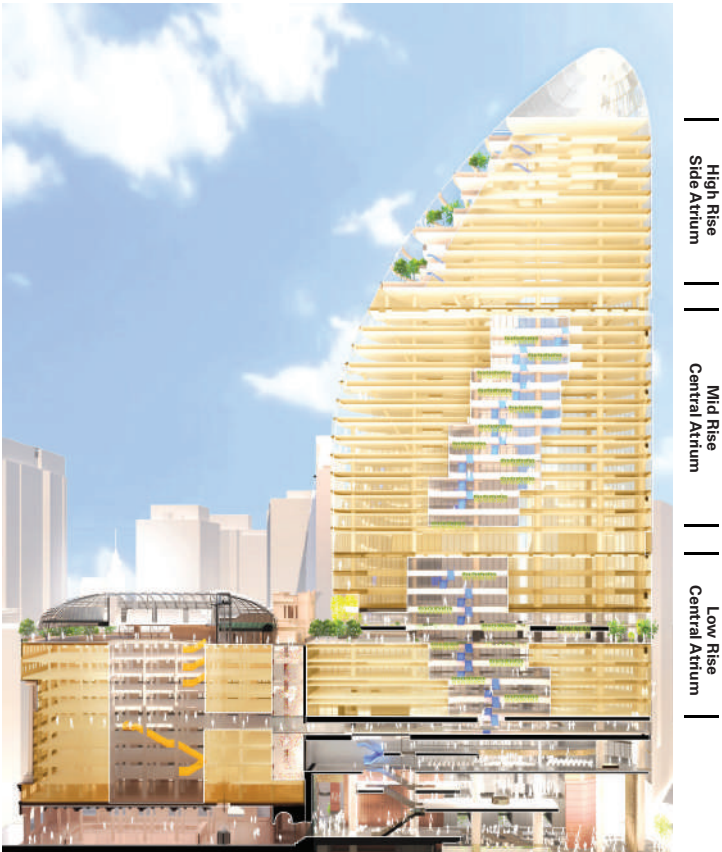
The successful 50 Martin Place atrium is the brief reference for the North Tower atria



Detailed section western lift core facade



Western lift core facade



Section showing distribution of atria

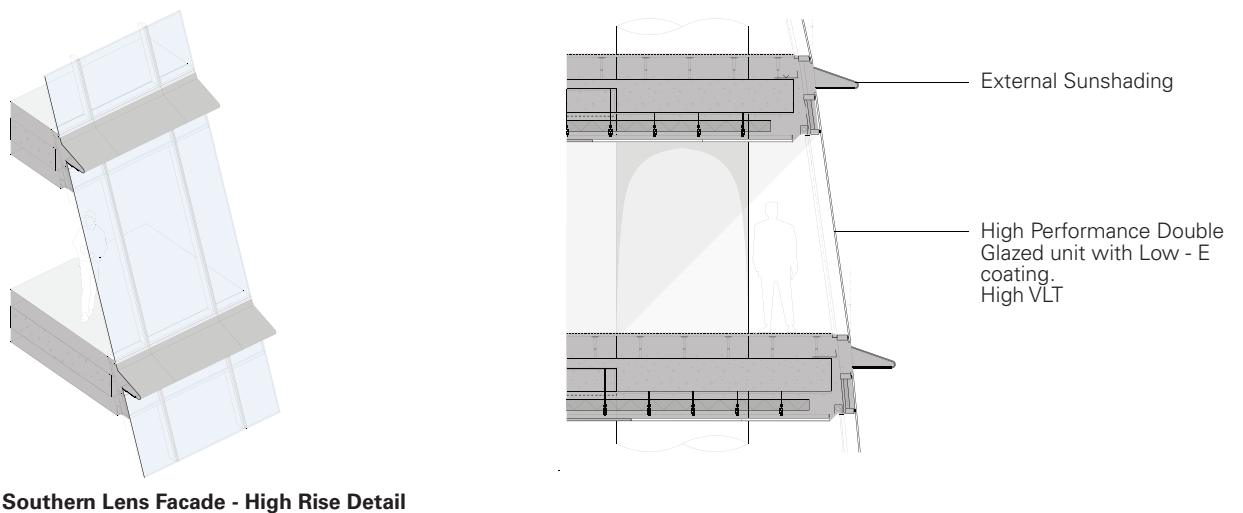
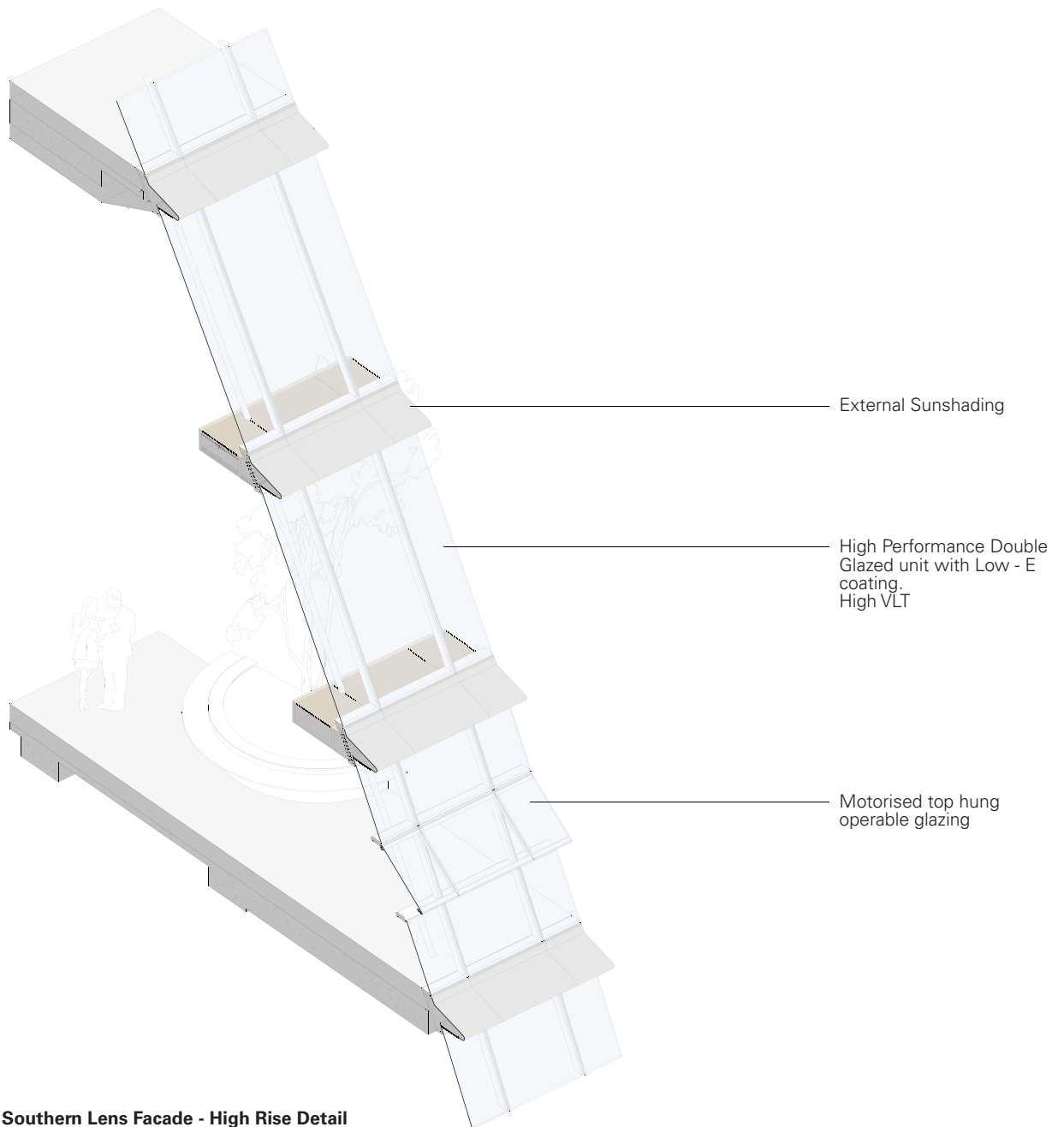
Facade - Western Lift Core and Daylit Atria

A central atrium that visibly and physically connects the large floor plates is specified by the brief and is based on the highly successful central atrium that connects all the levels of 50 Martin Place. The scale and proportion of the 50 Martin Place atrium is directly comparable to the mid- and low-rise floor plates of the North Tower.

The central atria are side lit via the glazed lift shafts located on the western facade. This engineered solution has been tested with thermal and daylight modelling and enables the external lift shaft glazing to be highly transparent with a high VLT. The result is high daylight levels filtering into the atria. This will enhance the environmental quality of the building with a significant proportion of the floorplate having access to either perimeter or atrium views.



Indicative rendering of workplace interior orientated around central atrium



Facade - Southern Lens

The south facing tower facade utilises highly transparent glass that will distinguish this part of the floor plate with:

- + High levels of natural daylight;
- + Clear views out across 50 Martin Place and to the city beyond, and;
- + A high degree of transparency into the workplace from street level, 50 Martin Place and adjacent buildings.

The high rise levels of the tower incorporate a series of three-storey terraced atria directly adjacent to the southern lens as an alternative to the central atria in the low and mid-rise floors.

The Southern Lens is particularly important in the high-rise tower as it aligns with 3-level perimeter atria that connect the upper floor plates. These areas offer the workplace breakout spaces that can be used as winter garden terraces with high levels of natural light and city views. The atria will include interconnecting floors to provide tenants with flexibility to scale the workplace in the upper levels of the building.

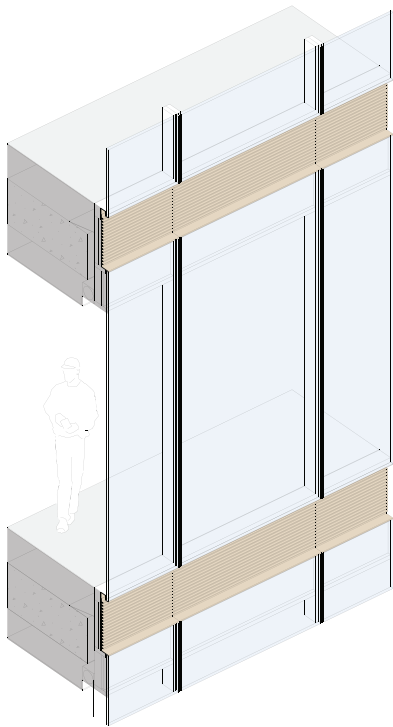


Southern Lens relationship to 50 Martin Place

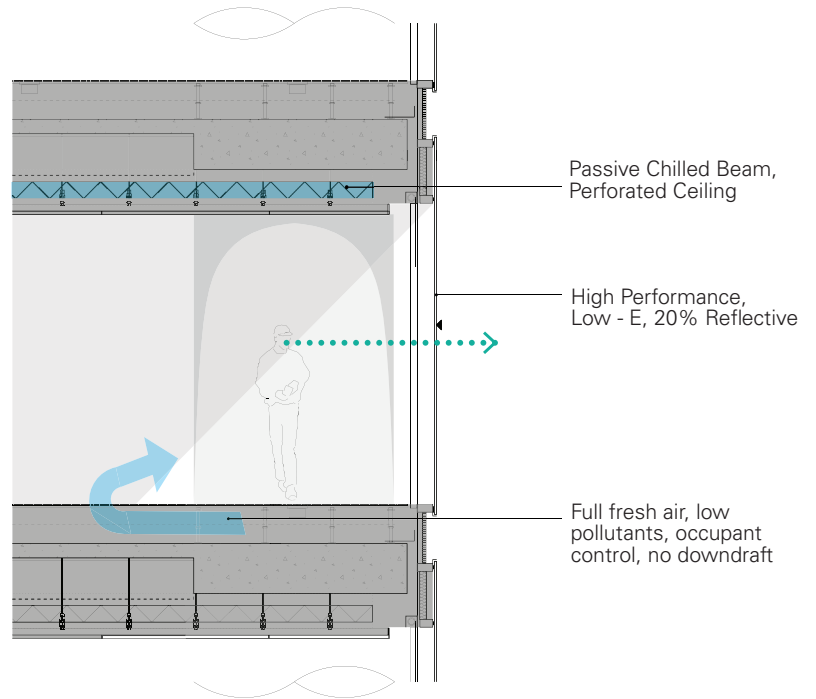


High VLT Glazing Precedent - Shanghai Tower

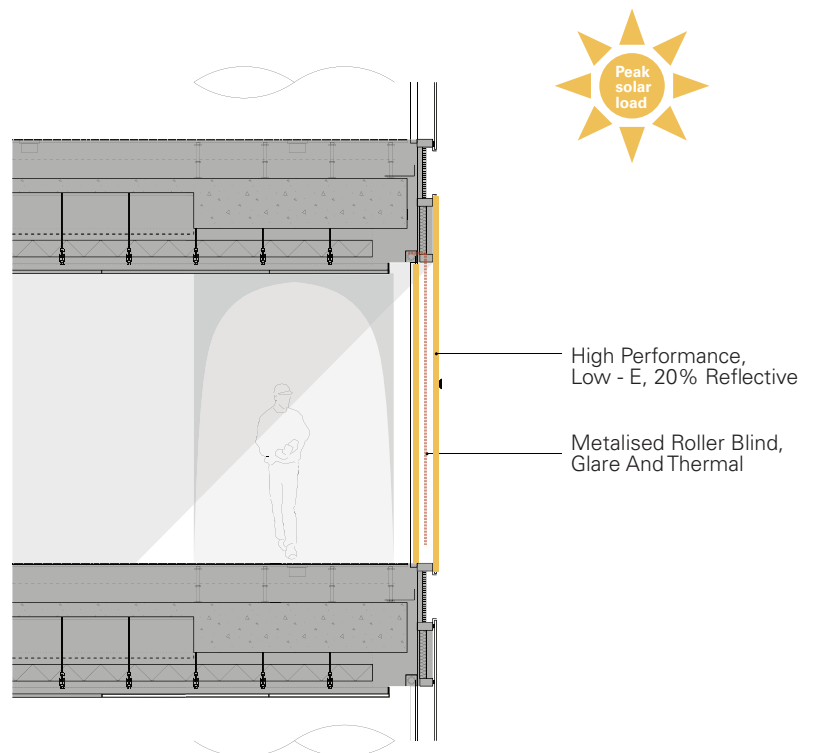




Typical Office Floor Curtain Wall Glazing Elevation



Typical Office Floor Curtain Wall Glazing Section



Typical Office Floor Curtain Wall Glazing Section

Facade - Typical Office Facade Unimpeded Views

The Macquarie workplace brief is focused on the user experience with the 50 Martin Place “class leading” environment as the benchmark. A key component is access to views and natural light.

A floor to ceiling moderate-VLT glass with internal fully automated metallised blinds has been selected. This system is favoured over higher VLT glass as greater transparency would necessitate fixed external sunshading or closed-cavity systems, resulting in permanent impairment of views and outlook.

This proposed, engineered solution synchronises the use of blinds for glare control with periods of peak solar load.

The combination of moderate-VLT, high performance glass and automated blinds maximises outlook, views and connection with the external environment. This will have a positive impact on the well-being of occupants.