

Attachment A2

Urban Design Report (Part 2)

ADAPTIVE REUSE APPROACH

SERVICES RETENTION METHODOLOGY

150 DAY STREET SERVICES ASSESSMENT



Asset	Service	Recommendations
Hydrant Water Storage Tank	Wet Fire	Replace to meet latest NCC Standards and to meet new increased demand
Booster Assembly	Wet Fire	Replace to meet latest NCC Standards and to meet new increased demand
Hydrant Pumps	Wet Fire	Replace to meet latest NCC Standards and to meet new increased demand
Hydrant landing Valves	Wet Fire	Relocate within fire egress stairs on each level within building. Alternatively, develop a performance solution to address maintaining the current hydrant locations outside the fire stairs.
Sprinkler Water Storage Tank	Wet Fire	Survey effective capacity of the existing sprinkler tank to confirm size.
Range Pipes	Wet Fire	Replace to meet latest NCC Standards
Fire Sprinkler Pumps	Wet Fire	Replace to meet new increased demand
Fire Hose Reel	Wet Fire	Replaced existing fire hose reels with new fire hose reels that incorporate a 36m hose. Develop a performance solution to remove all hose reels from all Class 5 areas of the building.
Dry Fire Cabling	Dry Fire	Replace to meet latest NCC Standards
Smoke Detectors	Dry Fire	Replace to meet latest NCC Standards
Fire Indicator Panel	Dry Fire	Replace with newer model
Fire Functional Control Panel	Dry Fire	Replace with newer model
EWIS Cabling	EWIS	Replace to meet latest NCC Standards
EWIS Speakers, Phones	EWIS	Replace to meet latest NCC Standards
Guest Lift 1,2,3	Vertical Transportation	Maintain usage for future scheme. Adequate design life until 2033.
Service Lift 4,5	Vertical Transportation	Complete replacement of these lifts with larger lift cars to suit the latest architectural scheme

Embodied Carbon.

Assessing the embodied carbon of implementing new services versus the operational carbon of retaining inefficient existing systems was a critical consideration for the project. This evaluation was underpinned by a full audit of existing services. As per the MEP consultant advice, it was proposed that all services were at the end of their life and required upgrading.

Electrification.

In this comprehensive audit by LCI, it was identified that many building services at the PARKROYAL Hotel are nearing the end of their life. This situation presents an opportunity to upgrade these systems to full electrification, eliminating reliance on gas and aligning the project with the City of Sydney's sustainability targets.

Co-location.

By co-locating the PARKROYAL and the proposed Pan Pacific hotels on a single site, the project enables shared systems for services, leading to significant operational efficiencies.

STRUCTURES RETENTION METHODOLOGY

150 DAY STREET SERVICES ASSESSMENT

1

EXTENT OF RETENTION OF EXISTING FABRIC

Extent of retention of existing fabric.

A thorough investigation of existing conditions, through site visits, drawings and a detailed 3D survey, revealed that significant strengthening works are necessary to accommodate the additional height being added to the building.

2

IMPACT OF STRENGTHENING & STRUCTURAL APPROACH

Impact of strengthening & structural approach.

To accommodate increased building height, structural elements require strengthening, including a typical jacketing approach for columns and enlarged pad footings extending above the finished floor level. Extensive work on non-typical floors necessitates a "strip to structure" strategy. However existing hotel rooms will remain unaffected as strengthening works will be within existing wall build-ups.

3

FACADE DESIGN

Facade design.

Following an audit that identified acoustic and thermal deficiencies in the existing façade's glazing, the project team has proposed to replace it with a new lightweight system. This solution not only addresses noise and heat gain issues, thereby reducing HVAC-related carbon emissions, but also aligns the building with NCC 2025 standards by enhancing thermal and acoustic performance and decreasing structural load.

EXTENT OF RETENTION OF EXISTING FABRIC



The existing structure must be strengthened in order to increase the height of the building and support additional loads.

Structural strengthening compromises spatial efficiencies as it reduces internal area around existing columns and footings.

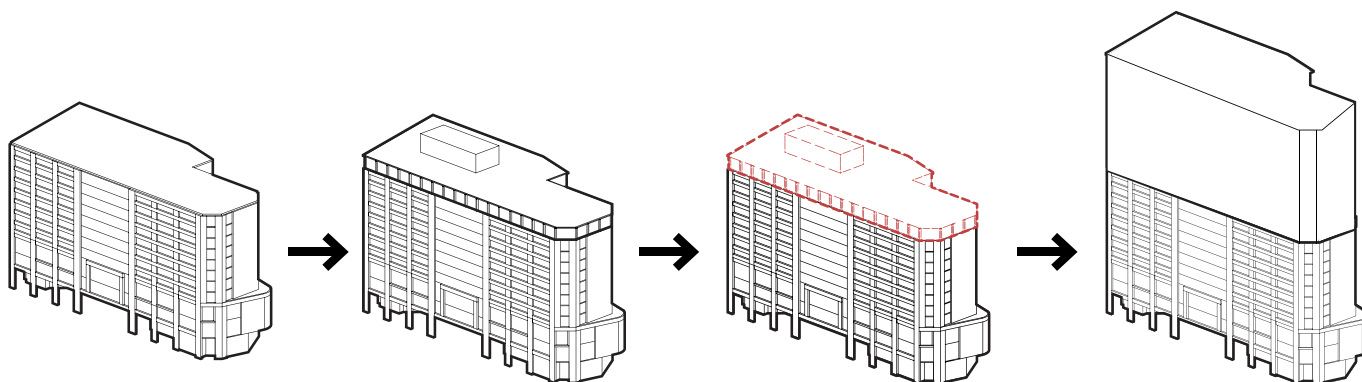
A comprehensive audit of the existing building, coupled with a detailed 3D survey, offered the design and coordination team an in-depth understanding of the current conditions.

The involvement of the original structural engineer from the 1988 project added significant value, as their extensive knowledge and familiarity with the building's design ensured the production of

all necessary documentation. This facilitated a precise evaluation of the structural elements and aided in making informed decisions for the project's development.

While the concrete frame remains in good condition, the addition of height to the existing building necessitates strengthening works to support the increased load. However, the strengthening works can compromise existing spatial layouts.

The design team conducted an in-depth analysis of the strengthening works implications, continuously evaluating them against the baseline case of maximising retention. This approach ensures that the upgrade works integrated into the design intentionally.



1988 Original construction.

10 storey, concrete frame building is constructed with concrete roof

1996 Upgrades to existing.

Steel roof added onto existing concrete roof to make Level 11 a habitable space

Columns at capacity once addition was constructed (100% loaded)

Footings at 80% capacity after addition

No additional floors can be added to existing 11 storeys

Columns and/or footings will need to be strengthened in any development scenario

Original core structure is not designed to modern earthquake provisions - even without increasing lift shaft heights, the core must be strengthened.

Proposal: Structural platform introduced.

Demolish Level 11 Steel roof structure in order to create a concrete platform for additional levels to be added

Proposal: Strengthened columns & footings.

Multiple additional levels

Column strengthening required

Footing strengthening required

Existing basement program compromised for footing expansions (parking and MEP area)

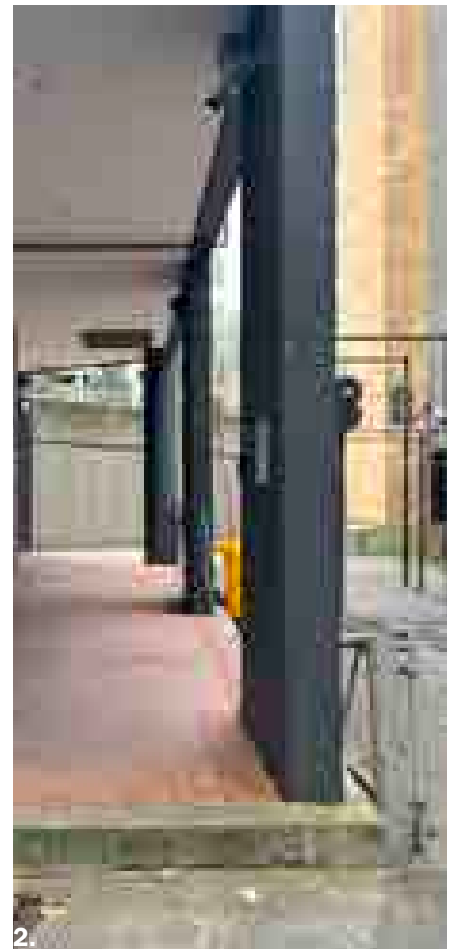
If existing building massing is doubled, footing volume doubles

2850mm Floor-to-floor in the existing building restricts the opportunities for adaptation from a Hotel function

IMPACT OF STRENGTHENING

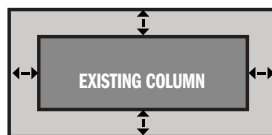
Columns

Both columns and footings of the existing building require strengthening to accommodate an increase in height. Typically, a "jacketing approach" is applied, encasing all sides of a column to support additional loads. However, variations occur in specific scenarios.



Images:

1. Columns on site boundary (Hassell)
2. Columns on site boundary (Hassell)
3. Columns impacting circulation (Hassell)
4. Columns impacting carpark (Hassell)



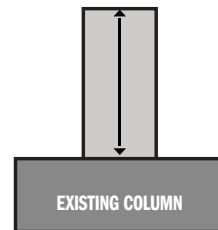
1. Typical jacketing approach.

The method of encasing all sides of a column is unsuitable for certain scenarios, such as columns against the site boundary on façades, within hotel rooms, or in unique situations where full encasement is impractical. On non-typical hotel floors, this approach can compromise spatial layouts, thus supporting a "strip to structure" approach where new layouts are proposed that work with the larger columns.



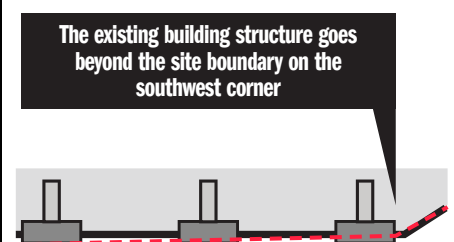
2. Columns between hotel rooms.

Where columns are located between hotel rooms, they can be extended in two directions within the party wall. This approach conceals the structural upgrade, minimising impact on existing rooms and supports the consideration for maximum retention of existing fabric.



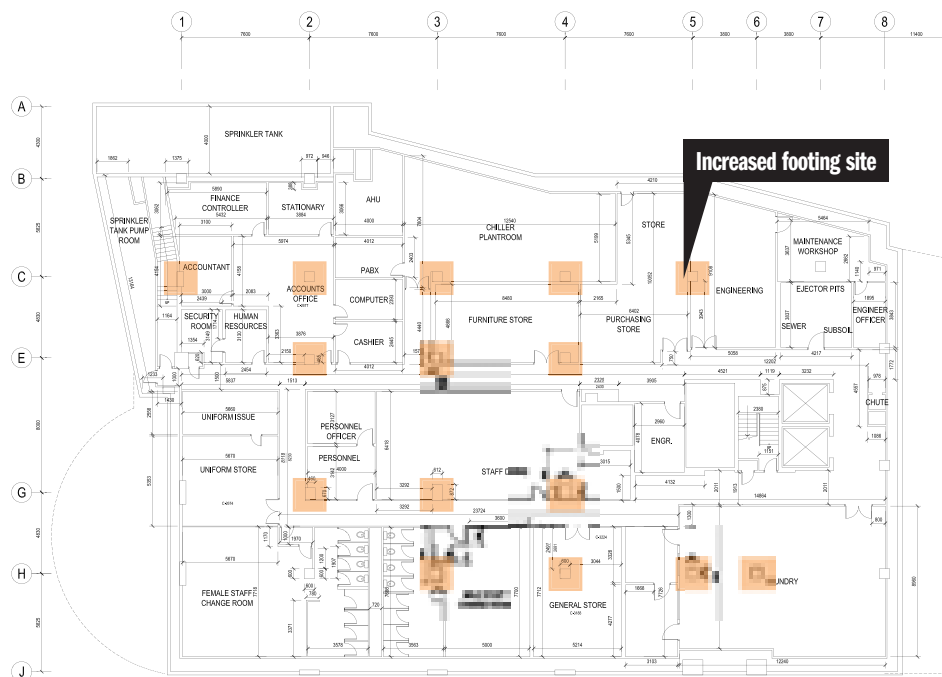
3. Facade columns.

For columns adjacent to the facade, they can be expanded in a "T" shape inward within the boundary. This expansion also remains concealed within the party wall of hotel rooms, preserving the wall thickness of hotel rooms, minimising impact & supporting maximum retention.

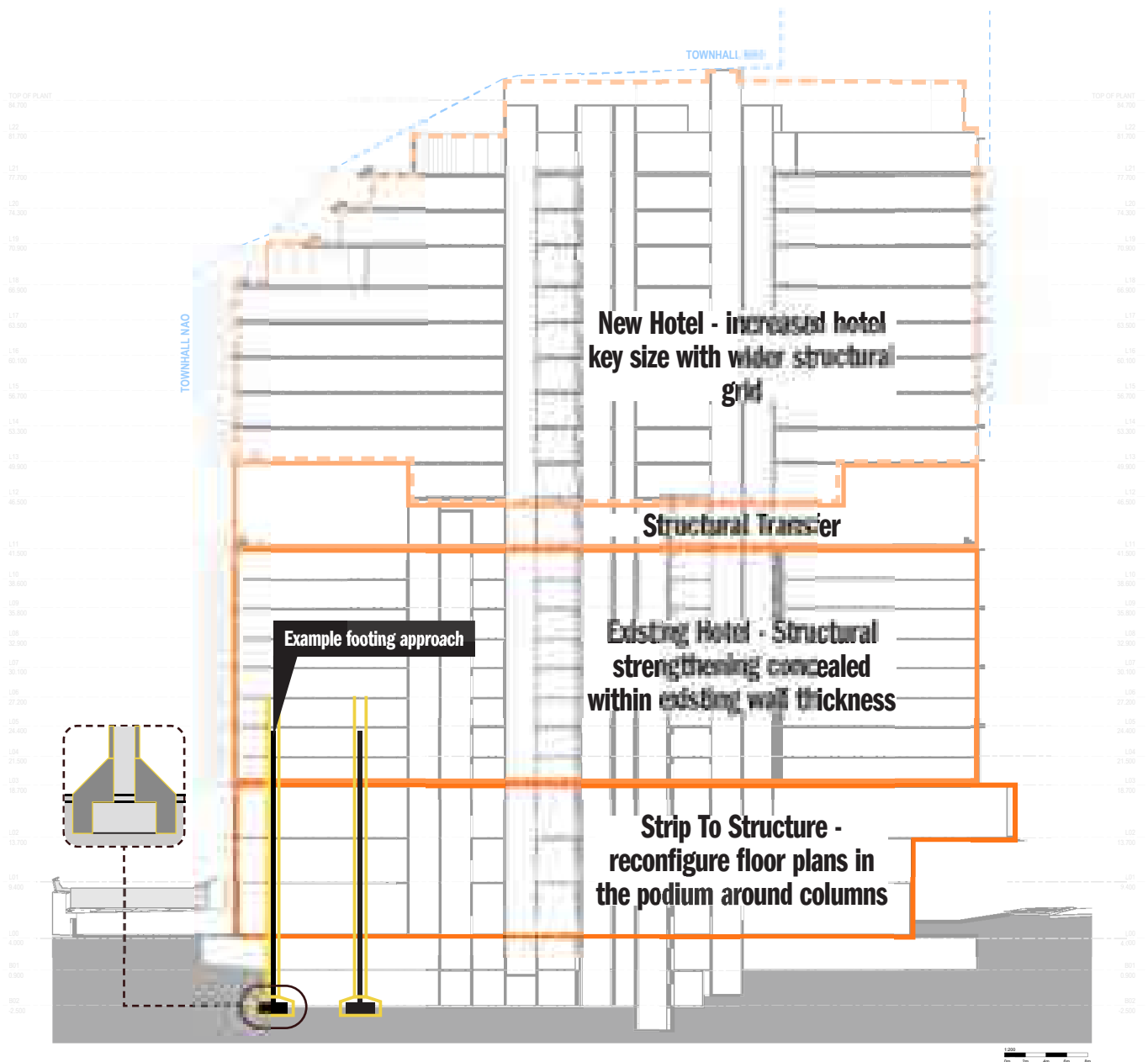


IMPACT OF STRENGTHENING

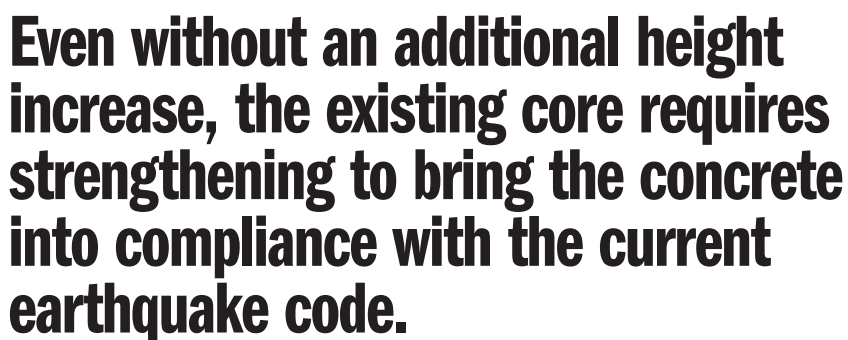
Footings



Extensive investigation and structural consultant advice has determined that the existing pad footings need strengthening to support the increased building height. This involves enlarging the pad footings, which will now extend above the finished floor level, affecting the spatial layout of the basement. These changes underscore the necessity for a "strip to structure" approach (in the podium only) and a comprehensive re-planning of the affected zones to maintain functionality and design integrity.



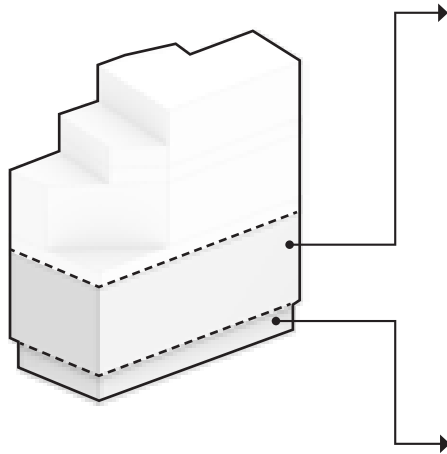
Core



For the additional lifts required, the existing atrium void has been utilised, minimising impact on the current structure and underscoring the project's commitment to retention and sustainability.

STRUCTURAL APPROACH

Exploration of Systems & Materials



Level 4-10 Slab Plan Post Tension Slab: Complex to vary



Ground Floor Slab Plan (Reinforced Concrete Slab)

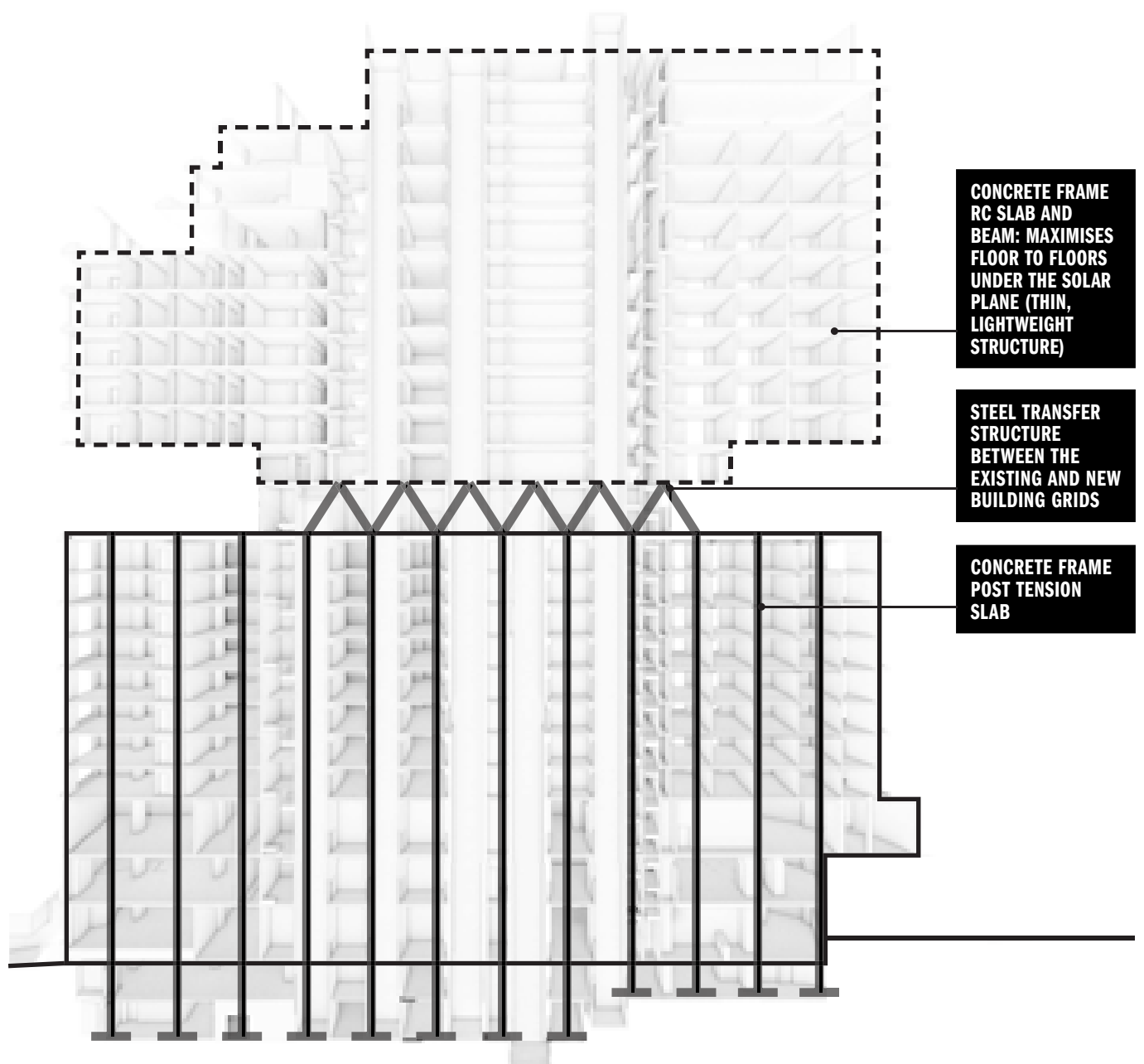
By preserving existing structures where applicable, this project creates a distinctive hotel arrival experience that showcases maximum retention.

Through an in-depth investigation of the existing materials and structural systems, it was found that Levels B01 to L02 are constructed using a traditional reinforced concrete slab, while the typical hotel floors from L03 to L10 use a post-tension slab

and concrete frame. Structural advice indicates that post-tension slabs are more challenging to demolish and rebuild due to the numerous tendons embedded within them. As a result, the design team has developed interventions that respect these

existing building conditions, opting for maximum intervention on the podium levels.

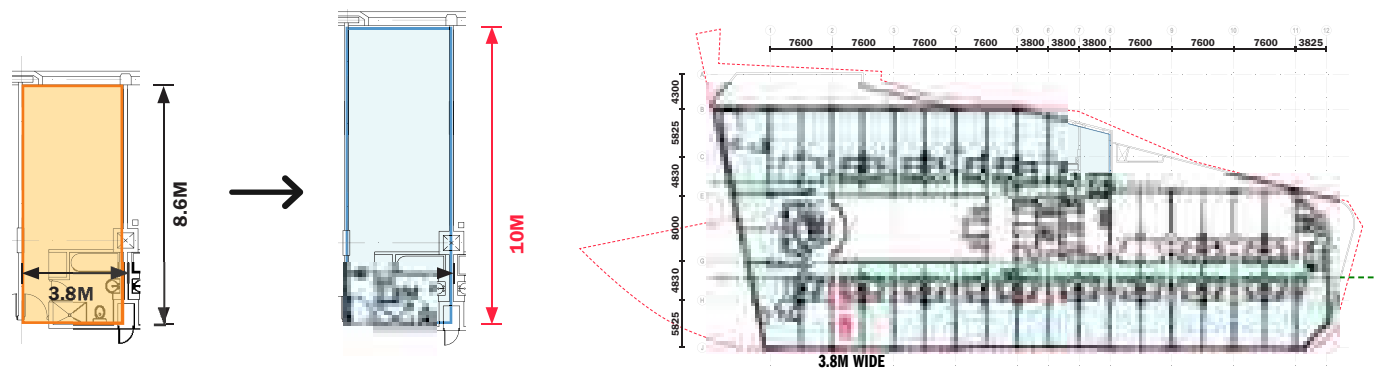
Guided by the structural consultant advice, the design team evaluated various structural systems to meet the project's sustainability goals and functional requirements. A primary objective was ensuring the massing appeared light atop the existing structure, optimising the structural integrity below and reducing embodied carbon. The post-tensioned flat plate system was selected for its ability to use less reinforcement, with thinner slabs and smaller columns, thereby minimising embodied carbon.



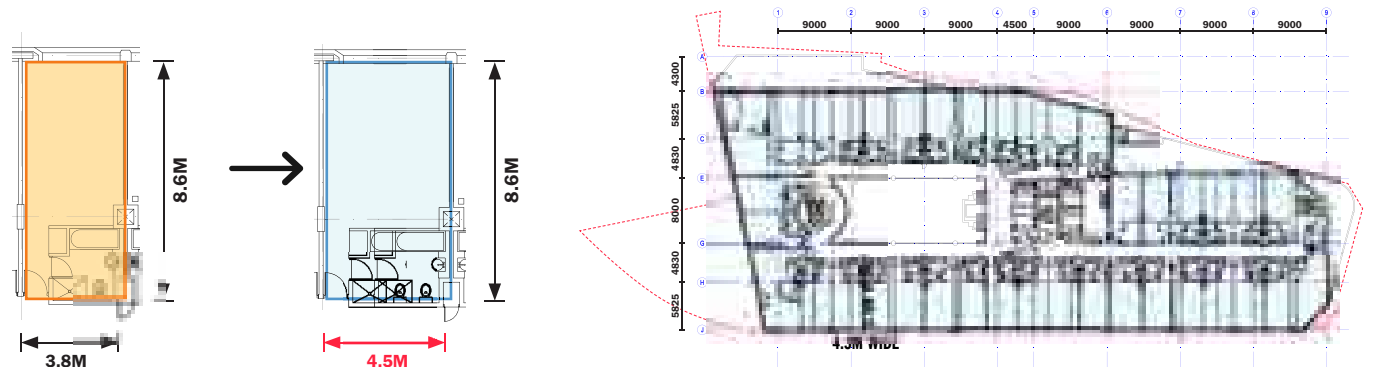
STRUCTURAL APPROACH

Transfer Structure

DISCOUNTED - NO TRANSFER



FINAL OPTION - TRANSFER



Structure is driven by the project's functional requirements. Increased contemporary hotel room area standards has prompted a re-evaluation of existing structural grids that dictate hotel room sizes.

In order to achieve increased room sizes in the new 5-star hotel product (PPHG), two structural options were considered: Extend the existing grid up through the new massing or Implement a transfer floor where a new grid can be created to optimise hotel room sizes.

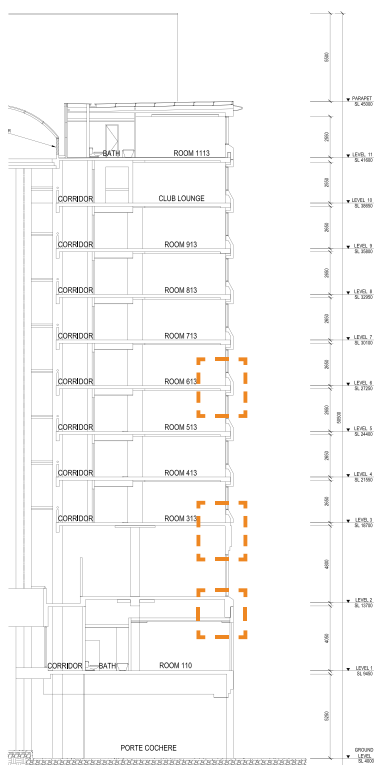
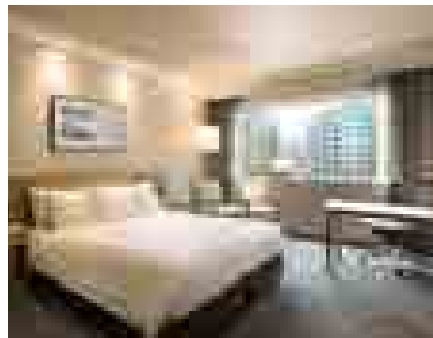
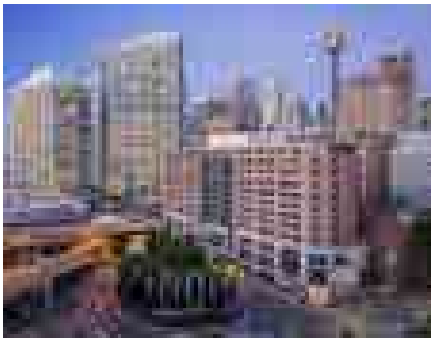
Option 1: Without a transfer structure, extending the existing structure upwards results in a room layout

where the new 38 sqm room is aligned with the current structural grid. This alignment leads to rooms that are too deep, making this approach unsuitable for continuing the current structure upwards.

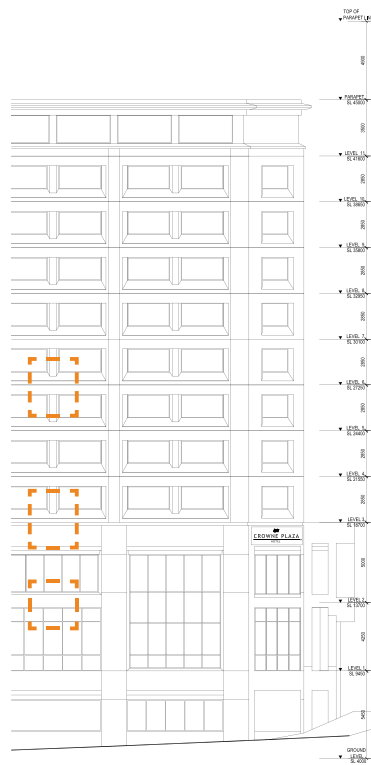
Option 2: This plan proposes a new structural grid for the upper hotel levels, creating a 38 sqm room with a wider frontage and a shallower layout. This is achieved through

a transfer structure at Level 11 which enables the loads from the upper grid to be supported. This configuration aligns better with the desired room proportions, offering a more functional design for the hotel's upscale offering. Additionally, this approach supports the project brief of maximum retention whereby the existing hotel rooms can undergo a finishes upgrade only with minimal upgrades to structures.

FACADE DESIGN



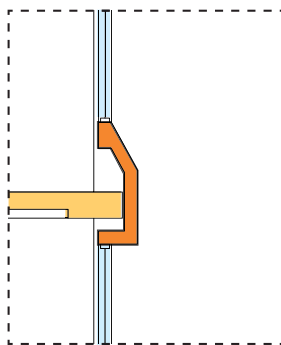
EXISTING HOTEL SECTION



EXISTING HOTEL ELEVATION

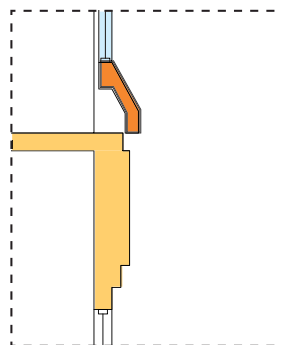
- The existing window openings are integrated into the precast cladding.
- Windows have required a secondary internal layer to address sound and heat issues in the existing building.
- Proposing a new facade with increased environmental performance and reduced operational energy, whilst re-using precast material in different ways on site.

Level 4 - Level 10
Precast Facade Cladding



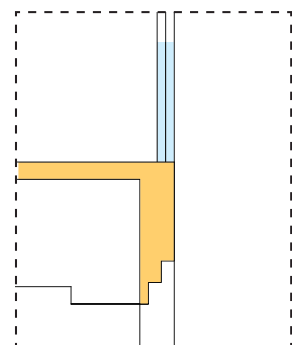
TYPICAL HOTEL

Level 3
Precast Facade Cladding



HOTEL MEETS PODIUM

Level 1
Cast in Place



PODIUM

■ Pre-Cast Cladding
■ Concrete Structure
■ Glazing

The project proposes to install a new facade; a lightweight system that enhances thermal and acoustic performance thus meeting NCC 2025 standards and lowering operational carbon.

The existing facade is constructed with precast concrete panels and inset glazing for hotel rooms, while a glazed curtain wall has been utilised for portions of the podium. An audit revealed that the glazing was under-performing, both acoustically and thermally. This led to the installation of a secondary glazing layer in each hotel room to minimise noise from the surrounding environment, such as

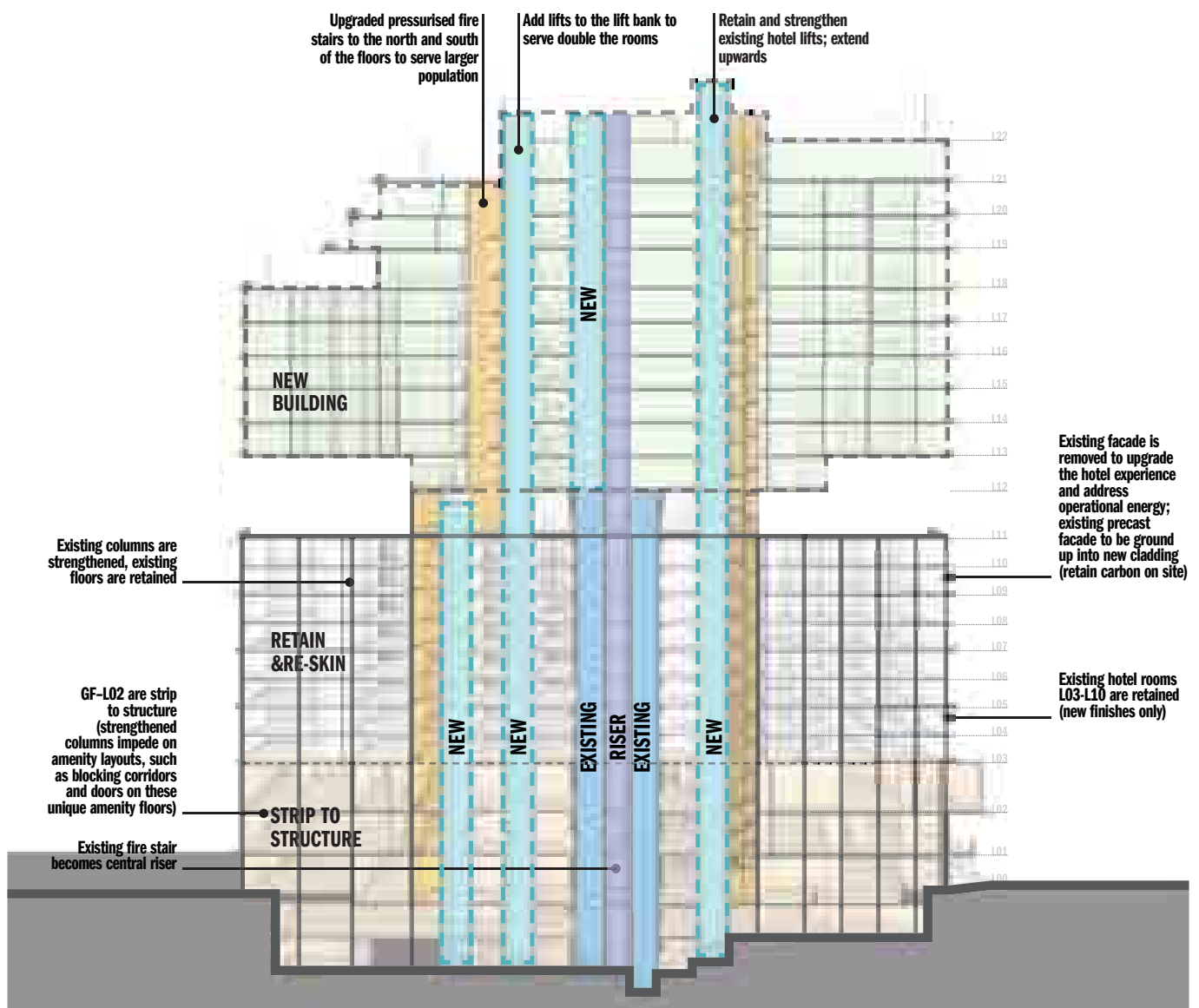
the Western Distributor. Additionally, the poor thermal performance resulted in excessive heat gain, resulting in higher operational carbon emissions due to increased HVAC usage.

It was initially proposed for minimal upgrades to the facade, involving updating the glazing to meet current thermal standards. However, further

investigation and consultation with facade engineers indicated that simply replacing the glazing wasn't sufficient. Such upgrades would also require an increased wall build-up, including insulation and waterproofing, to align the precast wall with NCC 2025 standards.

Ultimately, the project team has proposed to strip the facade back to its structure and install a new lightweight system. This approach reduces the weight on the existing structure (minimising strengthening works) whilst significantly improving both thermal and acoustic performance, aligning with NCC 2025 facade requirements. This approach does remove carbon from the building, but reduces carbon over the future life of the hotel. The project team propose to retain the facade on site, crushed into a new product.

ADAPTIVE REUSE OVERVIEW & NCC COMPLIANCE



This project showcases maximum retention and adaptive reuse by preserving the existing building structure, including the lift core and concrete frame, and integrating them into the new design. The design team has chosen to highlight retained structural features and re-purposing of the existing atrium for additional lifts. The project seeks to significantly reduce embodied carbon while sustaining operational efficiency.

1

FIRE COMPLIANCE STRATEGY

Consultant engagement.

The design team has collaborated with both a BCA consultant and a Fire Engineer to ensure that the layouts are compliant and that any necessary deviations are addressed through performance solutions. Engagement with the fire brigade is planned for the next phase.

The proposed structural system for the upper levels uses concrete to minimise fire risk, and a new facade is planned to meet compliance standards. Fire exit distances and fire stairs are compliant with the use of smoke doors in corridors.

2

STRUCTURAL COMPLIANCE STRATEGY

Concrete structure retained.

All existing structures will be strengthened to support the proposed massing above, ensuring compliance with current codes, such as the earthquake code, so that there are no structural non-compliances.

3

ENVIRONMENTAL PERFORMANCE & MEP COMPLIANCE STRATEGY

Services & facade upgrade.

Following the audit of all MEP systems conducted by the services consultant, it was determined that the existing services are at the end of their life and require upgrading to meet current code compliances. Additionally, the existing facade is proposed to be replaced due to the extensive work required to retain it, particularly to meet enhanced thermal standards. This replacement allows the facade to be upgraded to comply with the NCC.

4

SPATIAL PLANNING AND ACCESSIBILITY

Consultant engagement.

The design team has collaborated with a BCA consultant to ensure that the layouts are compliant with the NCC, from accessibility requirements to bathroom numbers. Any necessary deviations are to be addressed through performance solutions.

5

TRAFFIC AND CARPARK COMPLIANCE

Traffic compliance.

A traffic engineer has reviewed changes to the existing basement and confirmed that given the basement is not for public access, is only served by BOH lifts, and is valet only, that retaining the basement parking is acceptable. The additional plant required to service the new hotel has significantly reduced parking numbers. Bicycle parking is now proposed to be provided in the upgraded basement.

FLOOD APPROACH

ADAPTIVE REUSE: FLOOD LEVELS APPROACH OVERVIEW

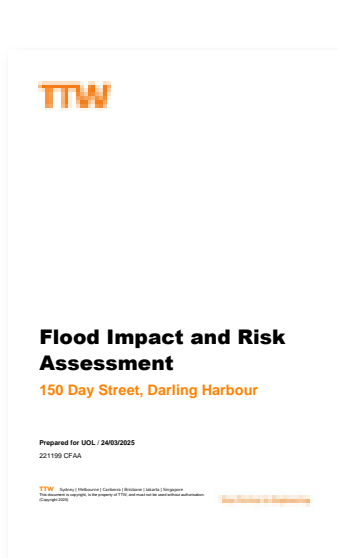


Figure 6: Existing Council 1% AEP Flood Depths and Levels

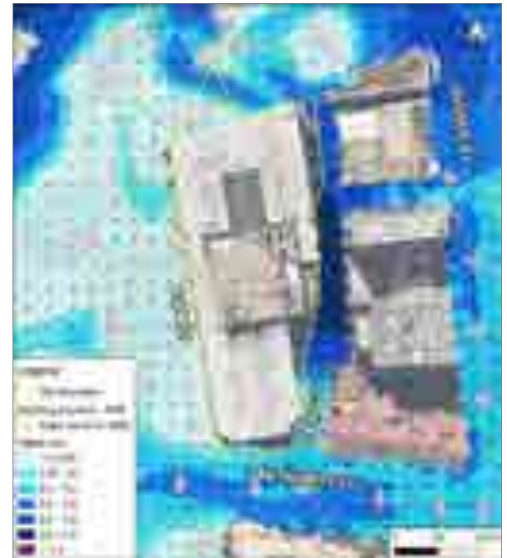


Figure 7: Existing Council PMF Flood Depths and Levels

Overview of Day Street Flooding Approach:

- The existing building is flood prone land with no protection for the ground floor or basement levels and inundation in the 1% AEP and PMF.
- The proposed extension is over an existing building (ie above the flood prone land and flood planning area with protection above the PMF). However the proposal also allows for flood mitigation to the existing building (including raised floor levels as high as possible and flood barriers where thresholds cannot be raised further).
- Under LPd 3(g) *The proposal must not 'result in a significantly increased requirement for government spending on emergency management services, flood mitigation and emergency response measures'*: The current building would require evacuation through external routes and high hazards that may rely on potential emergency services. Any mitigation as part of

this upgrade reduces government spending.

- The proposal allows for the building to be protected from flooding for all storms up to the PMF and shelter in place would be a suitable flood response that actively reduces the reliance on emergency services by protecting the building and creating a safe refuge from flooding within the building.

Overview of Flood Analysis:

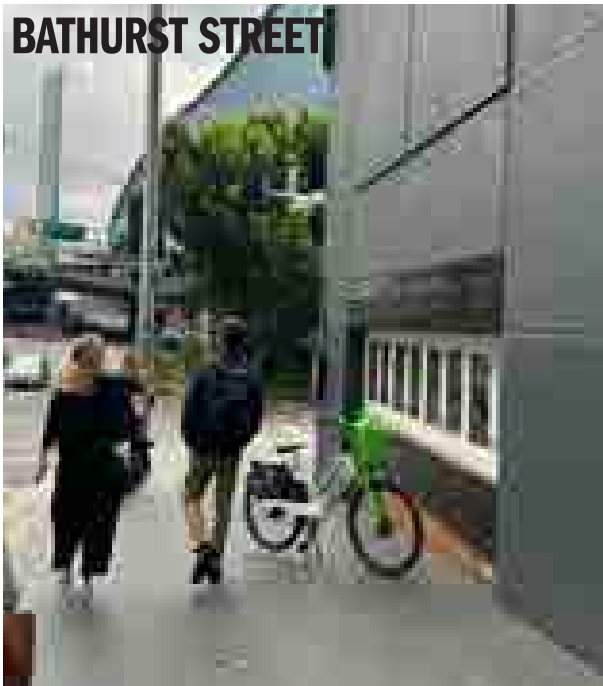
- TTW have completed work on a Flood Impact and Risk Assessment (FIRA), notably updating the Council's flood model in the area, conducting a topographical survey and including the concrete wall adjacent to the Cross City Tunnel.
- The FIRA provides mapping for 1% AEP and PMF events and also includes assessment of flood risk in the existing as well as post development situation based on duration of flooding, depth & velocity, flood warning & evacuation time, period of isolation, frequency of inundation

and flood hazards for a full range of events up to and including PMF. The FIRA includes flood modelling in PMF for longer duration storms to determine period of isolation to assist in emergency management. The 5%, 1%, 0.2% AEP and PMF have been assessed as well as climate change scenarios.

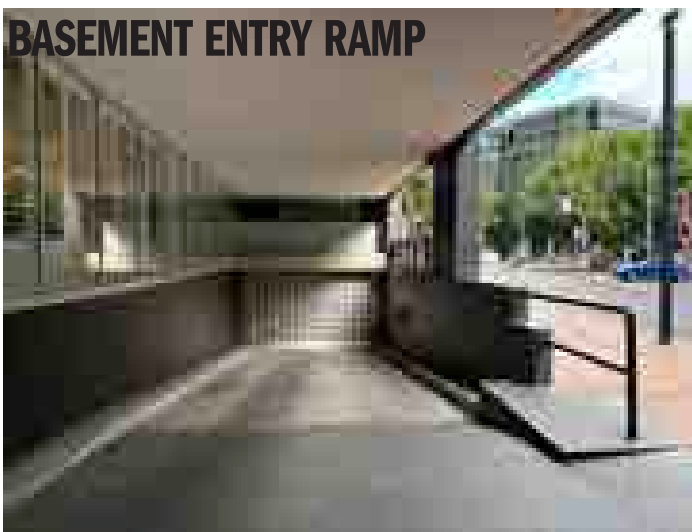
- Post development does not change as there is no change to existing surface levels or building extent.
- Longer duration modelling has been completed for the Flood Emergency Management.
- Combined impacts of increased rainfall and sea level are also assessed.
- An assessment of freeboard against the increased climate change level and flood planning levels is also considered - we note that there is no planning requirement within the current Interim Floodplain Policy to allow increased flood levels associated with climate change to be used to set the flood planning levels.

The reference design looks to balance active frontages and safer city streets, with flood resilience. The current urban outcome at the site is not considered a good outcome for the city.

BATHURST STREET



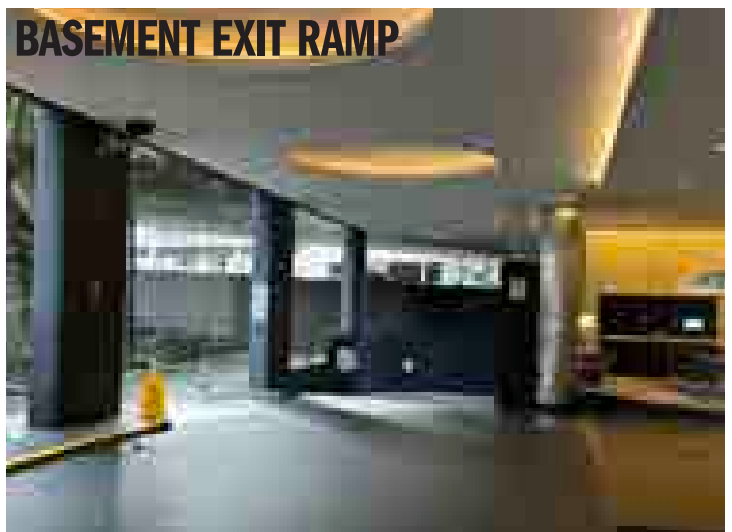
BASEMENT ENTRY RAMP



It is proposed to remove this ramp:

- Ramp causes vehicle and pedestrian crossover
- Creates an inactive, dark facade to Day street
- Significant flood risk to basement

BASEMENT EXIT RAMP



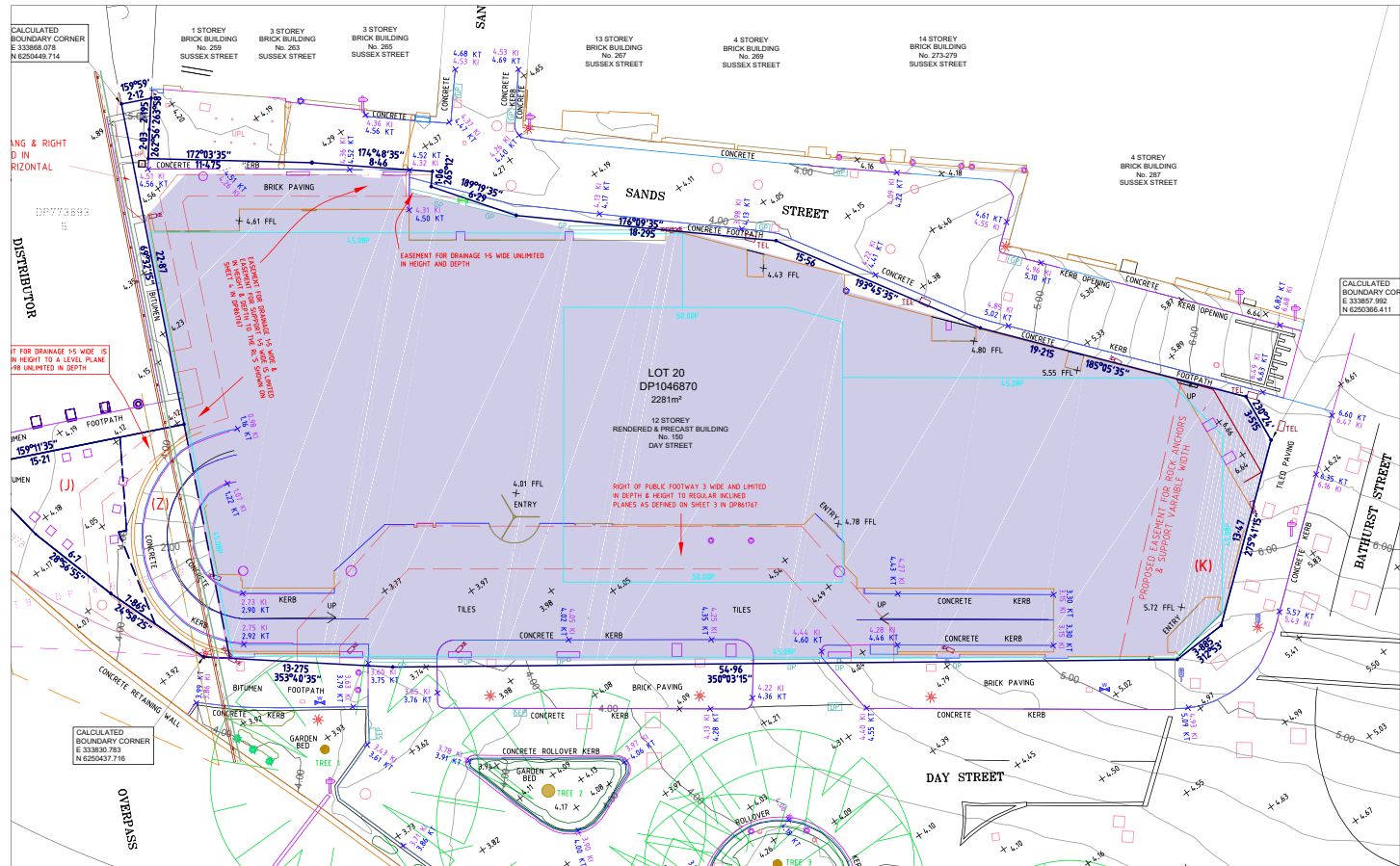
It is proposed to retain this ramp:

- Minimal impact to facade as it curves around the north elevation of the building
- Minimise existing openings to flood waters (this ramp is a smaller opening than the existing entry ramp)

EXISTING AND NEW FLOOR LEVELS

Approach to Flood Levels in Adaptive Reuse

Topography of Day Street around basement and pedestrian entrances:



Topography of Sands Street, and the multitude of existing loading bays:



1

Hotel Lobby: Existing FFL is raised to 4.4RL across the GF (the existing building has varied floor levels). The proposed GF is set above the climate change sensitivity level of 4.02. The proposal increases the varied floor levels to an FFL of 4.4RL. This level allows the project to continue to meet Australian equal access requirements by opening flush to Day Street, and allow the hotel to continue to meet practical requirements for a hotel lobby (with suitcases etc).

The process of lifting existing slab levels requires using void-former polystyrene formwork, a method chosen to mitigate the impact on structural loads while achieving an increased elevation. The ground floor levels have been worked through to minimise any demolition of existing slabs.

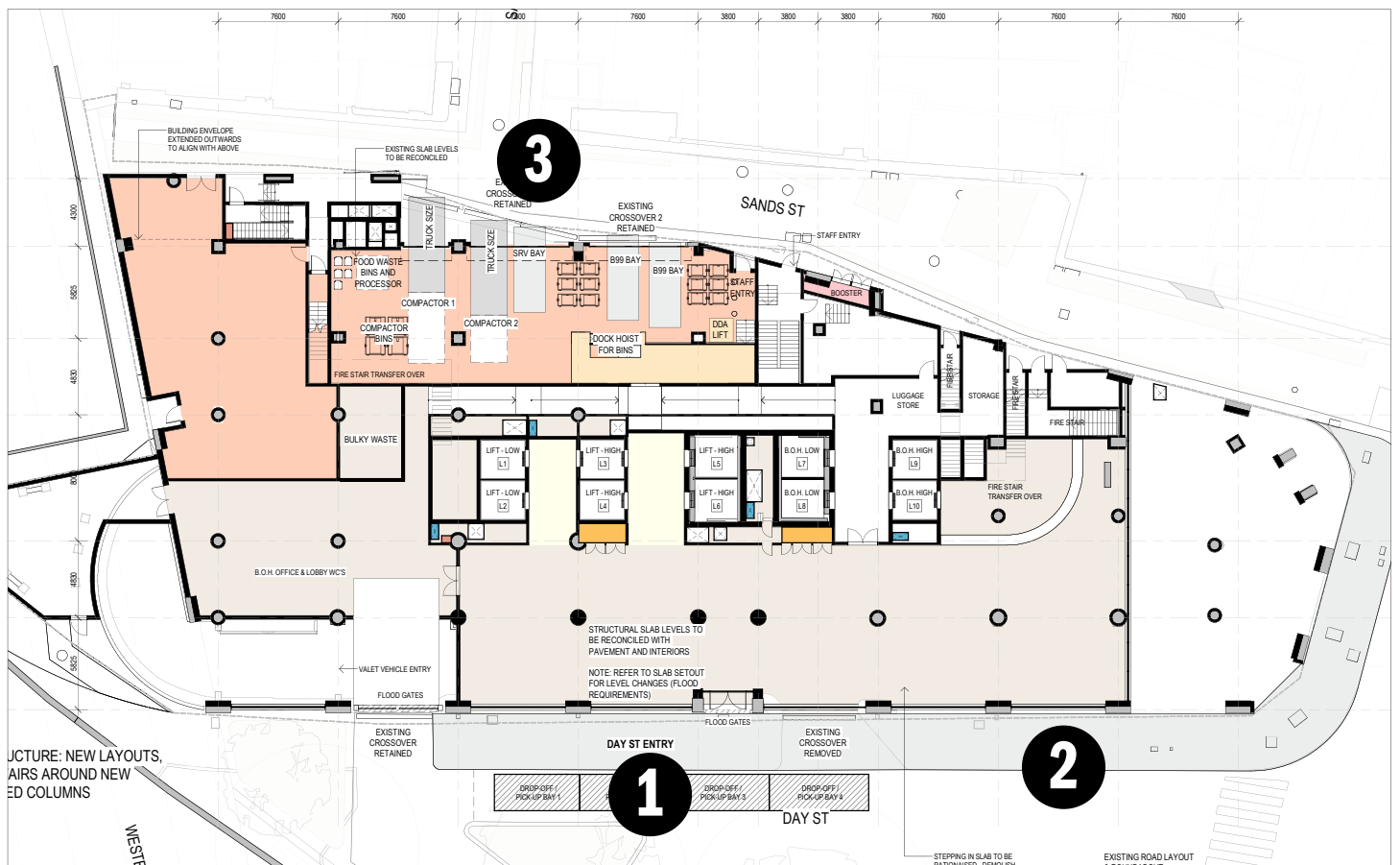
For areas where fire stairs provide egress from basement levels, the design routes the stairs up to reach the FFL before descending back down to the Sand Street laneway.

2

Existing Basements: The existing porte-cochere and entry/exit ramps to the basements sit lower than the proposed 4.4FFL of the lobby. It is proposed to remove the porte-cochere and the entry ramp to the basement and to raise the floor level at these points above the climate change sensitivity level of 4.02, up to 4.4. This improves the ground plane from the current building and reduces basement access to one opening (to be flood protected) rather than two. Given the existing carpark ramp is retained, a flood barrier is proposed to this existing ramp.

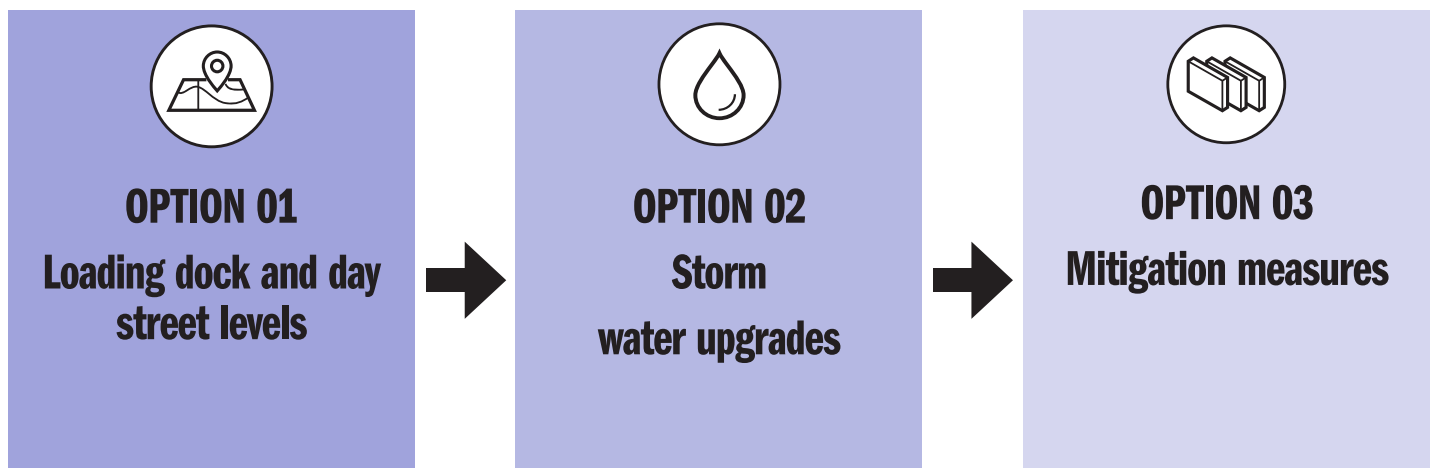
3

Existing Loading Dock: The existing loading dock sits at the level of Sands Street. Whilst there is clear height to increase the level of the loading dock and be able to fit trucks, there is not the depth within the site to ramp trucks upwards to a higher, flat loading dock level. It was considered operationally insufficient to propose trucks load on a slope. Sands Street itself could be raised at low points to enable flood compliant loading, however this would interrupt operations for other buildings along Sands Street. Therefore the loading dock FFL is proposed as per the existing level, with a new flood barrier to be installed in order to improve the current performance of the building.



FLOOD MITIGATION STRATEGIES:

Design process and outcomes



A Study of potential flood mitigation measures has been undertaken.

- Considering the level of inundation in Sands Street and the loading dock, the FIRA should recommends suitable measures to mitigate the risk rather than

suggesting flood proofing up to the Flood Planning Levels.

- The current reference design relies on flood gates to protect the ground floor and basement along Day Street. The City's position on flood gates is that they are not permissible except where all other passive structural flood mitigation options, including design, have been explored and documented and Council is

satisfied that none of the options can be implemented.

- Detailed assessment of potential stormwater upgrades have been considered in the following pages.

01 LOADING DOCK FFL

A - Preserving Clear Heights for a Compactor

AT90-100

10m Transportable AUGER Compactor

TRUCK WIDTH: 2300 mm
(2800 mm WITH MIRRORS)



- The initial flood mitigation strategy studied was the options to raise the floor levels to 4.58RL, above the most extreme flood level. As previously discussed the Lobby floor level has been raised above the climate change requirements however it does not exceed the worst case scenario flood level due to access requirements from the street into the hotel.
- Regarding the loading dock, it was considered to raise the loading

dock from 4.275 to 4.58, to avoid any stormwater upgrades. This will be an increase of 305mm to the loading dock FFL. This leaves 3,753 clear under the existing rollershutter and external soffit. A clear head height of 3750mm would be sufficient for the truck to enter / exit the loading dock with the compactor loaded (max 10m3 size). The compactor would not be loaded / unloaded at this point, it would load from within the dock

where there is a greater height clearance.

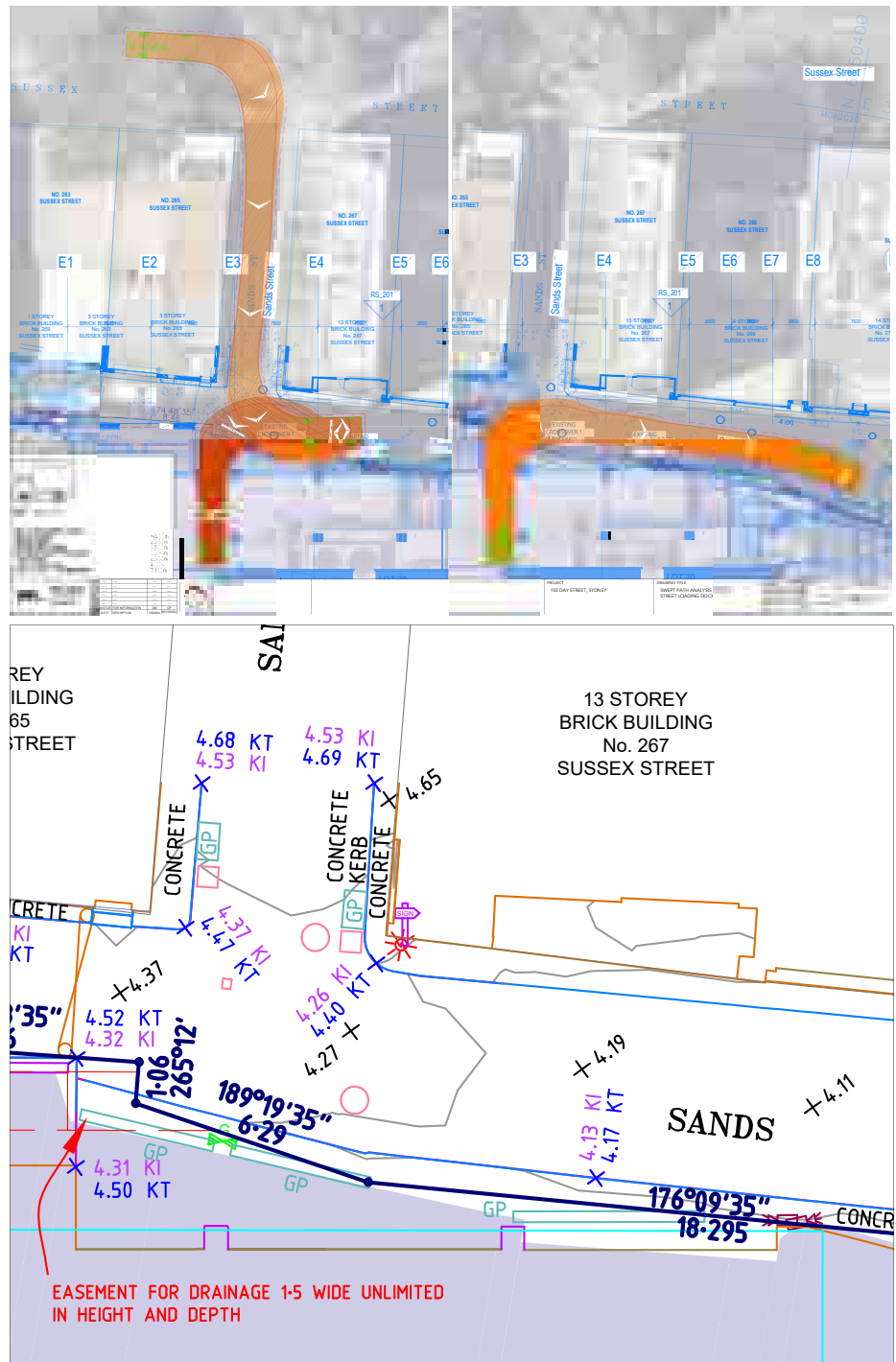
- However, for an SRV, the maximum rate of change is 1:12 (8.3%). Due to the existing Sands Street levels and the existing loading dock being so narrow, achieving a compliant gradient is not possible without causing operational issues - the truck would be unloading uphill.

01 LOADING TRACKING

B - Access To Loading Dock Slab Height Cannot Be Too Steep / All Lane Loading Uses The Full Lane Width (Changing Levels Must Not Undermine Neighbours Access)

Summary

- 1% AEP flood level is 4.58m;
- External levels in Sand Street and adjacent docks are below flood levels (limiting scope for improving the dip in Sands Street);
- Loading entrance thresholds or floor level could be raised to 4.35FFL (to not impact stormwater dia.) however this creates gradient and cross over issues;
- An SRV can only ramp up a maximum 1:12 slope and cannot load at a gradient (there is no space for ramps from Sands Street, nor opportunity to alter Sand St without affecting adjacent loading docks and their truck movements);
- Vehicle turning space sets loading dock location for the SRVs and compactors - the loading dock has been designed around tracking.

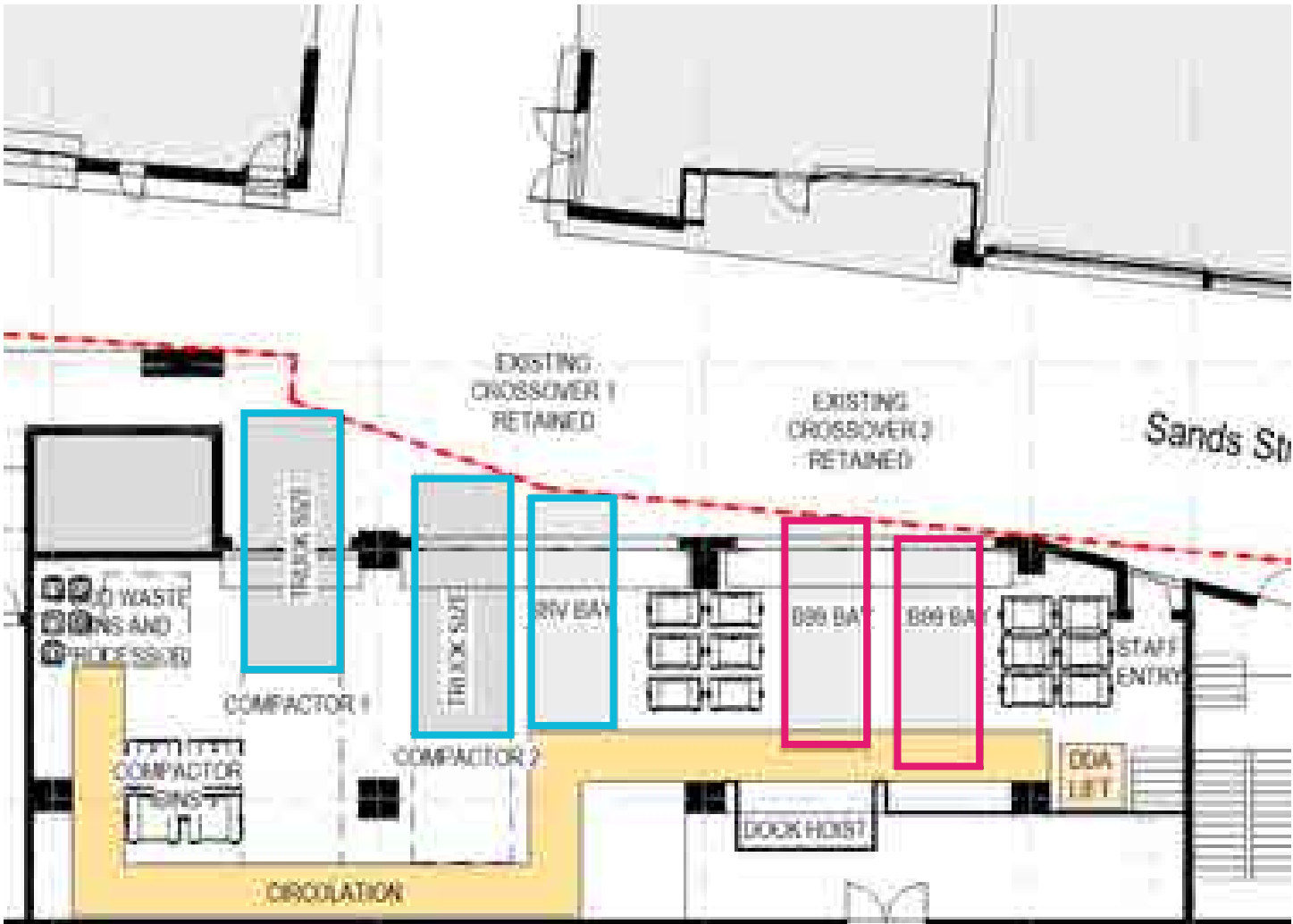


SRV here - smaller transition to building FFL

B99 here - larger transition to building FFL

01 LOADING DOCK LAYOUT

C - Ramp gradient into the site limits raising the existing dock FFL



02 UPGRADE STORMWATER

Is the areas flood management improved through stormwater upgrades?



Existing 1% AEP Flood Depth – max 570mm deep in Sand Street



Upgraded Stormwater 1% AEP Flood Depth – max 300mm in Sand Street

Overview of considerations to improve the stormwater network:

- Existing site easement: 600mm diameter stormwater pipe within a 1.5m easement (see photo);
- Based on this information, in order to achieve a 4.33 flood level at the site it would be required to double the capacity of the existing pipe (for example provide 2 x 600mm dia. pipes) - This can fit

within the existing easement;

- This easement then flows into overflow at Day Street (ie because water flows at Day Street aren't that significant this extra capacity for overflow provides relief from Sands st onto Day st);
- However, this solution requires upgrades to stormwater pits and pipes around Day Street and underpass (pipes from 200 to 400d, or 4 additional pits);
- Even with all these upgrades

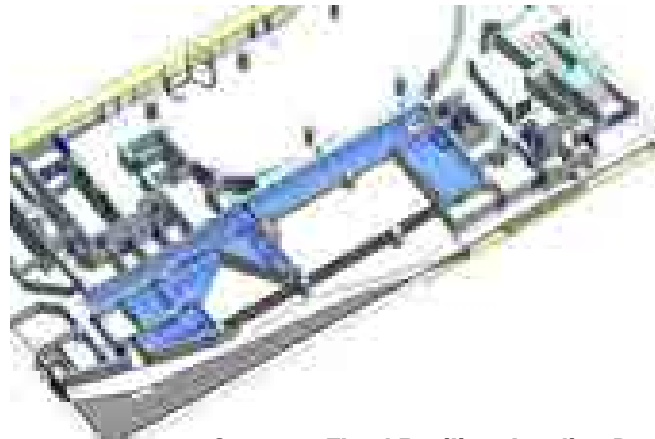
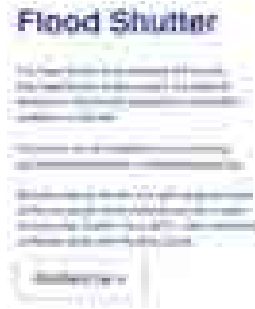
within the site and to Day Street, there is no benefit to the urban realm or to other properties in the vicinity. It is very difficult to justify such extensive disruption to the existing streets for no benefit to the area. With all upgrades above, it still does not achieve a 1% AEP flood level below the loading dock level – minimum level achieved is 4.33m;

- With these upgrades the existing driveways in Sand Street are still below 1% AEP flood level.

03 MITIGATION MEASURES

Loading Dock Levels

" If a flood-proofed loading dock is not resolved through level changes or stormwater changes, the alternative option is a flood barrier or flood roller shutter door, and to design the loading dock to be a flood barrier to the building. "

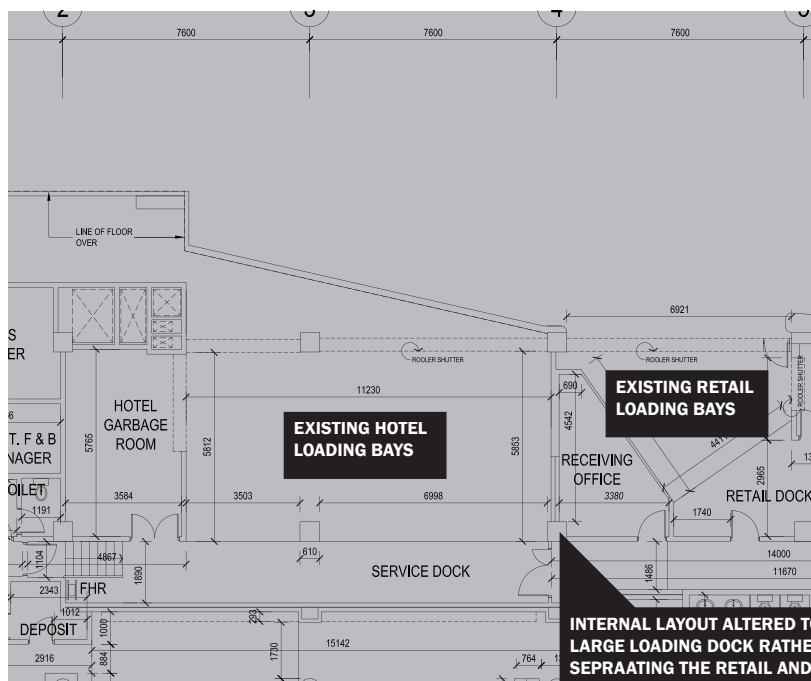
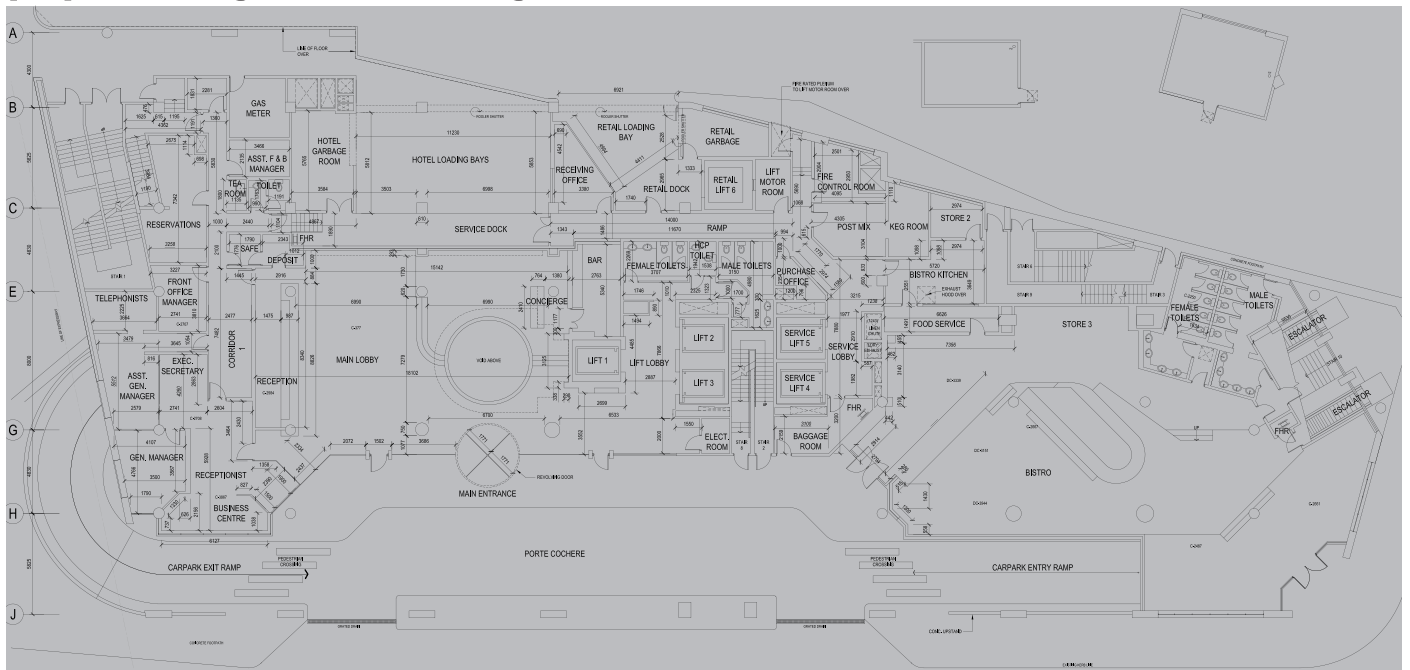


Concept: Flood Resilient Loading Dock

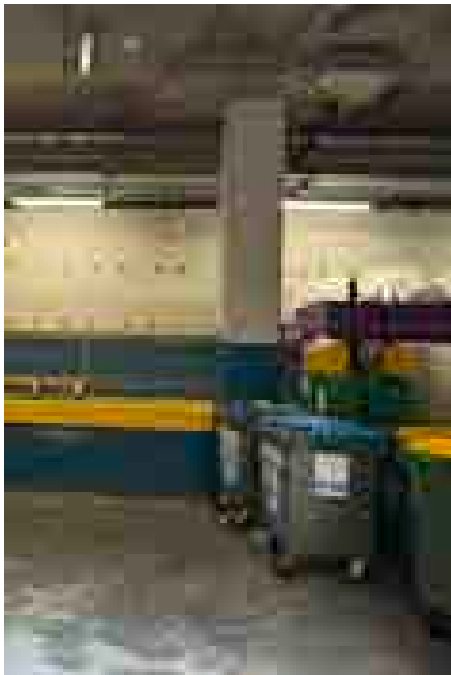
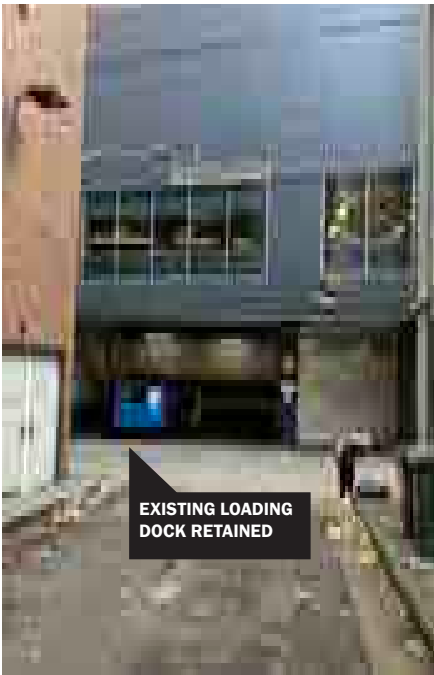
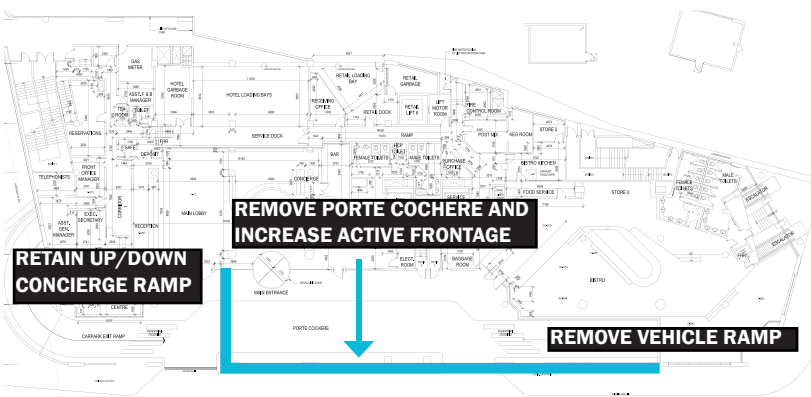
LOADING & SERVICING APPROACH

ADAPTIVE REUSE: LOADING AND SERVICING APPROACH

Existing Loading Dock Plans: This is an adaptive reuse project that does not propose changes to the loading dock location or cross-overs.



**This is an adaptive reuse project
reduces vehicles movements
that clash with pedestrian
movements and also maximises
active frontage.**



LOADING DOCK: PROPOSED APPROACH

EXISTING LOADING STRATEGY:

Park Royal's current loading strategy generally:

- Early morning: most food deliveries
- Varies: laundry deliveries
- Night: waste collection

Note: Refer to survey data in TIA

PROPOSED LOADING STRATEGY:

Location	Waste Loading Type	Equipment	Estimated Area Required (sq. ft.)
Loading Dock	General Waste	<ul style="list-style-type: none"> 1 x 6m² or 10m² portable compactor 2 x 1,100 L bins 	Dependent on layout
	Paper/Cardboard Recycling General Waste	<ul style="list-style-type: none"> 1 x 6m² or 10m² portable compactor 2 x 1,100 L bins 	
Loading Dock	Commingled Recycling	<ul style="list-style-type: none"> 3 x 1,100 L bins 	Dependent on layout
	Food Waste	<ul style="list-style-type: none"> 1 x food waste processing system 10 x 240L bins 	
Waste Storage Room on Upper Level			75

PROPOSED LOADING LAYOUT:

- SRV tracking has informed the dock layout, and shows that the spaces at GF for SRVs are located based on laneway tracking and easy access to parking spaces.
- Refer to TIA.
- No MRVs are proposed, not even for Compactor collection.



SRV LOADING STRATEGY:

The existing strategy and proposed strategy does not allow SRV access to the basement.

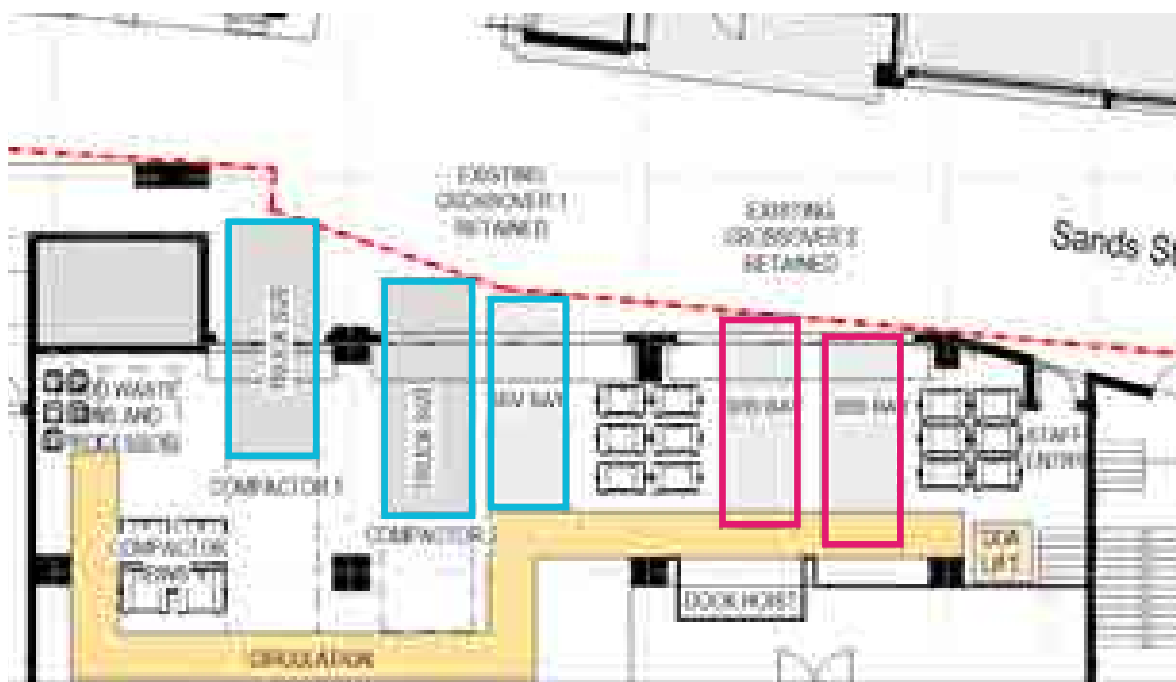
- SRV loading is from the Loading dock on Sands Street.
- Why? This renovation does not propose changes to the basements, and therefore the existing ramp access which is 2.4m clear will be retained. Given there is an allowance of 200mm tolerance, the maximum vehicle height entering the existing basement can be 2.2m. As such, SRV with clearance of 3.5m is not able to enter the basement level.
- The existing Basement 01 floor to ceiling height (to underside of services) is 2.35m and therefore does not accommodate SRV loading.

Technology class	Key variable in equation	Key variable in equation	Historical variable in equation	Annual observations in equation
Hydro	2.2	4.4	1975-2000	2.2
Wind	2.2	6.7	1975-01, 2-00	4.2
Solar	2.2	12.2	1975-01, 2-00	4.2
All	2.2	10.0	1975-01, 2-00	4.2

Note: Solar cell capacity is measured in terms of installed capacity and solar cell capacity is measured in terms of installed capacity. The number of observations is based on the number of observations.

INDICATIVE LOADING DOCK PLAN AT GROUND FLOOR:

- 3 x SRVs located in the most direct relationship to Sands Street approach to ease tracking movements required.
- 2 x B99 Bays proposed after the turn from Sands Street as these smaller vehicles can easily manouvre.



LOADING DOCK: PROPOSED APPROACH

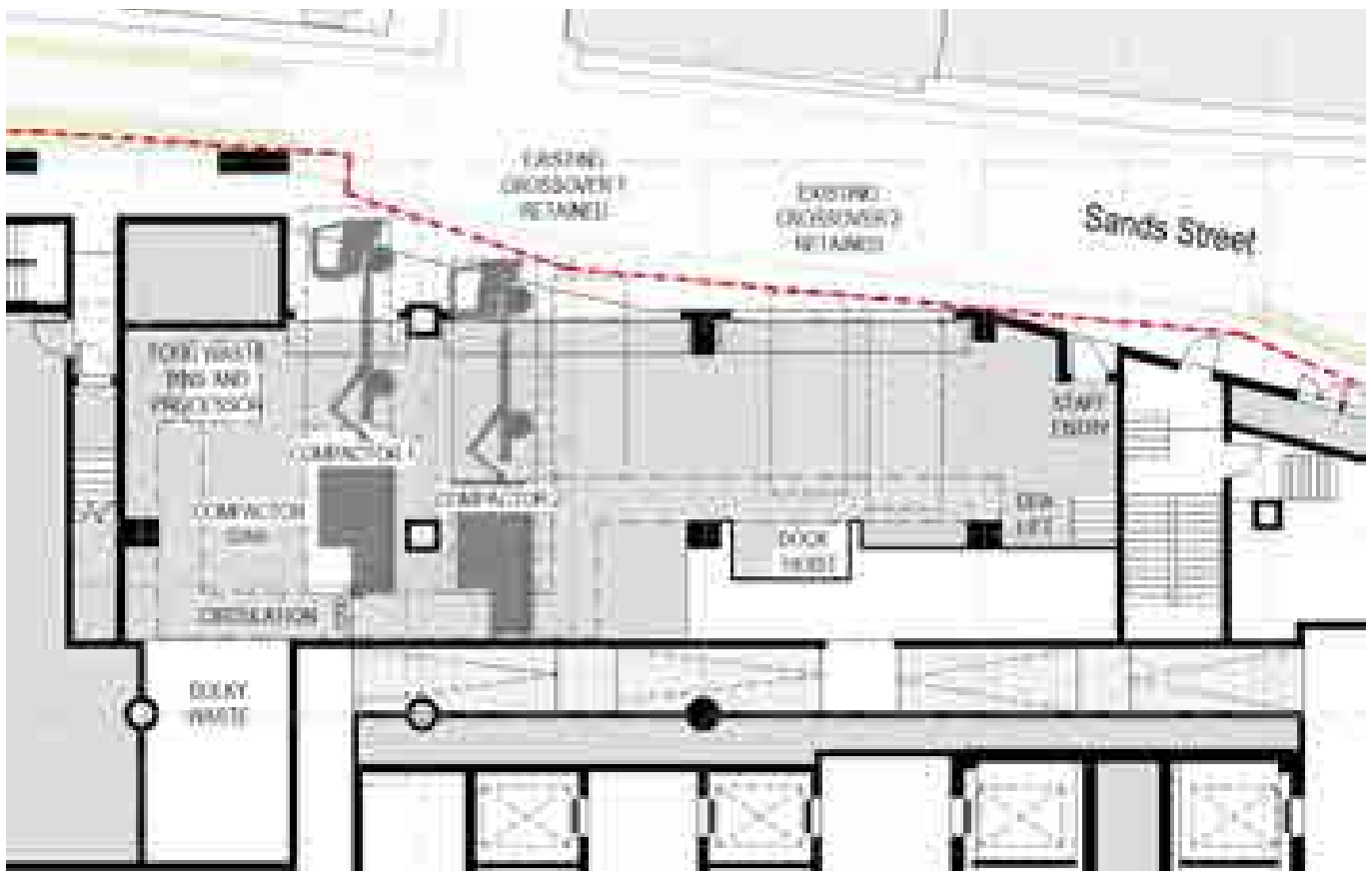
VERIFYING COMPACTOR SPECIFICATION AND CORRESPONDING WASTE SERVICE VEHICLE CAN BE ACCOMMODATED IN THE LOADING DOCK:

The design team have coordinated with multiple parties involved in confirming the loading management plan can be achieved, including:

- Elephants Foot, Waste Consultant;
- PTC, Traffic Consultant; and
- Veolia; Waste Contractor

The following process was undertaken to confirm loading dock functionality:

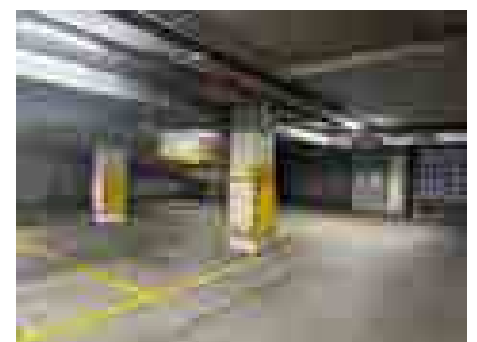
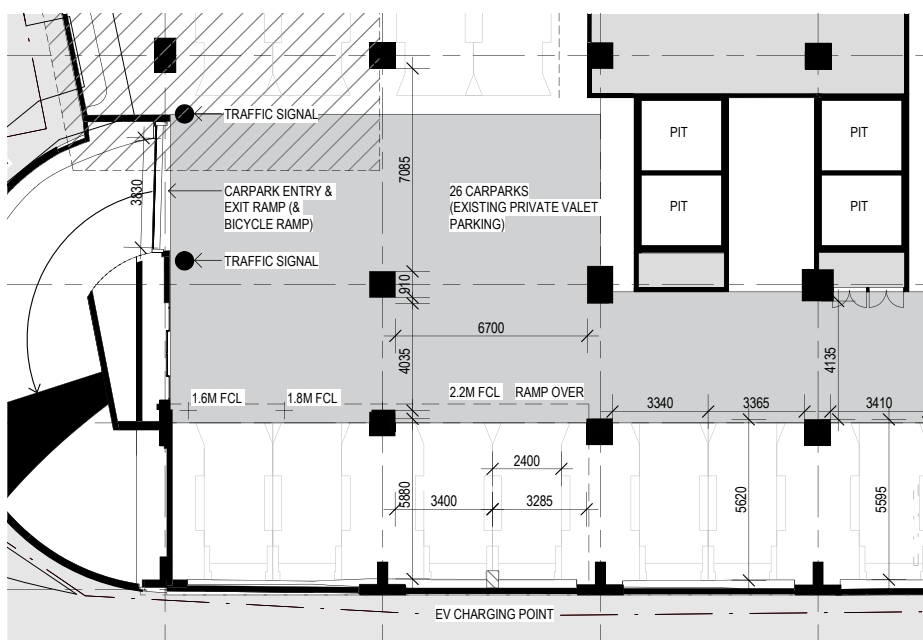
1. Elephants foot advised the site requires 2 x 8m³ compactors;
2. The waste contractor, veolia, confirmed their larger sizes of 10m³ compactors fit in the allocated spaces, as illustrated on the below plan (specification dimensions shown on adjacent page). The below plan also shows the Veolia compactor collection vehicle which fits within the site boundary.
3. PTC have confirmed that the waste vehicle tracking from Sands Street is possible as per Veolia advice (see SRV tracking movements in TIA).



BASEMENT: PROPOSED APPROACH

- The existing basement layout allows for most parking spaces to be B99 spaces (as the existing column grid is not designed to parking bay sizes).
- The existing basement will be concierge only, with no public access allowed to the basement. Even bicycles will be a concierge service at the ground floor. Only staff are allowed in the basement and only one vehicles will be driven at any one time.
- Current PTC analysis in line with CoS regulations is the 1 SRV and 2B99s are required for loading for the site. Whilst the basement can accommodate B99s, it is not generally proposed to allow access to unfamiliar drivers, it is a private garage. Loading has been allowed for at the ground floor loading dock.
- There will be only one concierge driving cars in or out of the existing garage.
- Cycle access from lifts to cycle parking has been segregated from cars.
- Visitor cycle parking (with concierge service) will be located on the upper basement.
- Staff cycle parking will be located on the lower basement, adjacent to staff changerooms and EOT.

UPPER BASEMENT - PARKING DIMENSIONS



Proposed parking spaces are all larger than the standard 2.4m x 5.4m (they generally vary from 3.2-3.4m x 5.5-5.6m), enabling manoeuvring into and out of parking spaces.

[illegible][illegible]

LOWER BASEMENT

The floor plan includes the following labeled areas:

- SINKER TANK 59 sq'
- COMBINED HYDRANT & PUMP ROOM 68 sq'
- REBUILD FIRE STAIR TO TRANSFER OVER STRENGTHENED FOOTING
- FIRE STAIR
- STAFF B.B.O.H. AREA / CHILLER & PUMPING PLANT 278 sq'
- GREASE ARRESTORS RM. 70 sq'
- CHY TRANSFER BLVD 81 sq'
- WIRE STAIR
- SEWER / STORMWATER 22 sq'
- PIT (multiple)
- B.O.H. LIFT (multiple)
- STAFF CHANGEROOMS 126 sq'
- STAFF CHANGEROOMS 90 sq'
- STAFF BING STORE 114 sq'
- PROPOSED FIRE STAIR
- STRIP TO STRUCTURE: NEW LAYOUTS.
- ROW PARKING LOT BELOW

BASEMENT: EOT APPROACH

1. Bicycle parking must be calculated based on the entire site, and not just the uplift in development.

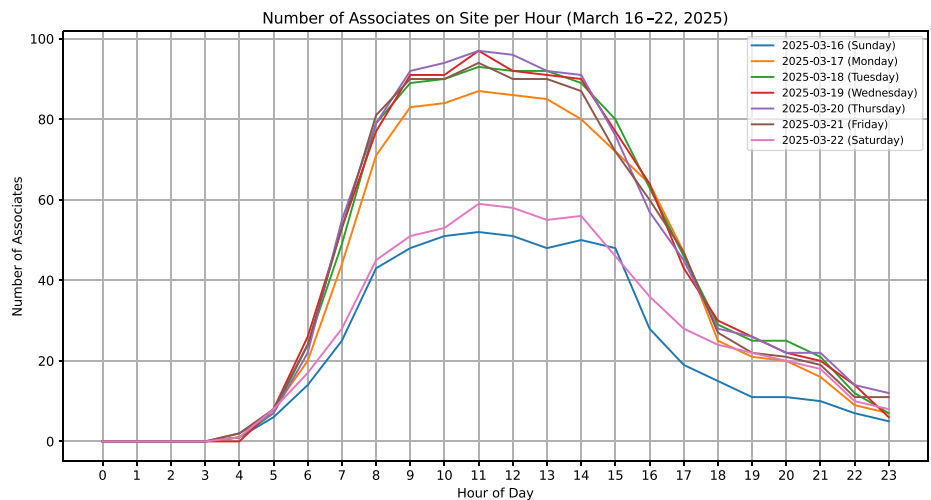
At any one time in the existing hotel there are maximum 100 staff on site. The following staff calculations for cycle parking allow for 180 staff at any one time which as we can see here aligns generally with increasing the current pattern.

2. Bicycle parking area must not be obstructed by/ conflict with vehicle swept paths;

3. The Transport Study must specify how access to guest bike parking will be managed should guest bike parking be provided in the basement;

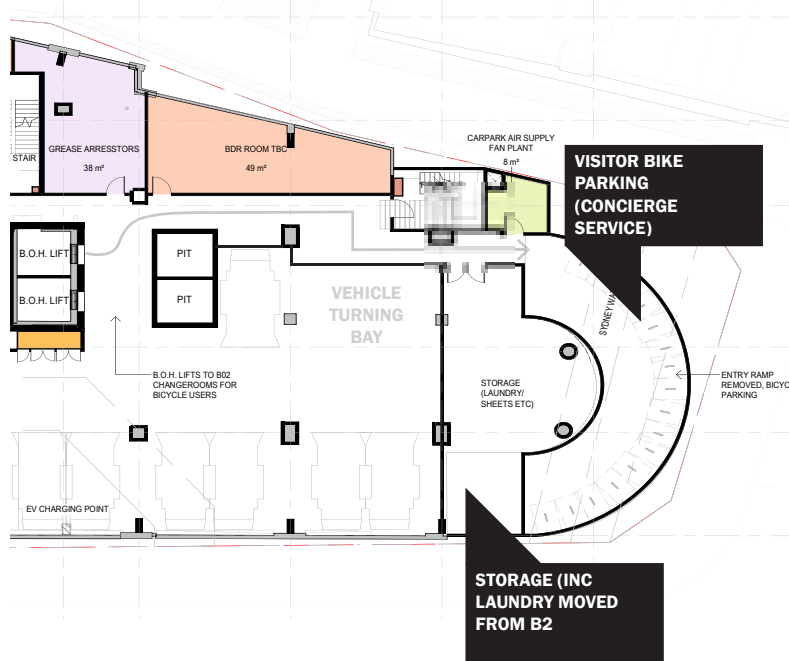
4. Access to bicycle parking in basement should be accessible by both the lift core and vehicle ramp.

- Bicycle parking is a concierge service, no public will access the existing basement.
- Visitors leave their bike at reception and EOT is on L01 (eg if cycling to attend an event at the hotel).
- Staff may bring their bicycles down in the BOH lifts.
- The path for bicycles is separate from the turning bay for vehicles.
- The existing ramp to the basement is not altered.
- Staff bring there bicycles in at Ground level and use the goods lifts to access staff EOT at level B2



BASEMENT: EOT APPROACH

UPPER BASEMENT



Bicycle parking must be calculated based on the entire site, and not just the uplift in development.

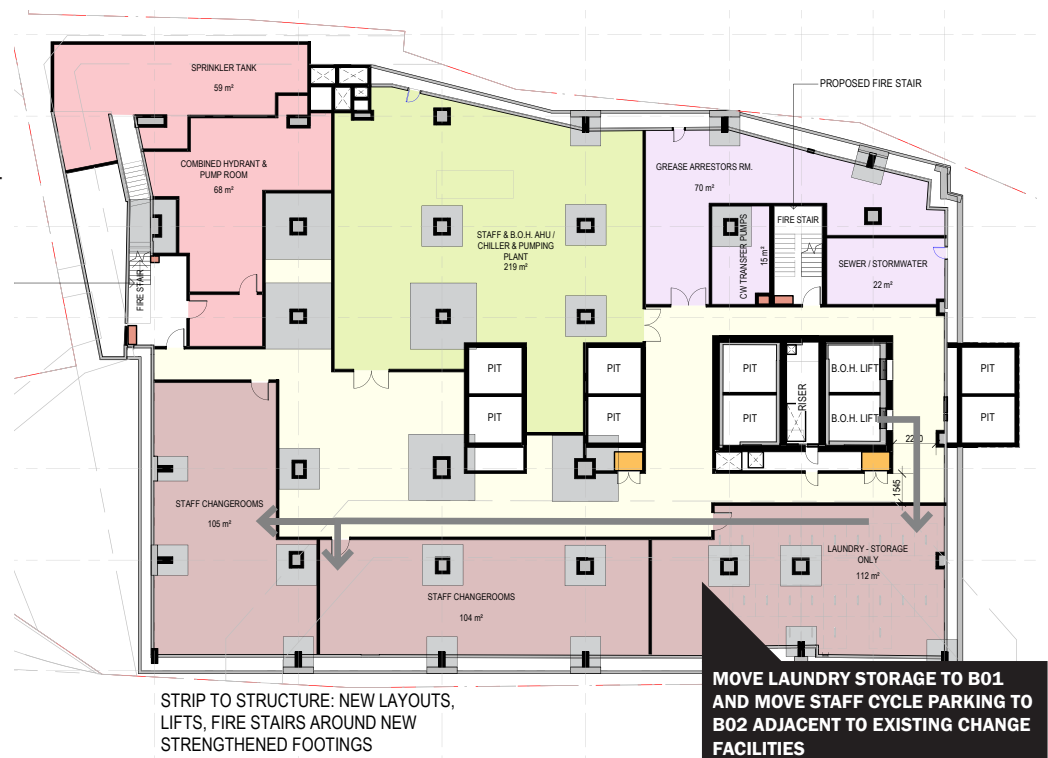
- Max 539 keys = 1 bike per 20 rooms = 27 bikes
- 360 staff, but in 2 shifts of 180 at any one time = 1 bike per 4
- 77 bikes total
- Shower and change per 10 = 8 shower and change total
- 1 locker per bike space
- 1.8m wide access to bike parking
- EOT for visitors are on L01 and L02 (Function) = 3 showers/change
- 5 shower and change for staff in B02 adjacent to staff change

There are existing staff shower and change rooms with lockers on B2 for the hotel. These facilities will be enhanced to be both staff changerooms and also compliant EOT facilities for staff.

Visitor EOT will be on Level 01 of the hotel.

LOWER BASEMENT

- There are existing staff shower and change rooms with lockers on B2 for the hotel. These facilities will be enhanced to be both staff changerooms and also compliant EOT facilities for staff.



PUBLIC REALM AND LANDSCAPE

VISION AND APPROACH

150 Day Street will be a celebration of Sydney's landscape, brought into the CBD. The substantial greening across the building will weave together a robust and verdant landscape in a city-leading way. A building encased and surrounded in green which reaches from the public domain, along the facade and across rooftop terraces shall connect the guests of 150 Day street to the Country it resides on.

Darling Harbour has always been a place of concentrated energy and gathering. Life that is centred within and drawn to the harbour, have been managed and cared for by its traditional custodians, the Gadigal for millennia.

Dr Shane Smithers tell us that Gadi Country stretches across the Land, Sea and Sky of what is now called Sydney. Despite the destructive effects of colonisation, the land remains Gadigal Country.

Darling Harbour remains a place of congregation and celebration, a threshold between Land and Sea Country and a key part of Sydney's international identity.

This connection and culture runs

through the core of the 150 Day Street site, as it attempts to stitch the city's East-West permeability, to improve the experience of broader city users and imagine what healthy Country looks like within an urban context.

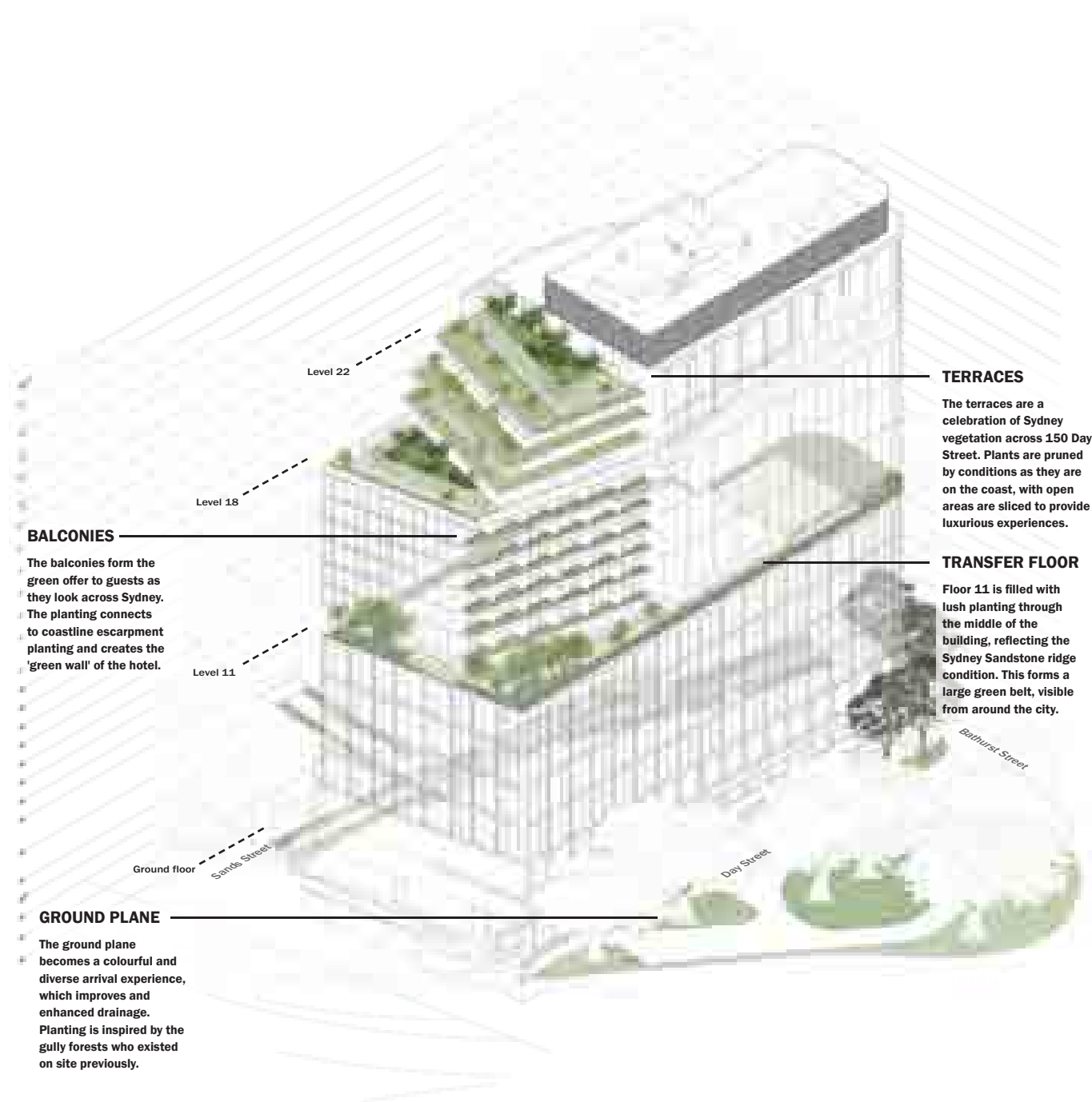
The imposition of post-industrial, modern structures feels objectively contrary to this, however, the building still exists upon, and as a part of Country.

150 Day Street is a point of transience and movement. Surrounded by major arterial roads, it offers a reprieve from the Chaos around. Key through site links will be upgraded, to further improve the fine-grain network of a human scale

Sydney.

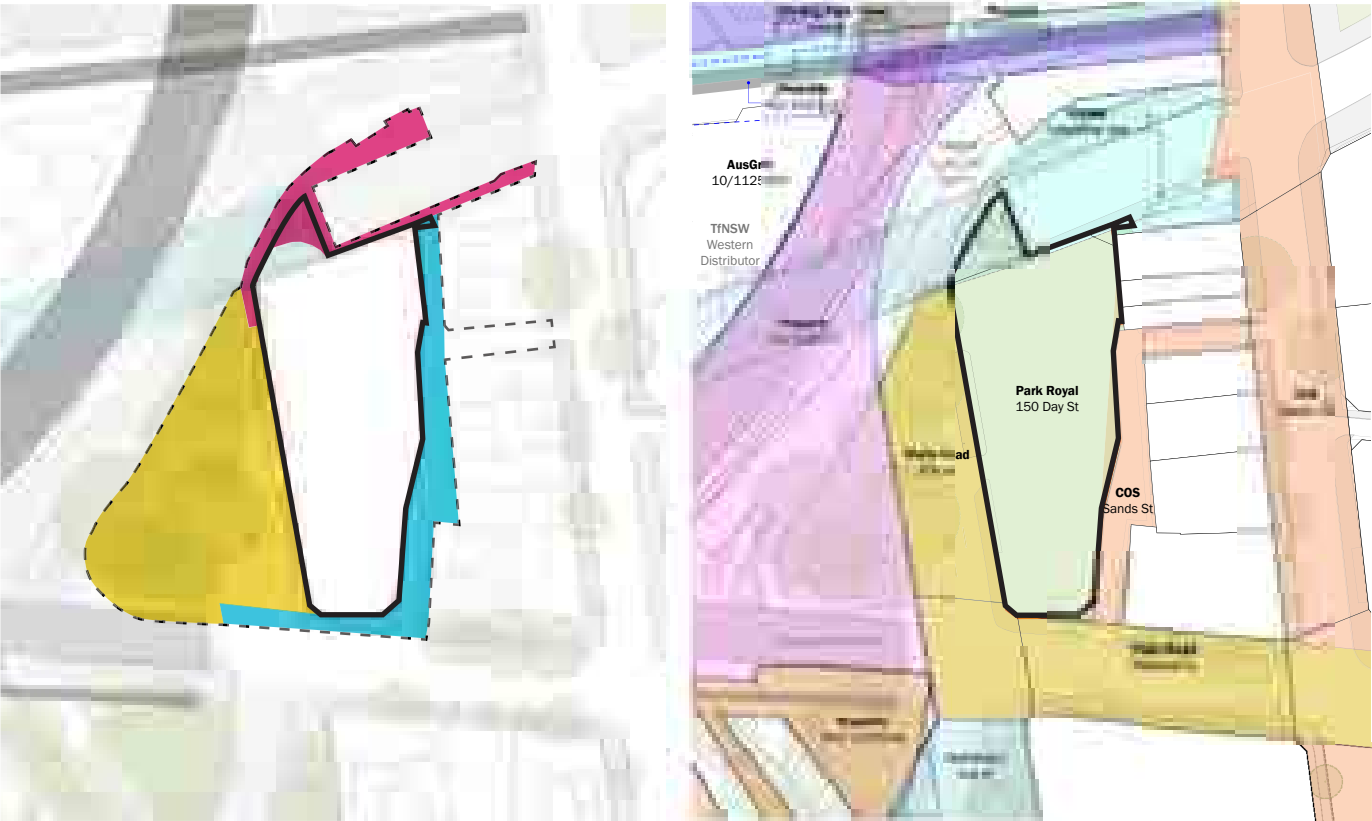
Wrapping this form in a large and dense green offer, allows the reach of healthy Country to run deep into the urban heart of the City of Sydney. The site has been identified as further than 200m from any open space, thus a great candidate for change.

By drawing parallels between the variety of natural micro climates present around Sydney and the incredibly constructed condition that 150 Day Street sits within, informed plant species choices are able to be made. Placing species in areas which mirror their natural condition maximises their success, as well as that of the project and its connection to Sydney.



LANDSCAPE STRATEGY

Landscape stitches the built form into the wider city. The strategy for 150 Day street has been informed by wide ranging analysis. An understanding of the constraints informs the major design moves and choices.



Public domain spaces

3 zones have been identified for potential areas of public domain improvement. The porte cochère and arrival zone in the west, Sands and Bathurst Street interfaces and the Northern pedestrian links. They will enhance the access and permeability of the city as well as fine grain, East-West connections.

LEGEND

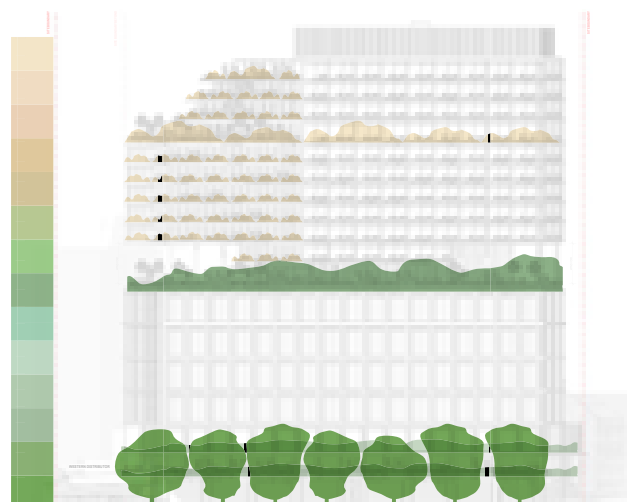
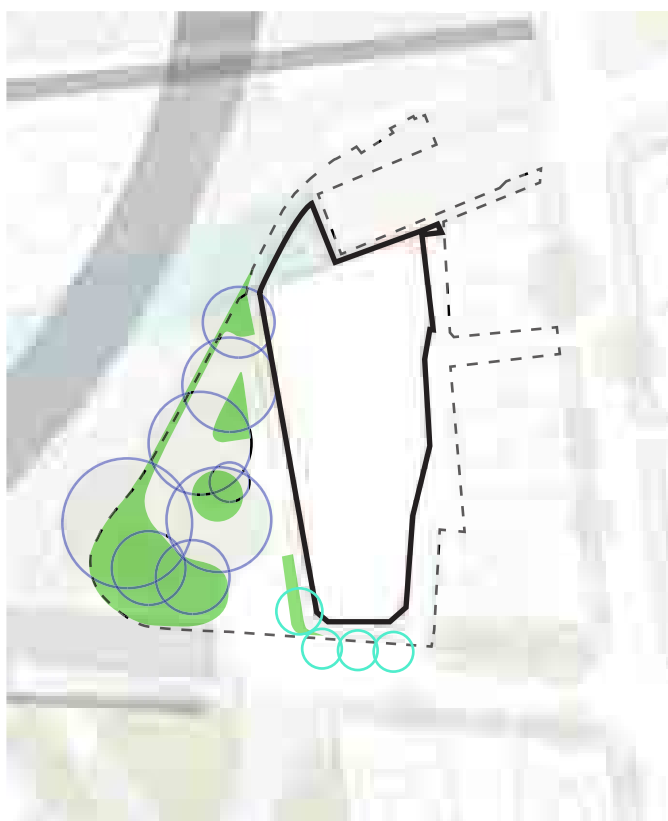
---	Study area
—	150 Day St lot boundary
■	Northern pedestrian links
■	Day Street
■	Porte cochère & arrival garden
■	Sands and Bathurst Street

Property ownership

The area around 150 Day street features complex and diverse land ownership. 150 Day Street shares a boundary with or is in close proximity to land owned by the City of Sydney, Transport for NSW, Placemaking NSW as well as private owners.

LEGEND

—	150 Day St lot boundary
■	150 Day St
■	City of Sydney
■	Transport for NSW
■	Placemaking NSW
■	State Road



A healthy blue and green ground plane

Permeability of water across the site will be greatly improved with paving and new planting. Existing planting will be upgraded, with scope to expand. This will increase the biodiversity present in the area and connect to wider city networks. All trees present will be retained with more proposed.

LEGEND

---	Study area
---	150 Day St lot boundary
○	Retained trees
○	Proposed trees
●	Upgraded planting

City Greening

Landscape zones are crafted throughout the hotel, taking inspiration from the surrounding Sydney vegetation. These are informed by the micro climates mirrored and created in the built form. The zones include the coast, the ridge and gully.

LEGEND

Yellow	Coastline planting
Green	Sandstone ridge line planting
Dark Green	Gully Forest planting

PUBLIC BENEFIT OPPORTUNITIES

Upgrades across the public domain of 150 Day Street target specific issues existing on site as well as through the wider city.

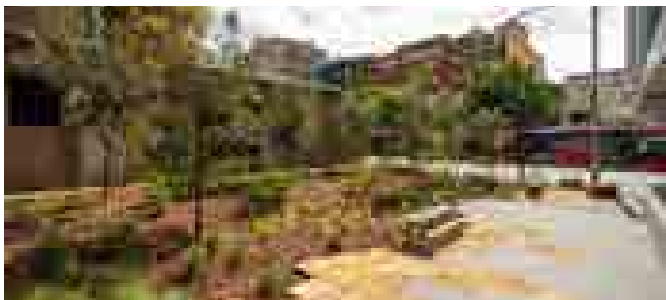
Aligning with the key design principles developed through the design process, they are focused on improving east-west connectivity and fine grain pedestrian permeability, enhancing the pedestrian experience and increasing the urban biodiversity and biodiverse network of the city. Allowing water to return to the ground on site is also a priority.



Positive outcomes for water sensitive urban design

Storm water collects in Sands Street as it funnelled by the city and boxed in by 150 Day Street's walls.

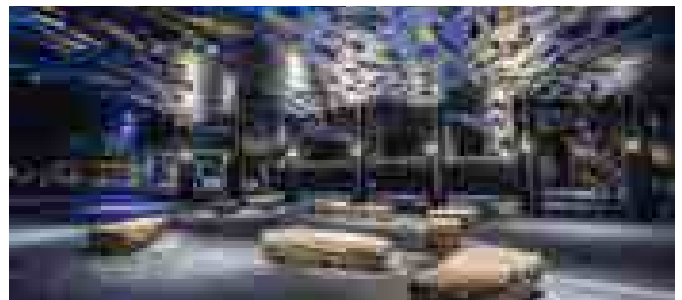
Adding rain gardens will address this issue, return water to Country and alleviate stress from the storm water systems.



Spreading Country positive design in the public domain

Land has been sealed and endemic vegetation removed across the site of 150 Day Street.

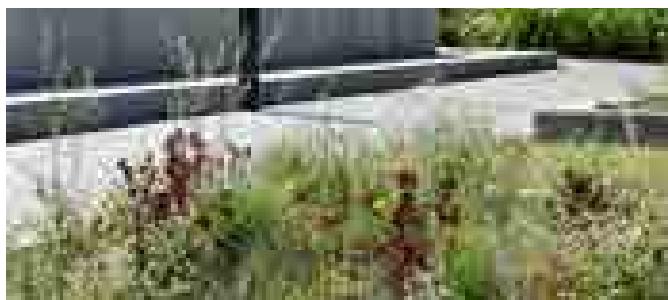
Integrating water sensitive, native vegetation into appropriate places allows the reaches of healthy country to re-establish in the highly urbanised area.



Integrating public art to expand the offer to the city

The City of Sydney's large public art collection currently does not extend to the area around 150 Day Street.

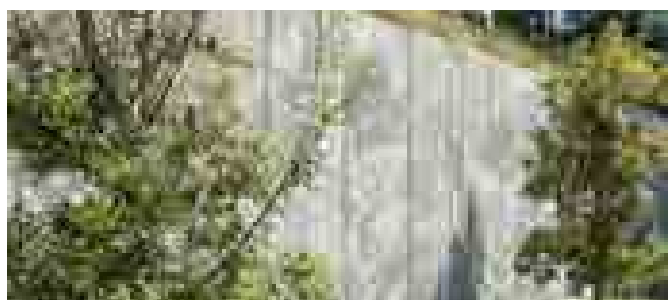
Leaving space and scope for generous integration will expand 150 Day Street's broader public offer.



Increasing city green and biodiversity

Spontaneous vegetation and monocultures are the current conditions of planting on site, with no garden bed having more than 3 species.

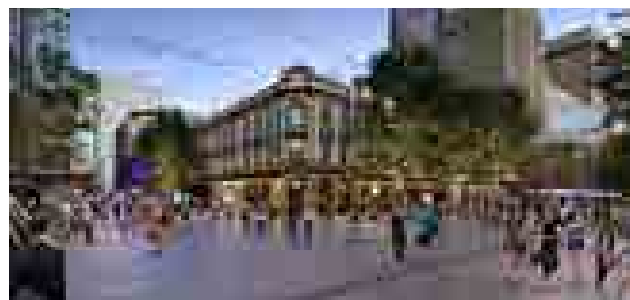
Turning the existing planters into vibrant and biodiverse typologies are crucial for supporting habitat. Hassell and the GANSW's 'Biodiversity in place' says "multi layered diverse plant species they can support up to 20 x more species."



Stitching into existing biodiversity networks

The site is over 200 meters away from any open space, as identified by the City of Sydney's open space deficiency analysis.

Increasing quantum of plants and species, as well as diversity of flowering and fruiting species, will allow the site to integrate into and expand the network of habitat across Sydney, acting as a stepping stone of habitat to broader city connections.



Upgrading city fabric

The Western distributor underpass is currently under lit, poorly finished and incredibly hostile to pedestrians.

Upgrades to the area will return it to a key east-west pedestrian link, and spread the revitalisation around the city

Increasing pedestrian legibility, wayfinding and safety

150 Day Street has 4 ground plane finishes around its border. Blue stone to Bathurst street, Asphalt to Sands, concrete under the western distributor and paving along the Day street interface.

Unifying these finishes to a city standard will prevent the ambiguity of public space, and allow the site to have a stronger relationship with the city.





PUBLIC DOMAIN PROPOSAL

Day Street

The arrival spaces to and through 150 Day Street will offer a diverse and colourful Sydney garden, improving the experience of guests and public alike.

The public domain proposal involves minimal interventions outside of the 150 Day Street property boundary, focusing on improvements to the Day St Footpath. It will also feature minor upgrades to the underpass and improvements to existing planting. Further coordination with adjoining land owners (placemaking NSW, City of Sydney and TFNSW) is required.

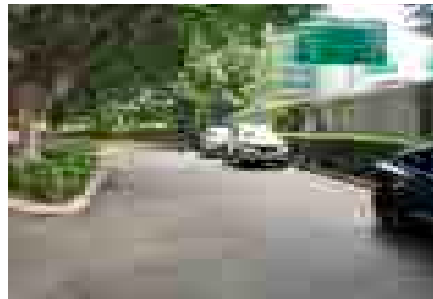
Key Elements

-  A large area at 1763m², the porte cochère has 600m² of garden bed.
-  It will become a pleasant and safe place to drop off and pick up guests and users.
-  Planting will be diverse and colourful, actively improving the biodiversity of the area. People will arrive into a diverse, colourful Sydney garden.
-  It will provide a dense and central green outlook from the lobby and surrounding city.

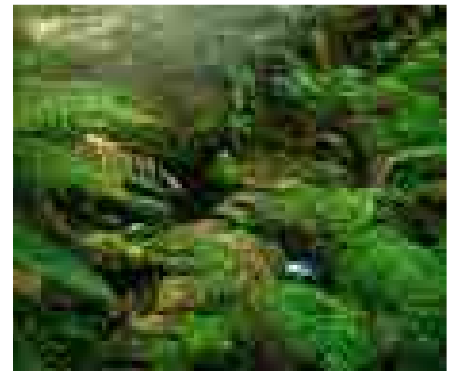
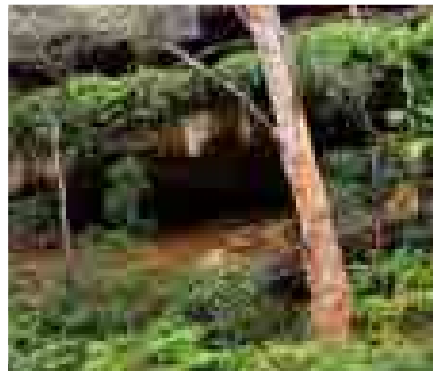
Images:

1. Fish Lane town square, Brisbane
2. Park House, Melbourne
3. Wendy Whiteley's Secret Garden, Sydney
4. Hayden lane, Sydney

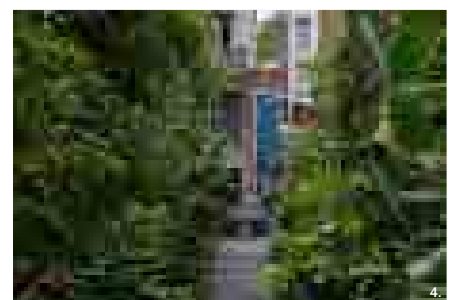
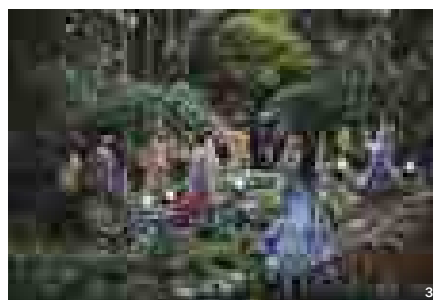
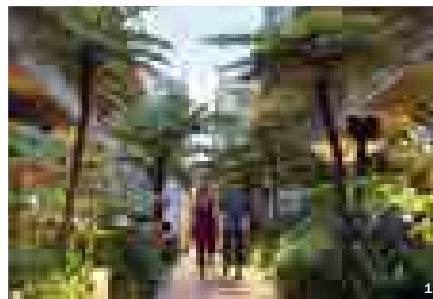
Existing site



Landscape character



Design character





Public Domain Proposal

LEGEND

1. Upgraded Existing Planting	4. Existing Wall	7. Kiss And Ride Zone
2. Traffic Light System	5. Improved Underpass Lighting	8. New Hotel Entry Point
3. Upgraded Paving	6. Landscaped Water Feature	9. Existing Roundabout

PUBLIC DOMAIN PROPOSAL


Bathurst and Sands Street


150 Day street faces onto Bathurst, Day and Sands Street. Upgrades will change how the building meets the city and how the city flows around it.


A focus on permeability is placed, with opportunities for water gardens and chances to return water to the ground present on site.


Another part of the enhanced public realm scenario, Bathurst and Sands Street interventions will require coordination with the City of Sydney.

Key Elements

 The site edges onto Day, Bathurst and Sands Street. These city interfaces will be calmed and offer improved pedestrian experiences.

 Planting in the public realm extends the benefit to all people of the City rather than just users of the hotel.

 Street trees planted on Bathurst Street increase the Cities canopy cover. Rain gardens in Sands Street also improve the permeation of water across the site.

 Sands Street interventions extend usable city space and further the process of bringing Sydney to the human scale.

Images:

1. Foley Lane, Sydney (Hassell)
2. Victoria Park, Sydney (Hassell)
3. Sydney Metro Planting Trials (Hassell)

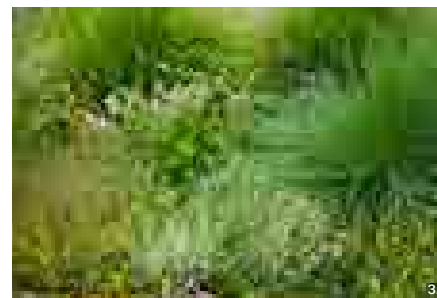
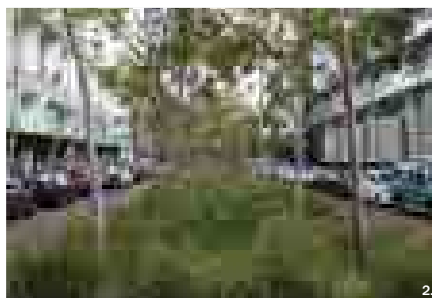
Existing site



Design character



Planting character





■ Pedestrian Zones

Public Domain Proposal

LEGEND

- | | | |
|-------------------|---------------------------|-----------------------------|
| 1. Swale Planting | 2. Public Art Integration | 3. Landscaped Water Feature |
|-------------------|---------------------------|-----------------------------|

PUBLIC DOMAIN PROPOSAL




Western Distributor Underpass

The Western distributor underpass exists with very poor lighting, the floor finishes are in poor condition and the area is incredibly hostile to pedestrians.

Upgrades to the area will return it to well utilised east-west pedestrian link. These will include upgrading and unifying ground plane, improving lighting elements and integrating public art.

This is a key public upgrade and aligns with the 150 Day street, as well as City of Sydney Public domain strategies. It is intently focused on creating well designed, safe and accessible space.

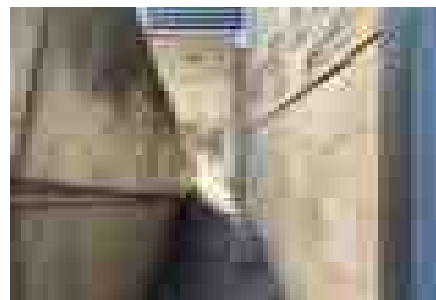
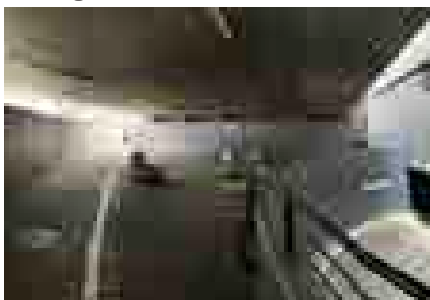
Key Elements

-  Connecting Day and Sands street to the North running Sussex Street. The western Distributor runs above.
-  Revitalising the underpass will return it as a through site link, and key, east west, pedestrian link between the CBD and Darling Harbour.
-  Reducing places pedestrians feel unsafe allows for the percolation of the public around the building, providing wide reaching public benefit and returning parts of the city to the people.

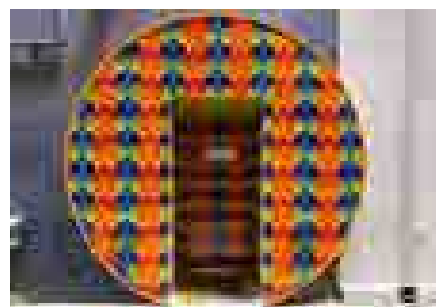
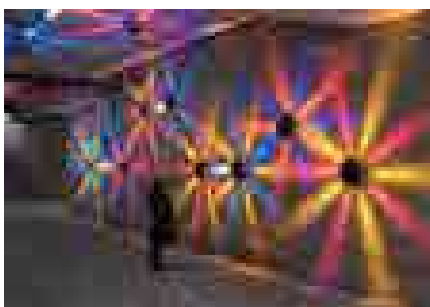
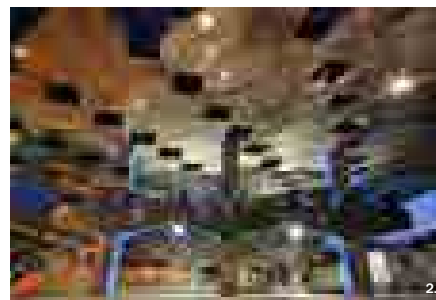
Images:

1. Drift Inversion, Denver, USA
2. Mirage at Underpass Park, Toronto, Canada

Existing site



Design character





■ Pedestrian Zones

Public Domain Proposal

LEGEND

- | | | | |
|--------------------|---------------------------|----------------------|-------------------|
| 1. Upgraded Paving | 2. Public Art Integration | 3. Improved Planting | 4. Swale Planting |
|--------------------|---------------------------|----------------------|-------------------|

PUBLIC DOMAIN PROPOSAL

Public Domain Planting Revitalisation

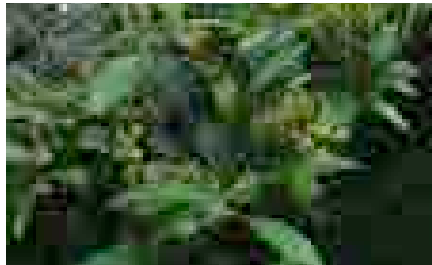
Following the planting motivations of the project, species choice is informed by parallels between the micro climates of Country and 150 Day Street's urban condition.

Planting design

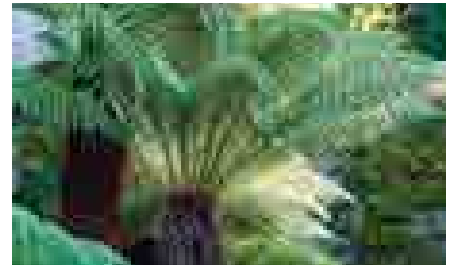
Deep shade is present all around the site, from the urban form as well as under the established Morten bay figs of the port cochere. Species choice has been dictated by these conditions, as well as the expected swale plantings.

→ Pre colonial vegetation community

Plantings has been informed largely by the remnant vegetation communities of Eastern Suburbs Banksia Scrub and Sydney Casurina Swamp Forest.



Notolaea longifolia



Dicksonia antarctica



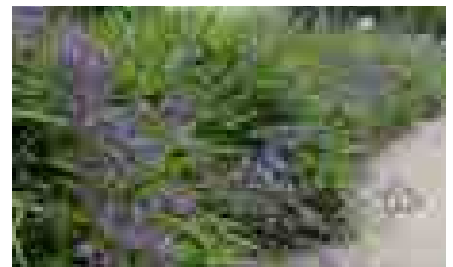
Asplenium australasicum



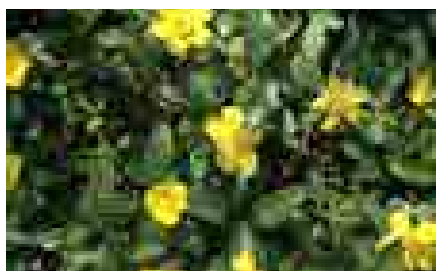
Baurea rubioides



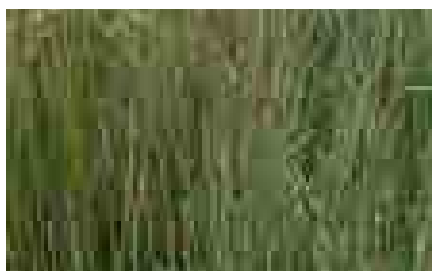
Leucopogon lanceolatus



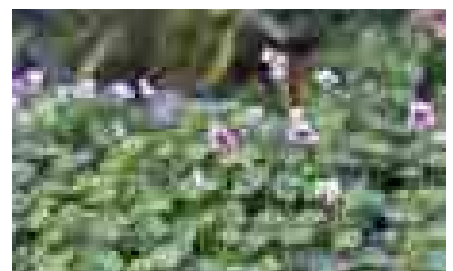
Dianella spp



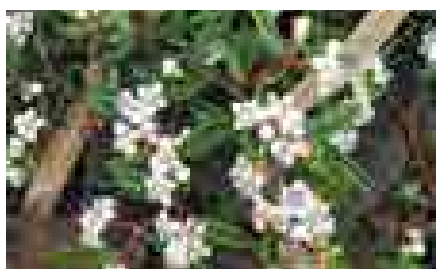
Hibbertia scandens



Machaerina juncea



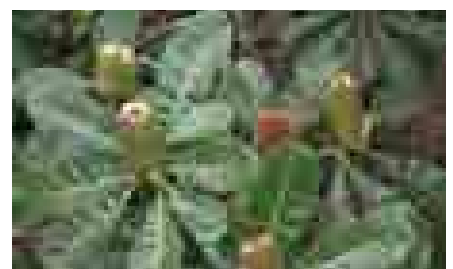
Viola hederacea



Rulingia hermannifolia



Cyathea cooperi



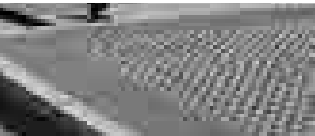
Banksia robur

MATERIALS PALETTE

Public Domain

all images are indicative

Hardworks



Softworks

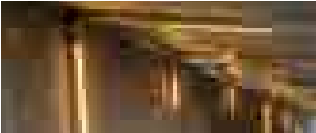


Port cochere planting
Hassell planting design

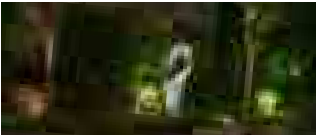


Sands Street planting
Hassell planting design

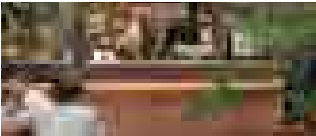
Urban Elements



Underpass Lighting
Kent Street Underpass



Garden lighting
Ecologically sensitive lighting



Integrated lighting
Into fixtures and structures



Street trees
Natives



City of Sydney treegrate
Tzannes

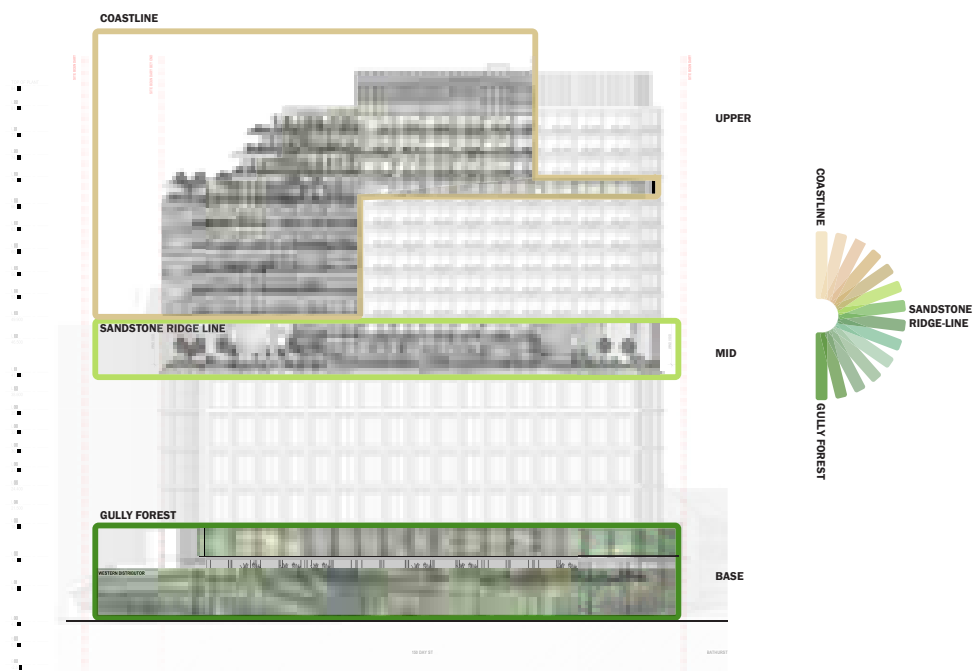
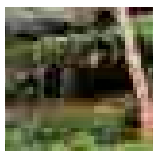
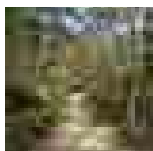
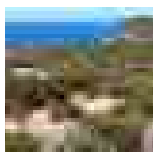
BUILDING LANDSCAPES VISION AND APPROACH

150 Day Street will be covered in a large, green offer to the wider city. It integrates Sydney landscape character onto the built form, enveloping the site in the mixture of colour and textures present in healthy Country.

Sydney's natural bushland is a defining feature of the city, with green corridors threading through its urban fabric. This project draws inspiration from three iconic vegetation typologies unique to Sydney: sandstone gully forests, sandstone ridge-line bushland, and coastal heathlands.

By reflecting the microclimatic diversity of Sydney's native ecosystems, the design works with the distinct urban context of 150 Day Street rather than against it. Strategic species selection aligns with the natural conditions these species thrive in, creating opportunities for ecological success and fostering a meaningful connection to Sydney's

environment. This approach seeks to weave the essence of Sydney's bushland into the project, balancing ecological integrity with urban resilience. It ensures that plantings not only flourish but also strengthen the identity of the space as a vibrant extension of Sydney's unique landscape.



A wide-angle photograph of a coastal landscape. In the foreground, there is dense, low-lying vegetation in shades of green and brown. In the background, a blue body of water meets a hazy, light-colored sky.

UPPER PLANTING

The upper planting mirrors that of Sydney's iconic coastline. Pruned and trimmed by extreme conditions this vegetation is tight and mounding. Texture, form and colour are all highly recognisable as a Sydney typology.

A close-up photograph of a forest interior. The image shows thick, gnarled tree trunks and a dense canopy of green leaves, with sunlight filtering through the branches.

MID PLANTING

Planted through the central area of the building, this reflects the natural condition of Sydney's ridge lines and escarpments. The form and look is dictated by its climate and sandstone soils.

A photograph of a lush forest floor. The scene is filled with vibrant green ferns and other undergrowth, with a small stream or gully visible in the background.

BASE PLANTING





Informing the planting around the base of the building, the lush gully forest reflects the coolness and tranquillity of the Sydney enriched sandstone understory.

BUILDING LANDSCAPES

Green Edges

Turning the city wall green, the terraces and balconies of 150 Day Street will display iconic Sydney vegetation typologies to the wider city. Visible from key areas, it will operate as an important landmark and city benchmark for design and innovation.

Key Elements

-  Residing at level 11, the key terrace will display a concentration of green, anchoring the above floors.
-  The floor will be integrated with the gym and other hotel amenities, allowing the planting to be interacted with, and extend within the built form.
-  Providing large areas for planting, this concentrated loop will be bright, colourful and biodiverse. This will also provide habitat for other kin within the city.
-  Not only visible from the hotel, this planting will be a landmark for the city, with strong views from the Western Distributor and Darling Harbour.

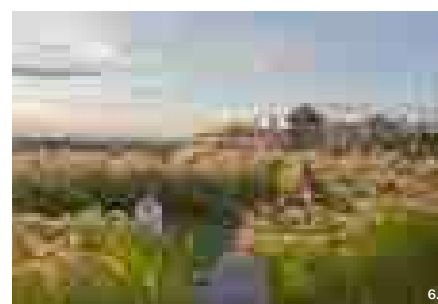
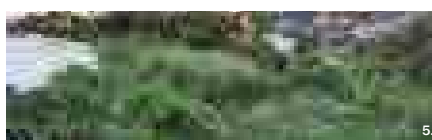
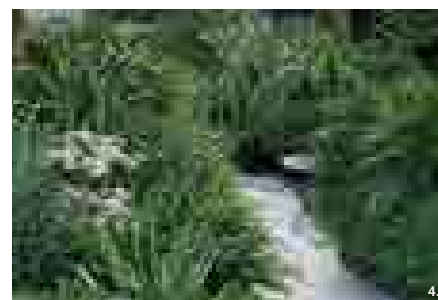
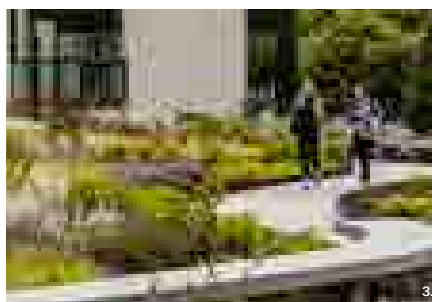
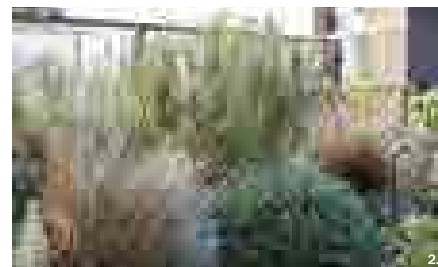
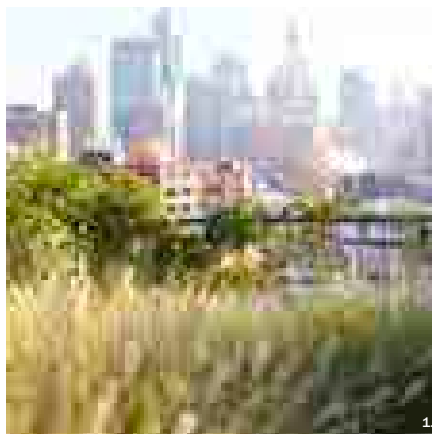
Images:

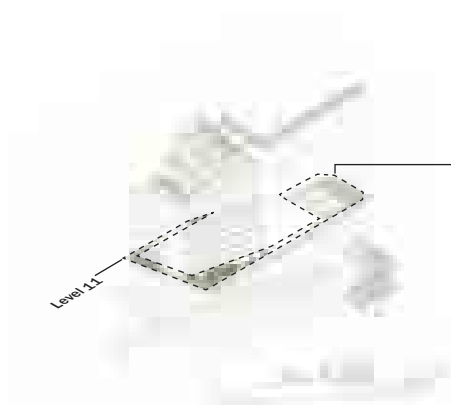
1. Surry Hills 1 Sydney
2. Rozelle Rooftop, Sydney
3. Victorian Parliament House, Melbourne
4. Skyline, Sydney
5. The Nine, Sydney
6. M Central Sydney

Landscape character



Design character





TRANSFER FLOOR

The Transfer floor has the verdant planting of a Sydney sandstone ridge. A key visible area, anchoring important views from Darling harbour and the Western Distributor (East bound), the large green belt, will act as a new landmark for the city. Planted into large soil depth, the transfer floor will support established species, mounding and undulating to create further interest.



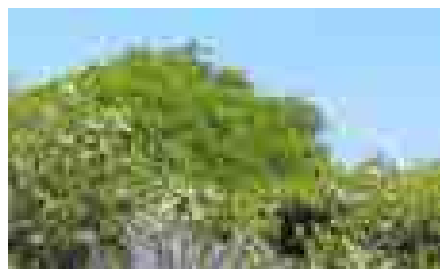
Level 11 - Gym & Transfer floor

LEGEND

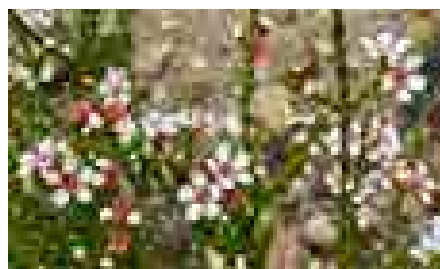
1. Accessible balcony -- Site boundaries 2. Sandstone ridge planting ● Proposed trees

Sample Planting Design

Planting along the transfer floor aims to create volume and vibrance all year round.



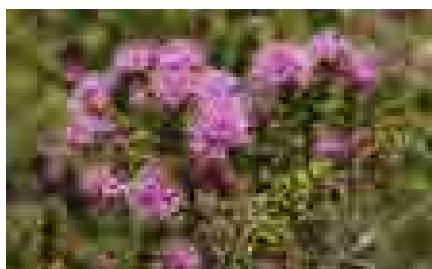
Melaleuca armillaris



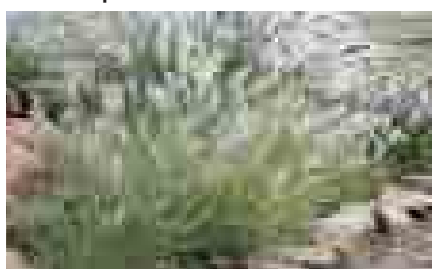
Baeckea brevifolia

It should be a diverse and flowering garden, which provides habitat and joins the Darling Harbour and wider Sydney City biodiversity network

Species are informed by Sydney sandstone



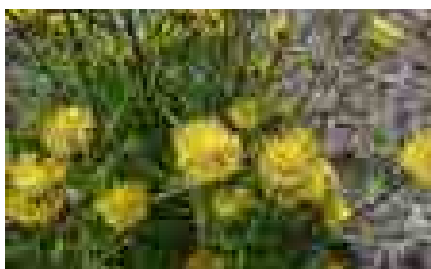
Kunzea capitata



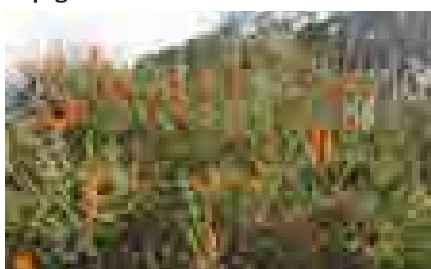
Pennisetum alopecuroides 'Pennstripe'

ridge line and rock plate plant communities.

The form of the floor will either be seen from a wide variety of distances and resolutions, and thus must provide interest at both through form, colour and variation.



Isopogon anemonifolius



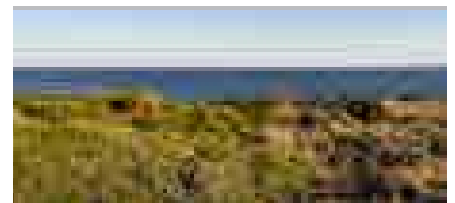
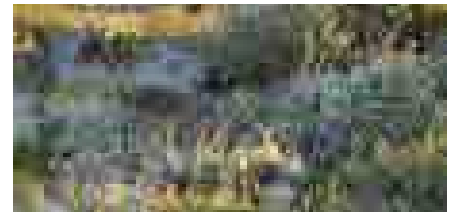
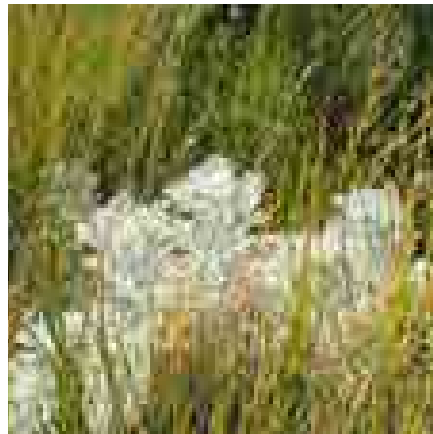
Banksia ericifolia

BUILDING LANDSCAPES

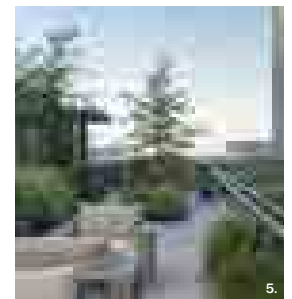
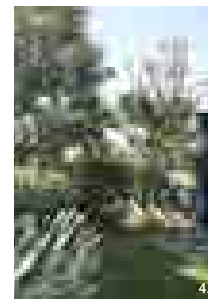
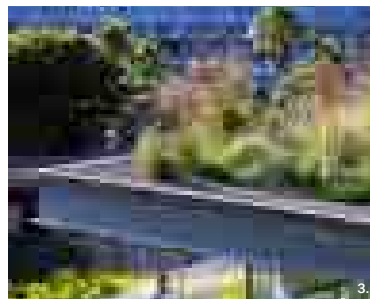
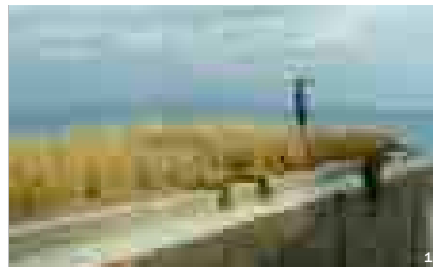
Balconies & Terraces

The celebration of Sydney vegetation across the roofs of 150 Day Street. Plants hemmed by conditions as on the coast, areas are sliced to provide luxurious experiences.

Landscape character

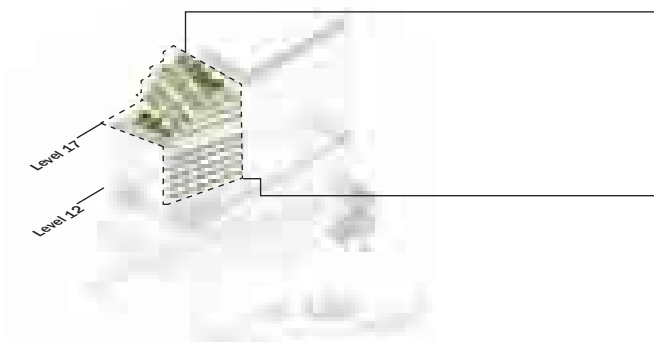


Design character



Images:

1. Mornington Peninsular, Victoria
2. Sydney Modern art gallery, Sydney
3. Sydney Modern art gallery, Sydney
4. Surry Hills 1, Sydney
5. Skyline, Sydney
6. Intercontinental, Sydney
7. 52 Reservoir Street, Sydney

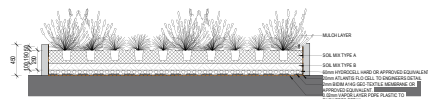


TERRACES

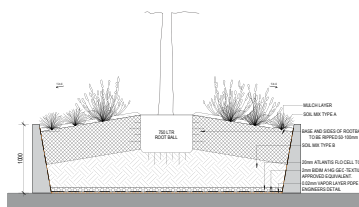
The rooftop terraces cap the experience of 150 Day street's extensive green. Planted to resemble the beaten heathlands of Sydney's coasts, their form is unique to the iconic city it sits within. In the accessible areas of the terraces, planting is protected by screens, and is able to grow larger and be pruned by human maintenance, providing a more manicured experience

BALCONIES

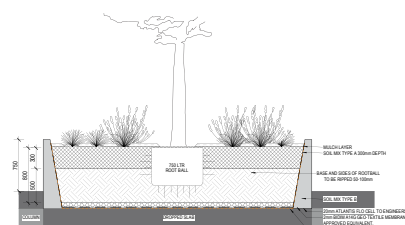
The balconies stretch from level 12 to 17, and form the green wall of the hotel. Reading as the clumping forms seen in coastal headlands, the balconies read as a homogeneous mass rather than individual planters. From within the hotel, guest's views are framed by successful and diverse planting, typical of Sydney.



Typical section - Ground cover planter on slab



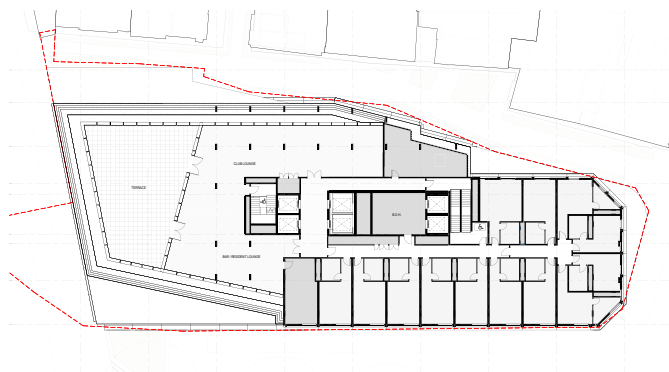
Typical section - Battered tree planter on slab



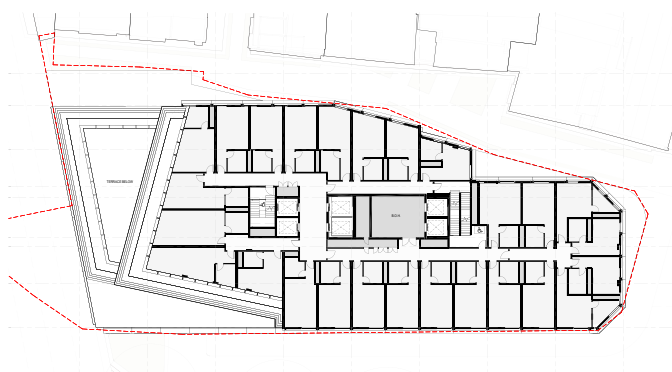
Typical section - Dropped slab planter



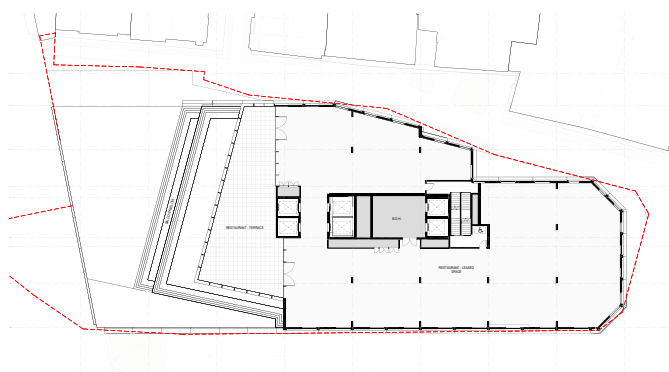
Level 13 Balconies



Level 18 Terrace



Level 19 Balconies



Level 21 Terrace