



# **WEE HUR STUDENT HOUSING** **90-102 REGENT STREET REDFERN**

**RESPONSE TO SUBMISSION - SUPPLEMENTARY DESIGN REPORT**



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## RESPONSE TO SUBMISSION - SUPPLEMENTARY DESIGN REPORT



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# EXECUTIVE SUMMARY

## DESIGN PROPOSAL

This report has been prepared to describe the design changes made in response to authority and community submissions.

Through a series of workshops with key consultants and liaising with authorities, this report aims to address a number of issues pertaining to the proposed design.

## BUILDING DESIGN

A comparison between the existing buildings at 92-96 Regent Street were made with the proposed development, with a number of significant benefits becoming clear. The proposed development provides additional openings to Regent Street, Marian Street, and William Lane.

Designed to reference the legacy urban fabric of Regent Streets shopfronts, the podium design establishes a street frontage down William Lane, framing the approved through site link at the neighbouring 13-23 Gibbons Street development, while also providing activation through interior usage types as lounges, games, office use, bike store, and retail spaces. Further, design of the podium creates new entries on both Regent Street and William Lane, which activate the public realm.

The awnings have been designed in accordance with City of Sydney's Awning Policy 2000. The awning heights along Regent Street and Marian Street have been lowered to a range between 3.2m and 4.2m, providing better shelter for people below. The awning depth has been set back from 2.8m to 2.0m to accommodate future canopy growth of the proposed tree species. Gaps have been removed to maintain continuity.

The openings along the Regent Street and Marian Street podium facades have been further developed in coordination with the proposed awnings above the eastern and northern terraces. The design retains similar references to Redfern's built fabric.

Bicycle parking has been further reviewed to ensure compliance with AS 2890.3(2015). Vertical and ground clearance has been ensured through liaison with a traffic engineer, while ground levels and egress pathways have been reviewed in conjunction with civil and stormwater engineers. Material tags have been clarified, and signage along Regent Street has been further articulated to maintain passive surveillance with the street.

## LANDSCAPE

The landscape design has been further improved with the addition of a tree along William Lane, providing a 15% canopy coverage over the site. All tree canopies shown have been amended to show future growth.

Material selection of the footpath has been further updated to align with City's Street Code, while the planting palette has been supplied to further clarify the proposed species mixes.

Level 2 terraces provide break out spaces for residents to enjoy the outdoors via small and large group seating, alfresco dining, exercising, and movie watching. The landscape elements provided maintains a biophilic connection through an array of raised planters for small trees and vines, and potted plant specimens. Substantial vertical greening is provided through generous vine planting on all terraces greatly enhancing the richness of the landscape.

The pergola canopy structure at each of the western, eastern, and northern terraces mitigate downdraft winds, to provide comfortable conditions for users of the terraces to enjoy social activities. Design development has allowed for an air gap to mitigate any heat build up.

The wind report confirms that these landscape elements are not relied upon to mitigate downdraft winds. The landscaping has been further developed to confirm adequate soil volumes to support the proposed species and the ability to provide mitigation of heat island effects.

Both the southern and western level 3 terraces have incorporated doors for maintenance access.

## CIVIL DESIGN

A civil package has been developed and coordinated to mitigate against flooding, particularly towards the William Lane entrances. A barrier kerb is proposed along Marian Street, turning into William lane and continuing towards the loading dock at the southwest end. The back of house spaces are designed to appropriate levels to address flood concerns. The pram ramp to Marian Street at the northeast corner of the site is proposed to be rebuilt and compliant with CoS Streetcode Guidelines.

## ESD

The ESD report provides a clear list and details of the proposed ESD measure including the relevant Section numbers from the report. The development is currently being developed through the design development stage to ensure these ESD targets are met; each PV cell provide 400kwh, resulting in a total of 40,000kwh.

## TRAFFIC

The loading dock and associated back of house spaces have been relocated further south of the site, to better address egress pathways and serviceability requirements. Swept paths have been subsequently checked and confirmed regarding the proposed turntable strategy for trucks to enter front in and front out.

## COMMUNITY IMPACT

Through an overshadowing study on St Luke's Church at 118 Regent Street, we can confirm that the church receives 4 hours of solar access through mid-winter.

We have in consultation with St George Community Housing at 11 Gibbons St, incorporated privacy louvres to the proposed western terrace situated where these are opposite the residences at 11 Gibbons Street, directing views from the terrace southward away from the residences across the laneway.

Further, an acoustic consultant has advised a noise level design parameter of 50dB, consistent to that of the approved student accommodation development at 88 Regent Street across Marian

Street. The podium design at the northern end of Level 2 incorporates some outdoor seating, however is enclosed with glazed openings facing Marian Street, and a vergola structure serving to mitigate wind downdrafts. These elements assist in the noise reduction emitting from this space, and is further minimal in impact over the traffic noise level of 65dB from Marian Street.



VIEW FROM REGENT STREET LOOKING NORTH





VIEW FROM MAIN STREET LOOKING EAST



CITY OF SYDNEY

Response to Submissions - SSD-10382

29 March 2021

HERITAGE

*The City maintains the position that the building at 90 Regent Street as well as the front façade and front rooms of the historic buildings at 92-96 Regent Street be retained.*

The front façade and podium design was given detailed consideration in the preparation and refinement of the architectural drawings in accordance with the design excellence strategy. This included significant amendments to respond to feedback provided by the Government Architect of NSW and the State Design Review Panel (SDRP) during the five design briefings held between 14 January 2020 and 26 August 2020 (refer to Section 6.1 of the EIS). The minutes issued by the SDRP from the meeting held on 26 August 2020 stated:

‘The carefully articulated masonry podium to Regent and Marian Streets is well resolved and is supported’

URBAN DESIGN

*The demolition of the existing buildings and its interpretation results in a ‘missing tooth’ in the street wall associated with the entry to the building on Regent Street. The proposed street wall largely expresses the existing subdivision pattern. However, the recessed section erodes the street wall and results in an interrupted tower coming to ground. A better outcome would be to reinforce the two-storey street wall.*

The design team attended 4 meetings with the State Design Review Panel (SDRP) to review and develop the design over a period of 8 months from February to August 2020.

The proposed development seeks removal of the existing buildings in order to achieve required increased setbacks to Marian Street, provide appropriate DDA accessible entrances to the building and improve permeability, activation and passive surveillance by increasing the number of windows facing Regent, Marian Streets and William Lane.

The podium design is a contemporary interpretation of the typical Victorian and Edwardian era shops and commercial buildings along the main streets of Redfern and forms a transition in scale, size and detailing between the older buildings in the nearby conservation area and the modern buildings in the urban renewal area surrounding Redfern Station.

The Proposed Regent Street entry will be the front door of the building and will be the first point of arrival for residents and visitors, thus legibility of this entry is a key consideration. The entry is set back from the street to allow step-free DDA transition from the sloping street to the ground floor of the building, which is set 300mm higher than footpath level due to stormwater flooding freeboard requirements.

The ground floor plan’s organizing principle is an ‘internal street’ connecting the two building entries on Regent Street and Marian Street / William Lane corner facing the planned new southern entry to Redfern Station. The plan separates the podium into two conceptual elements of ‘the pub’ on the corner and ‘the shops’ facing Regent Street. The break in the street wall expresses this in the podium facade and reveals the podium as a composition of articulated three-dimensional objects rather than as a flat, two dimensional facade.

The SDRP commented on, and expressed support for, the proposed podium design and materiality at each meeting. Below are extracts from each set of meeting minutes where comments relate to the podium design:

*“The form, scale and materiality of the brick façade proposed to the northeast corner, referencing the corner pub precedent is supported...”*

SDRP 01 Minutes dated 24/02/2020.

*“The materiality and architectural language of the ground floor facades and podium terrace spaces should promote spatial flow between the outside and inside. Reconsideration of ground floor column locations will strengthen the ‘internal street’ idea and assist in the axial alignment of openings to strengthen the relationship between interior and exterior spaces.*

The improved standard of façade materials (face brick to podium and modular panel cladding / glazing to tower) and the finer grain façade composition are supported and further development encouraged. The updated façade design demonstrates an intelligent response to the sun and a clearer formal expression to each façade is emerging as a result.

SDRP 02 Minutes dated 12/05/2020.

“Improvements to the planning, circulation, common areas, the form of the podium and developments in materiality and detailing over the course of the 3 SDRP meetings to date are acknowledged and commended.

The podium scale and form are reading successfully within the streetscape and the tower facades have developed a response to microclimate and solar orientation which has led to more successful and site responsive surface articulation.

The sculpting and development of the materiality of the facades at street level is also supported.

Adjustments to the design have led to improvements in the amenity and urban presence/response of the building at each step of the SDRP process. In particular the changes to the ground plane, street edge and podium are encouraging.”

SDRP 03 Minutes dated 16/06/2020.

“The carefully articulated masonry podium to Regent and Marian Streets is well resolved and is supported...”

SDRP 04 Minutes dated 09/09/2020.

Further, the development provides plant and services on the roof of the building. To optimise the building design, the City strongly recommends that the parapet of the building be raised to align with the height of the lift overrun. This would improve the visual appearance of the tower element in obscuring the visual clutter resulted from roof top plant. The raising of the parapet must comply with the maximum height control.



# 01 BUILDING DESIGN

01 BUILDING DESIGN

KEY DESIGN CONTROLS

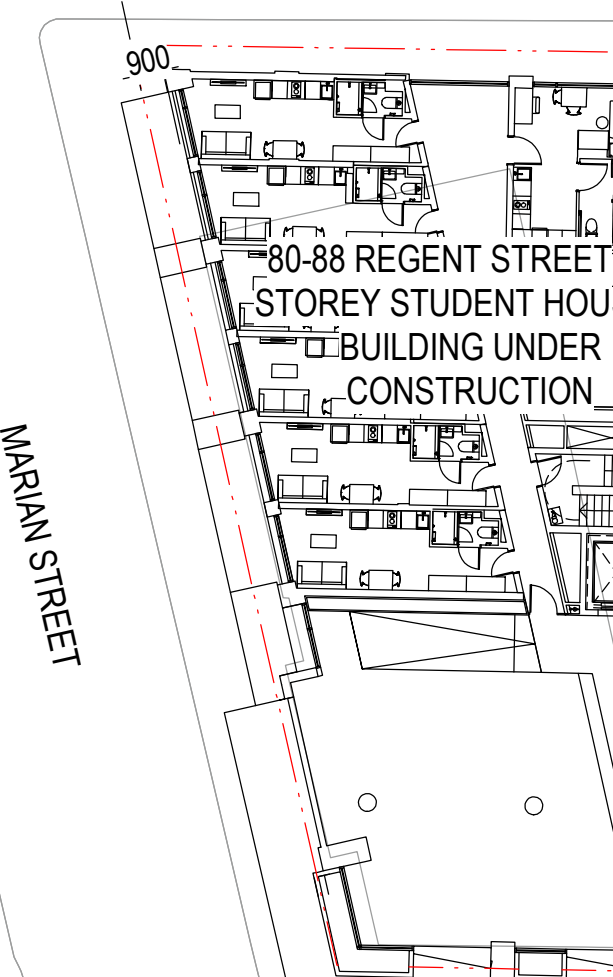
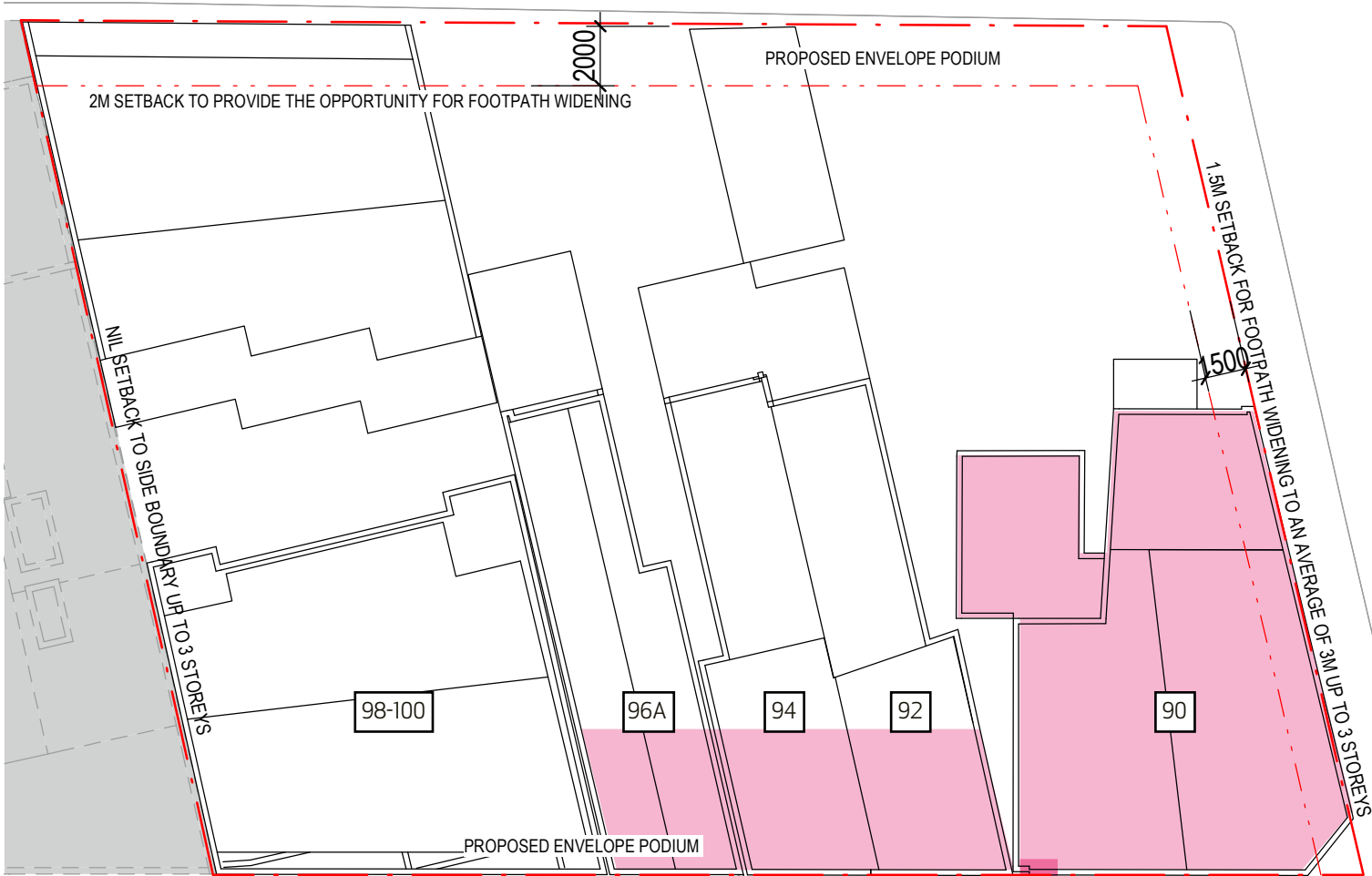
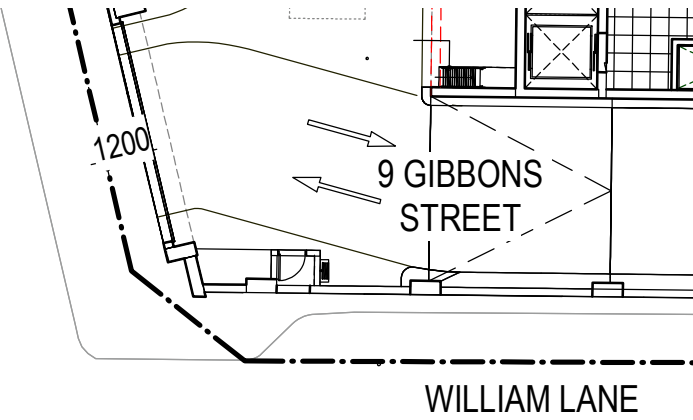
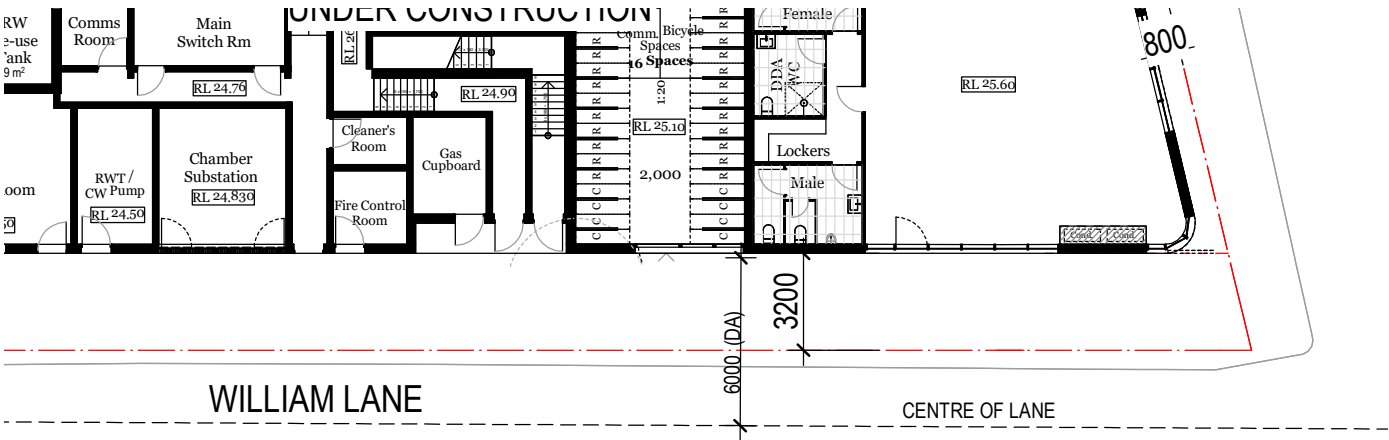
The Redfern Centre Urban Design Guidelines high-rise Development controls apply to the site:

PODIUM DESIGN

*Podiums are to be provided to all towers (built form over 6 storeys). The following setbacks apply:*

- Redfern Centre Urban Design Principles

- + Provide a nil setback at the street level to reinforce the containment and activation for commercial uses unless otherwise specified below:
- .Front setbacks to Marian Street
- + 1.5m for footpath widening to an average width of 3m
- Side boundaries to all development
- + Nil setback. Development should abut each other to reinforce the street wall
- Rear boundaries to William Lane
- + 0.8m to provide the opportunity for footpath widening
- Retention of the existing buildings at 90-102 Regent Street will inhibit the urban design outcomes listed above as shown in the diagram adjacent.
- + The design offers greater activation with entrances facing both Regent Street and Marian Street. The proposed design incorporates more openings and subsequent street activation to all sides of the site. Along Regent Street, the proposal offers 6 more openings at ground and mezzanine levels; along Marian Street 11 more openings at ground and mezzanine levels, and along William Lane 10 more opeinings across ground and mezzanie levels.



90 Regent Street - from East



90 Regent Street - from North



90 Regent Street - from North



90 Regent Street - from West



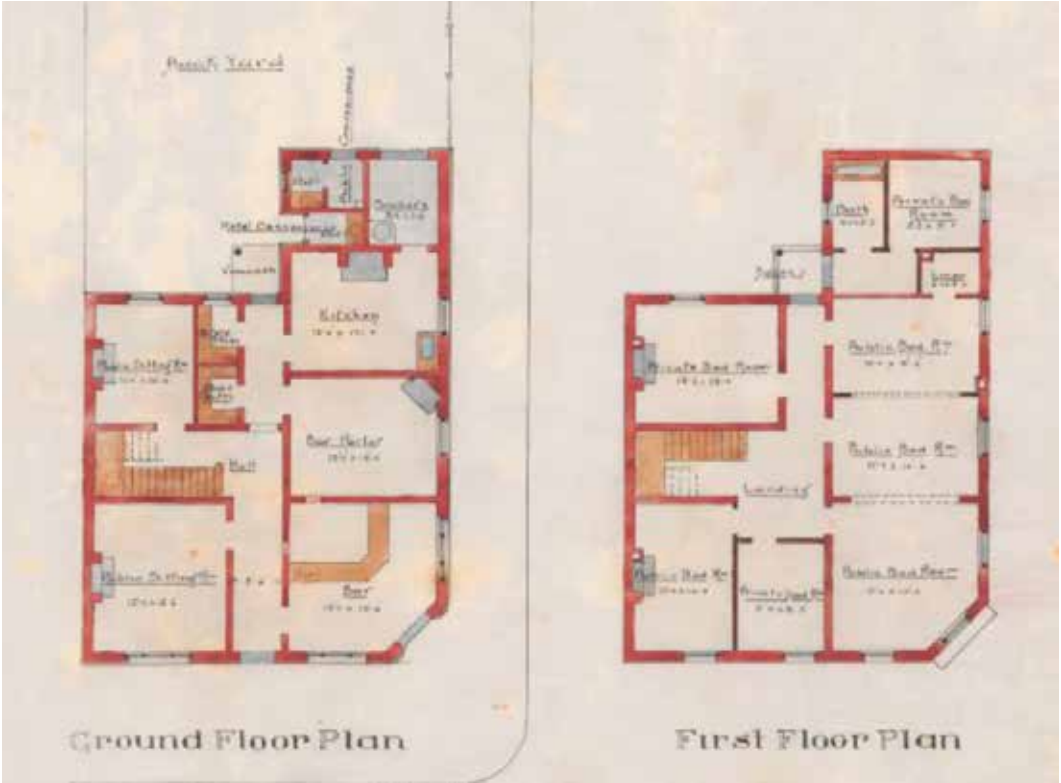


Proposed Ground Floor Plan with Existing Buildings overlaid

ANALYSIS OF THE EXISTING BUILDING

A comparison of the plans from Vernon's 1890 submission, and the current plan of the building presents some changes to the building's change over time, with various openings now closed, and some additional rooms added.

The proposed development's use as a student accomodation building serving over 400 students is unsuitable to the existing building's spatial arrangements. The urban outcomes including the internal street connecting Regent Street to William lane, the increased openings and street activation along Regent Street and Marian Streets, as well as the larger sized common rooms at ground floor present significant incompatibilities with the existing building.



'Captain Cook Hotel', Vernon, 1890



View from Northwest



01 BUILDING DESIGN

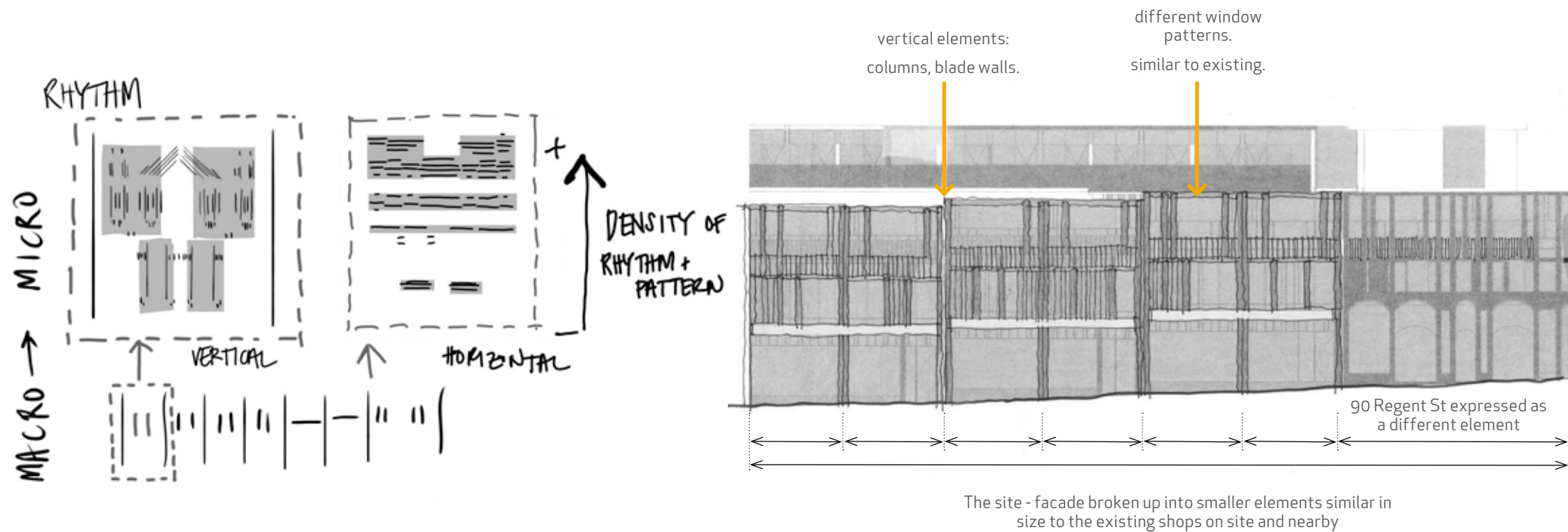
PODIUM DESIGN

A detailed analysis of the existing cultural and heritage items has informed the design response.

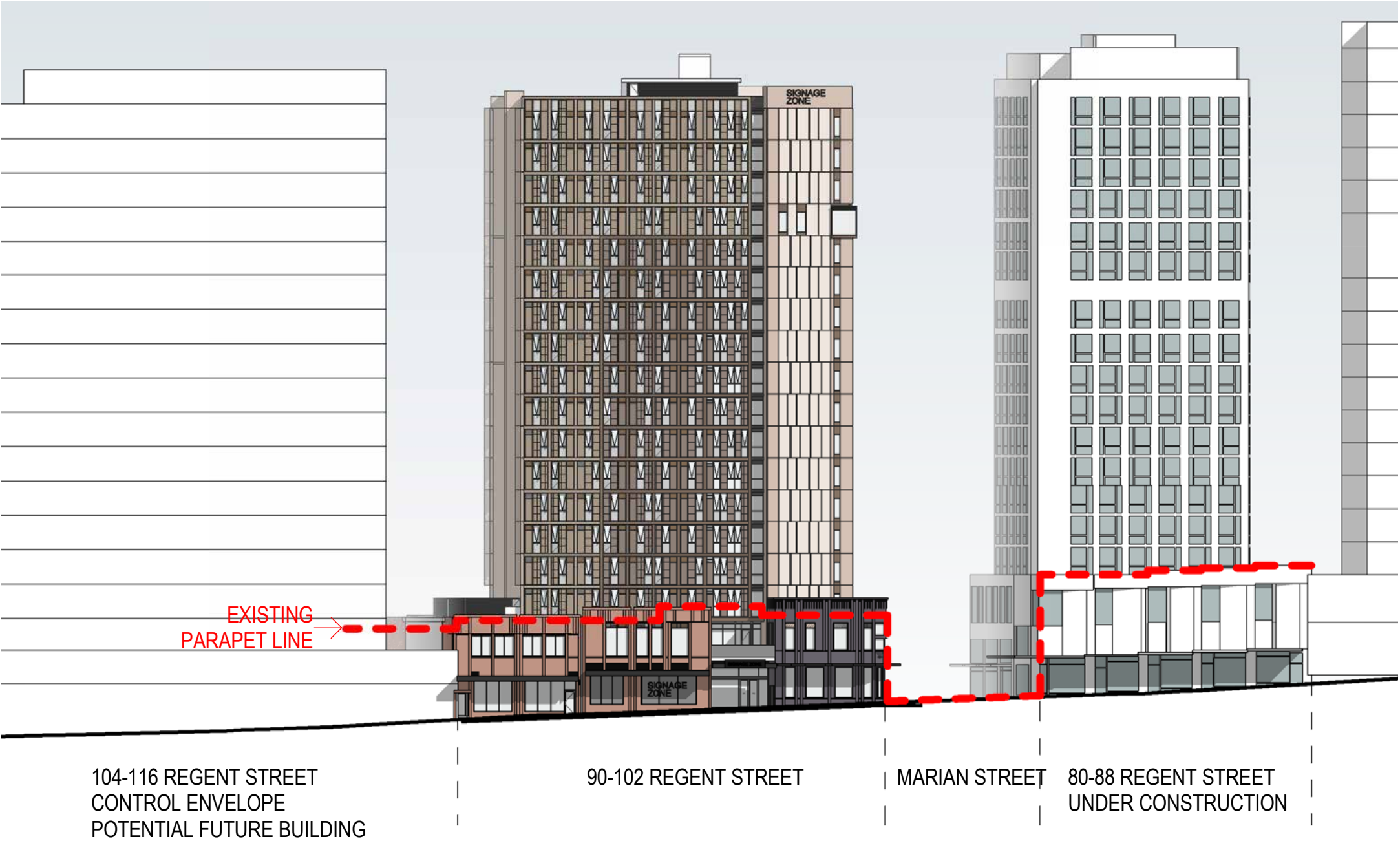
The proposed podium design incorporates elements of the existing built fabric. The proposed brickwork mimics similar tonal qualities of the existing buildings - reimagined as two separate volumes bisected via an internal street. Brick columns, corbelling and offset window openings reference the existing rhythm, density, and parapet heights of the existing shopfront buildings along Regent Street. The existing buildings on 92-96 Regent Street are unsympathetic to the desired urban and architectural outcomes noted; removal of these buildings will allow greater utility of the site and design proposal.

The front façade and podium design was given detailed consideration in the preparation and refinement of the architectural drawings in accordance with the design excellence strategy. This included significant amendments to respond to feedback provided by the Government Architect of NSW and the State Design Review Panel (SDRP) during the five design briefings held between 14 January 2020 and 26 August 2020 (refer to Section 6.1 of the EIS). The minutes issued by the SDRP from the meeting held on 26 August 2020 stated:

The proposed podium design is compatible and consistent with the neighbouring development at 60-78 Regent Street, where the entrance is articulated by a break in the streetscape. As noted in the SDRP minutes, ‘the carefully articulated masonry podium to Regent and Marian Streets is well resolved and is supported’







Street Elevation - Regent Street

The existing and developing podium built context includes primarily new construction which references Redfern's characteristic late nineteenth and early twentieth century architecture. The proposed podium design is consistent with the setbacks and street frontage alignments of neighbouring developments.

The Existing student accommodation building at 60-78 Regent St includes some retained shop facades and some contemporary insertions while the approved student accommodation building nearing completion at 80-88 Regent St has an entirely contemporary podium design uses brick and metal detailing with window openings in keeping with the character of the retained shopfronts next door.

The proposed student accommodation building at 104-116 Regent St replaces an existing petrol station and includes an entirely contemporary podium design that appears to reference nearby shopfronts in material and character.

All of these developments maintain a two storey reading which steps down the slope of Regent Street in the manner of Redfern's characteristic high street shops.



Approved student accomodation building at 80-88 Regent Street

Approved student accomodation building at 60-78 Regent Street



01 BUILDING DESIGN

PODIUM DESIGN

SIGNAGE

Signage along Regent Street is proposed to be transparent vinyl. This zone has been further considered in it's materiality; transparent vinyl will contribute to Regent Street as the building's main entrance, while preserving passive surveillance and street activation between meeting rooms and the street.

INTERNAL STREET

The design of the podium aims to provide entrances at Regent Street and William Lane, creating a beneficial urban connection away from Marian Street. This 'internal street' offers street activation to the North of the site, and draws users towards the proposed through site link from Marian Street to Margaret Street to the South.



View from inside Study Area facing Regent Street


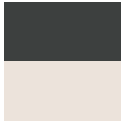





View of Regent Street looking into Study area




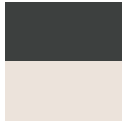




Section through 'internal street' connecting Regent Street to William Lane



GL1	AWF	WF3	LV1	BK2
Clear Laminated Glazing	Dulux Monument to top and sides Dulux Electro Durate Zues Talc to Soffit	Window Frame Dulux Monument	Angled Aluminium Louvre Dulux Monument	Brick Cavity Wall 2 PGH Dry Hawkesbury Bronze
				



View from Southeast of East Podium Facade

ME	AWF	GL1	WF3	LV1	BK2
Metal Extrusion Dulux Monument	Dulux Monument to top and sides Dulux Electro Durate Zues Talc to Soffit	Clear Laminated Glazing	Window Frame Dulux Monument	Angled Aluminium Louvre Dulux Monument	Brick Cavity Wall 2 PGH Dry Hawkesbury Bronze
					



View from Northeast of North Podium Facade



01 BUILDING DESIGN

FACADE MODULE

TOWER FACADE MODULE

The typical facade module is comprised of 3 panel sections; 1 clear glazing panel with a colour back glass panel below, 1 glazing frit pattern panel, and 1 solid aluminium panel with an exhaust vent above.

The frit pattern panel is a responseto solar amenity throughout the tower, a way for units to enjoy a more controlled, naturally dynamic lighting particularly through warmer months where solar amenity is intense.

The clear glazing panel allows users an operable window for natural ventilation, while the solid aluminium panel provides a balance between glazed and solid surfaces to each SOU.

Additionally, solar fins are purposely placed at key areas on each facade where solar amenity studies were shown to have excessive impacts - these areas are the southern end of the east facade, and the eastern portion of the north facade, both above mid level on the tower.

The slab edge panel provides some depth to the facade expression, and is of a similar ton e to the typical module. Each facade incorporates a transition in tone between a mid-bronze and jasper colour, allowing the facade to be expressed in seperate but related portions thereby reducing the bulk and scale of each face.



**CP1/CP2**

Capping Plate: Folded Metal Sheet

Dulux Anotec Mid Bronze / Dulux Jasper



**WF3**

Window Frame

Dulux Monument



**CBG1**

Colour Back Glass

Dulux Pewter Pearl



**FP1**

LGU Frit Pattern

Dulux Anotec Mid Bronze / Dulux Jasper



**SH1/SH2**

Perforated Mesh Shade

Dulux Anotec Mid Bronze / Dulux Jasper



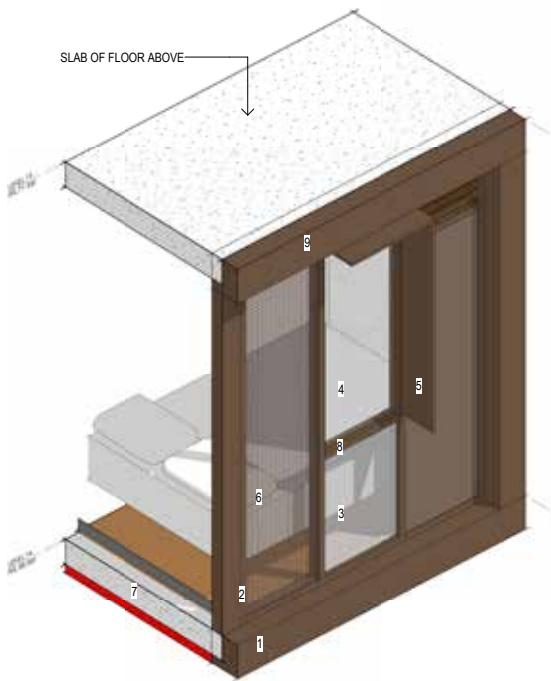
**AP1/AP2**

Aluminium Panel

Dulux Anotec Mid Bronze / Dulux Jasper



Typical Facade Module



② Typical Facade Isometric Detail

- KEY
- 1. Slab Edge Panel (150mm depth); CP1
  - 2. Anodized aluminium frame; WF1 or WF2
  - 3. Colour back glass to top of bed datum (720mm); CBG; fixed
  - 4. Glazing (Clear finish); GL1; operable awning window
  - 5. Sunshading fin (300mm depth); SH1 or SH2
  - 6. Laminated glazing unit with Frit pattern interlayer; FP1 or FP2
  - 7. Structural concrete slab
  - 8. Concealed frame; clear glazing above, CBG fixed below
  - 9. Slab Edge panel; Primary frame; CP1



## 02 LANDSCAPE

02 LANDSCAPE

GROUND LEVEL

KEY

- 1. William Lane entry and breakout space. Sandstone seating blocks under new trees & edge seating beside staircase.
- 2. Regent St entry. Gently sloped walkway between street footpath and entry.
- 3. Bench seating along Marian St against external facade to activate street edge.
- 4. William Lane to connect to Margaret St through 13-23 Gibbonst St's through site-link.

Tree Strategy

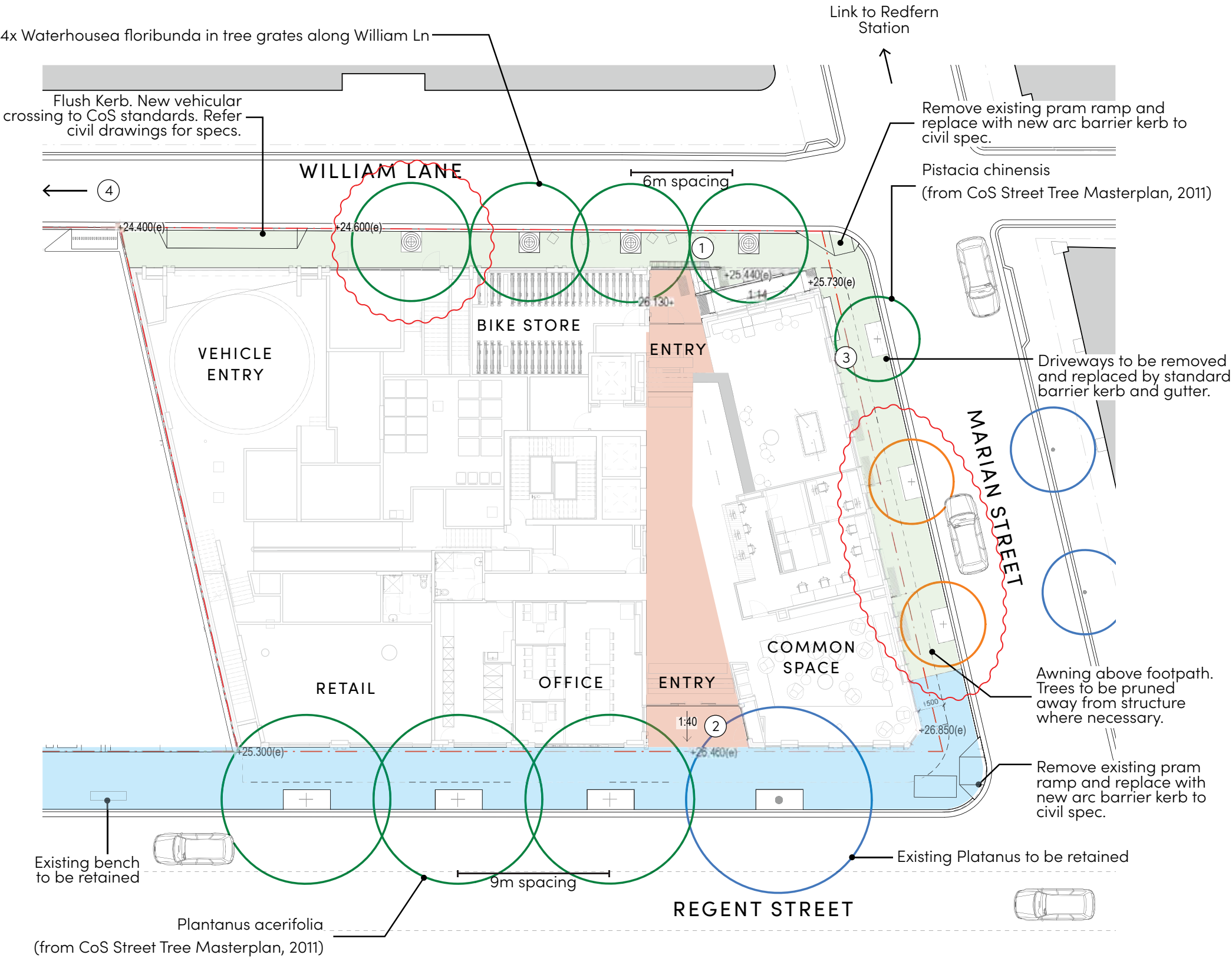
- Existing Trees to be retained
- Proposed Trees
- Remove Trees & replaced with same species

Paving Strategy

- Concrete unit paving (Council's Street Design Code)
- In-situ concrete paving (Council's Street Design Code)
- Internal Street connection (refer arch drawings)

NOTE

All tree grates in accord with CoS standards (William Lane).  
Existing trees to be protected as per standards. Refer Arborist report.  
All building entrances to meet existing street levels.



1:250@A3 N





William Lane Entrance




Activated Entrance with Seating and Planting


LEVEL 2 | LANDSCAPE PLAN

KEY


- 1. Outdoor study area: Seating and tables on timer decking surrounded by planting.
- 2. Flexible astro-turf urban carpet. Un-programmed open space for students.
- 3. Raised planter with climbing wires as barrier providing visual privacy between private rooms and communal terrace. See section on pg.15 for section details.
- 4. Breakout space for adjacent gym.
- 5. Seating / outdoor study opportunities with views over Marian St.
- 6. Communal BBQ and raised planter with small tree to provide canopy and green outlook.
- 7. Eastern Terrace, with recessed seating offerings and low free standing planter boxes.
- 8. Raised planted edge providing visual privacy between private rooms and communal terrace.




Timber Decking




Concrete finish



Paved banding



Astroturf lawn (flexible urban carpet)

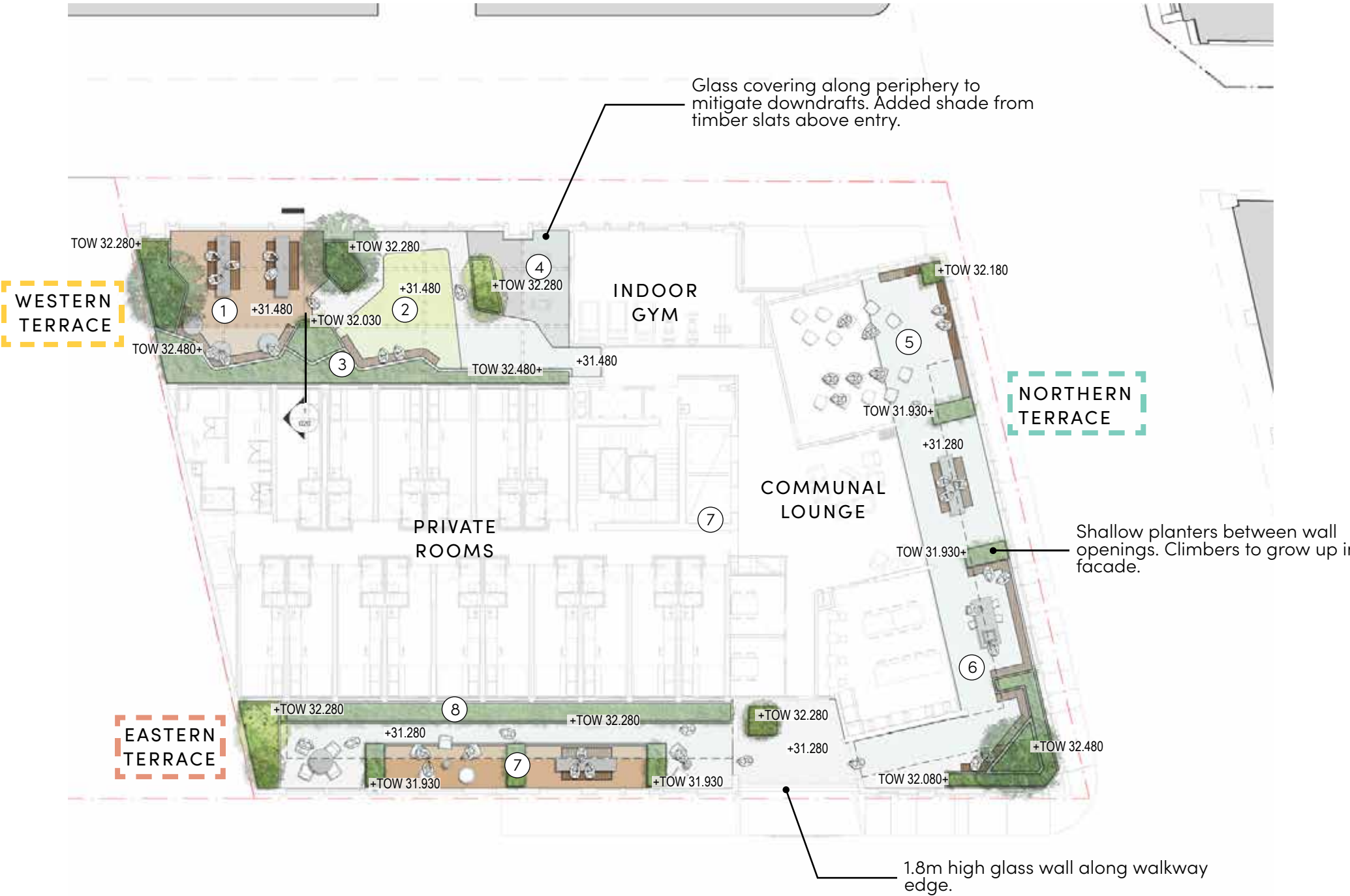


Planting

NOTE

Refer page 23 for detailed planting plan.

Designed in collaboration with Turf



1:250@A3 N



# LEVEL 2 | WESTERN COMMUNAL TERRACE - SECTION

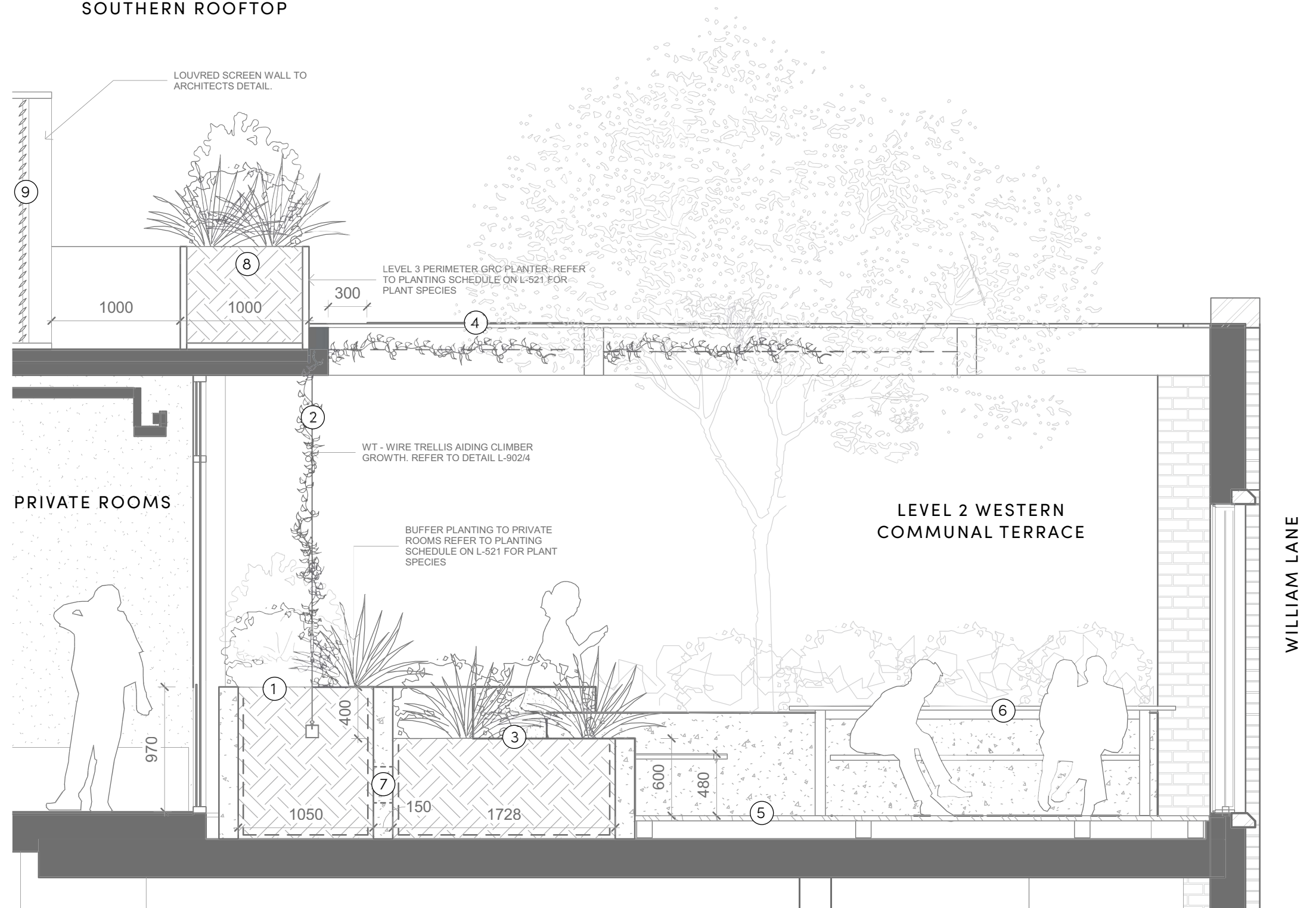
## KEY

- 1m high Edge planter providing visual buffer to private rooms.
- Climbers as specified on pg. 24 to grow up wire cables increasing visual privacy and providing green outlook. Cables also attached horizontally along structural frame to allow climber to extend.
- Low planter defining terrace spaces while maintaining visual connections.
- Glass awning protecting outdoor spaces from down-draft winds, while allowing light into adjacent rooms.
- Flush timber decking provides material differentiation of the outdoor study area.
- Study benches arranged amongst planted edges.
- Cut-outs through retaining wall for shared root volume between planters.
- 0.8m high Perimeter planter masking rooftop services. Species specified on pg. 24
- Louvred screen as noise barrier for services.

## VISUAL AND ACOUSTIC PRIVACY

While common amenity areas are planned adjacent Level 2 SOUs, we have provided an extensive planting zone to mitigate visual privacy concerns. Further, the western and eastern terrace are also time operated to provide to allow residents along these terraces to enjoy similar levels of privacy after hours. Our acoustic report shows that residents will not be adversely affected by noise from the terraces, within certain reasonable capacity limits.

## LEVEL 3 SOUTHERN ROOFTOP



## NOTE

Refer page 14 for location of section cut.

Designed in collaboration with Turf



02 LANDSCAPE

LEVEL 2



Level 2 Western Terrace



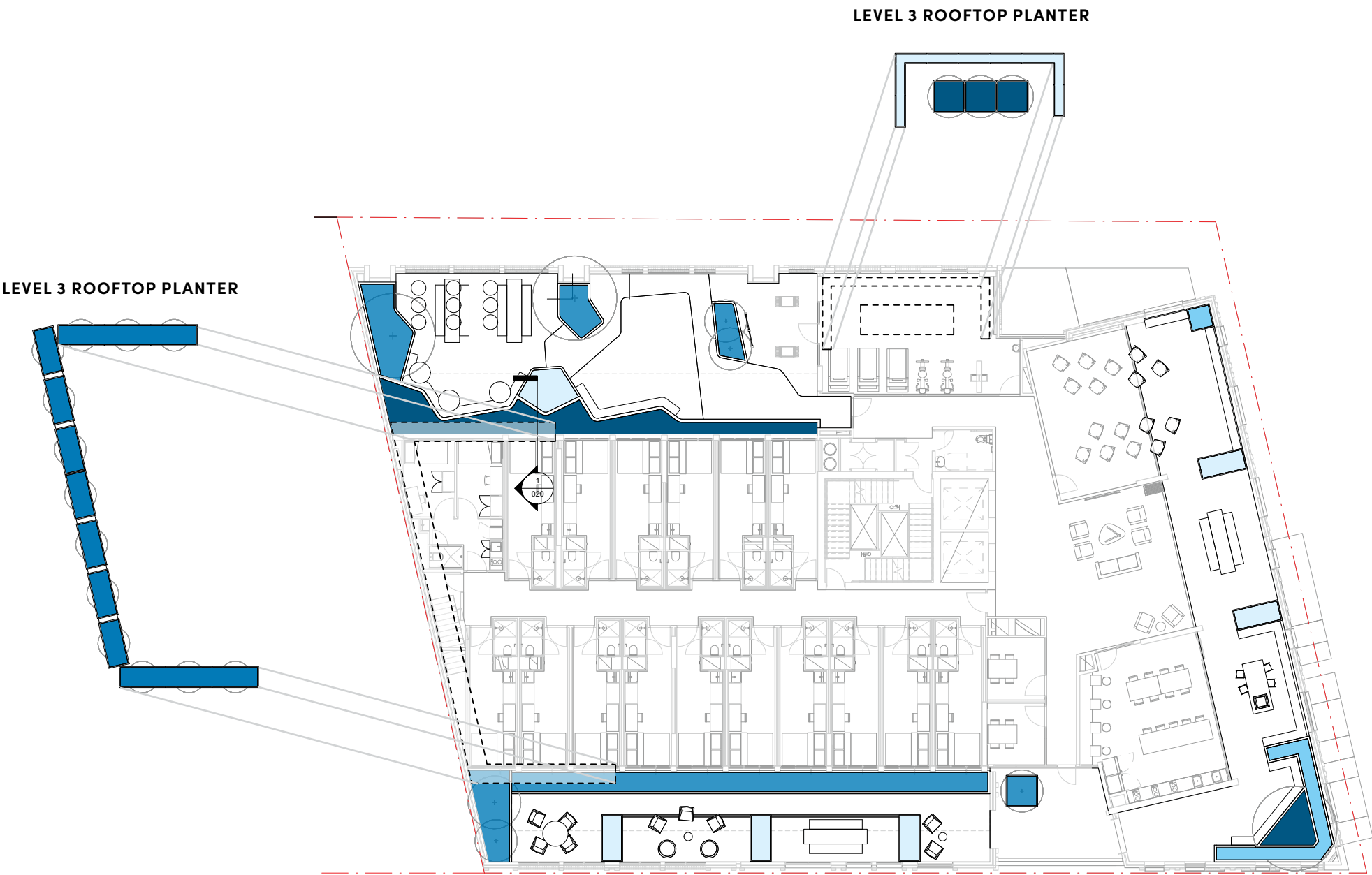
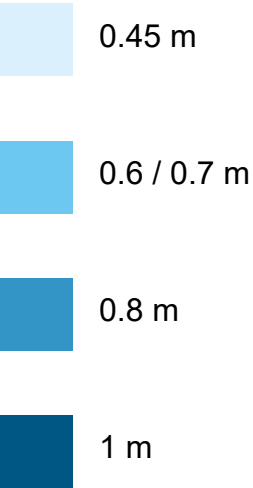
Adaptable space at L2 Western Terrace





SOIL DEPTH PLAN | LANDSCAPE

KEY



NOTE

All soil depths/volumes comply with ADG guidelines.

Designed in collaboration with Turf  
Refer page 24 for detailed planting palette.

KEY

- 1. Inaccessible rooftop terrace. Prefabricated planter boxes with indigenous grasses and cascading groundcovers. Visible from William lane entry. Central planter boxes provide added greening from small trees.
- 2. Dense planting strip as buffer to rooftop services from Regent St.
- 3. Stone pebble finish to rooftop.
- 4. Maintenance access is provided via hallway doors. External maintenance access to pergola will be via scaffolding platforms with harness attachments - from beneath the pergola only.

Pebble finish

Planting



NOTE

Refer page 23 for detailed planting plan.





Level 3 Western Rooftop Planting



Level 3 Southern Rooftop Planting



Designed in collaboration with Turf



02 LANDSCAPE

AWNING DESIGN & TREES

AWNING DESIGN

The City of Sydney Awnings Policy 2000 specifies the following design parameters to awnings:

- + 1500min distance between the awning edge and footpath kerb
- + Typical maximum width of awnings are 3350mm, allowing for a 1350 typical tree hole
- + Minimum height of an awning is specified at 3200mm

The proposed design complies with the above criteria. Awning depth along Regent Street has been reduced from 2.8m to 2m deep, allowing 1750mm between the awning edge and kerb. Barrel shaped awnings have been simplified to flat rectangular shaped box awnings.

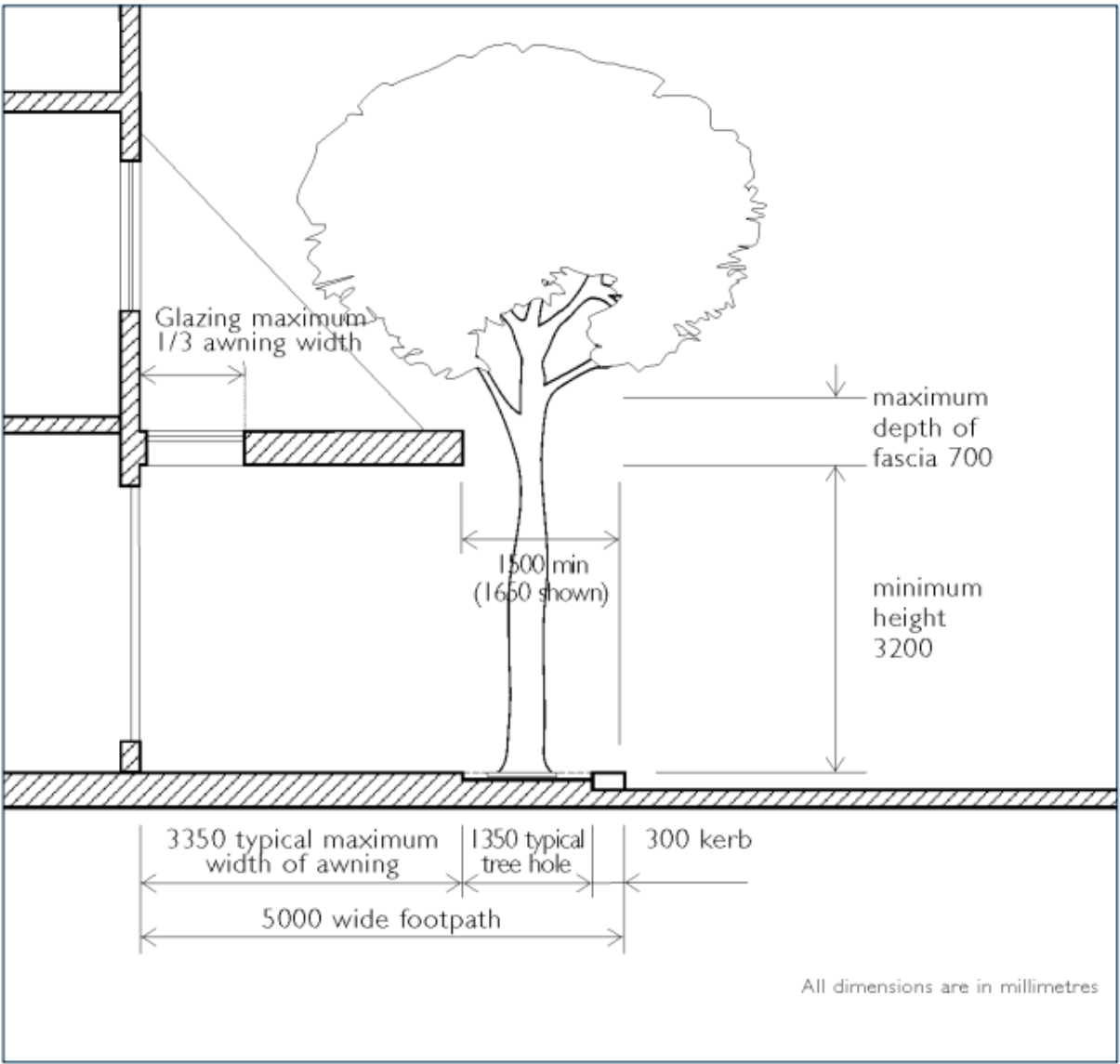
Along Marian Street, the awning depth is 1.5m deep, allowing 1700mm between the awning edge and kerb. Awnings heights are set between 3.2m and 4.2m, as appropriate to the facade design and sloping topography of the public realm.

Awning height has been lowered to between 3.2 and 4.2m, allowing for the slope of Regent Street, to provide an improved level of weather protection. The new height aligns with the podium facade design.

Wind consultant has endorsed the performance of awning depths, maintaining previous wind mitigation outcomes from Wind Tunnel testing, and providing adequate protection to pedestrians below.



View of awnings with proposed Longon Plane trees along Regent Street



The City of Sydney Awnings Policy 2000



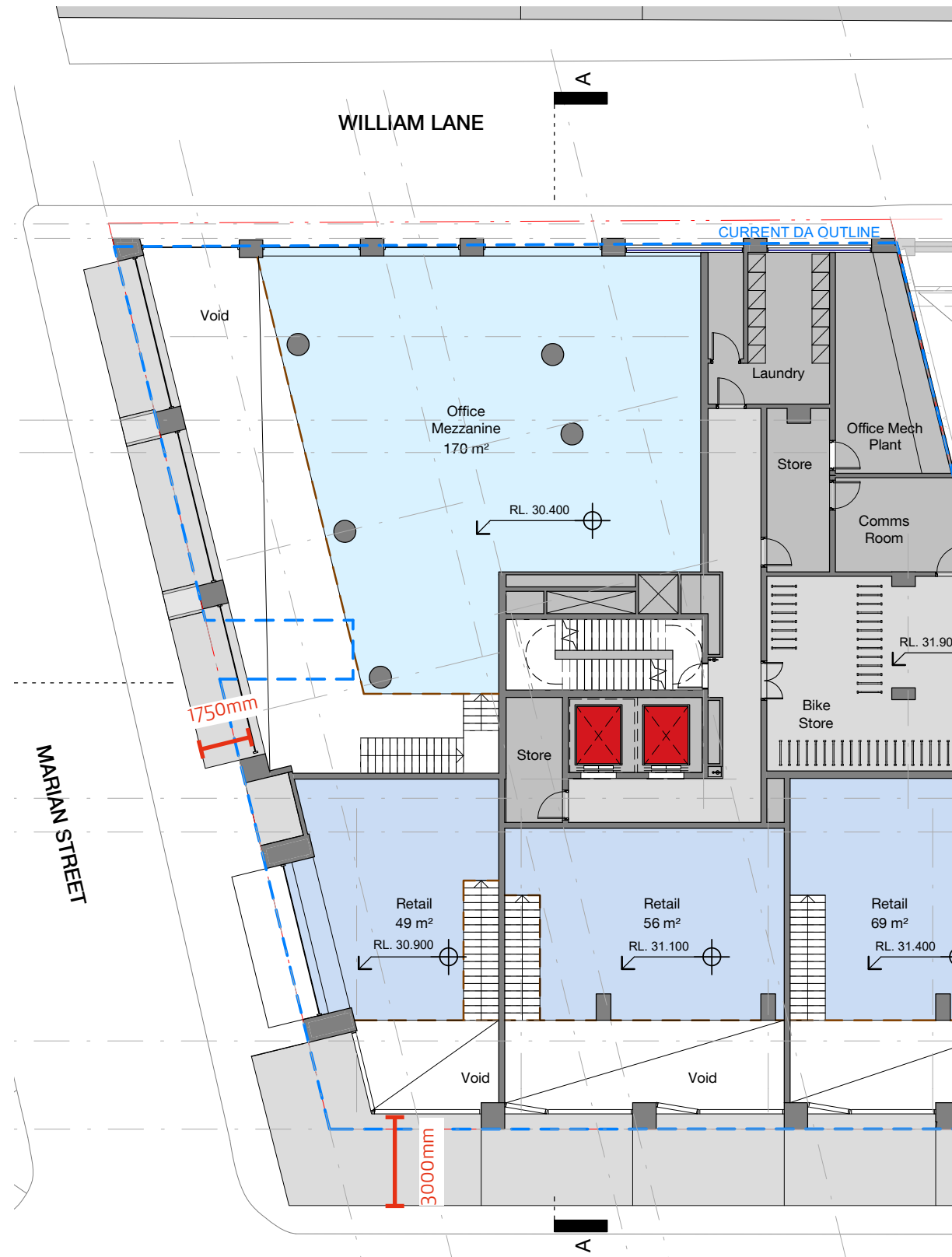
View of awnings with proposed Pistacia chinensis along Marian Street



88 REGENT STREET AWNING DESIGN



Approved awnings on 80-88 Regent Street- East Elevation



80-88 Regent Street Plan

88 REGENT STREET STREET

The approved development at 88 Regent Street incorporates awnings along Regent Street to a depth of 3m. Along Marian Street, awnings extend 1.75m. Both sides of the development do not include any proposed trees.

The proposed development at 90-102 Regent Street optimizes the inclusion of awnings as well as London Plane trees, providing greater landscape amenity.



02 LANDSCAPE

WIND MITIGATION

WIND MITIGATION

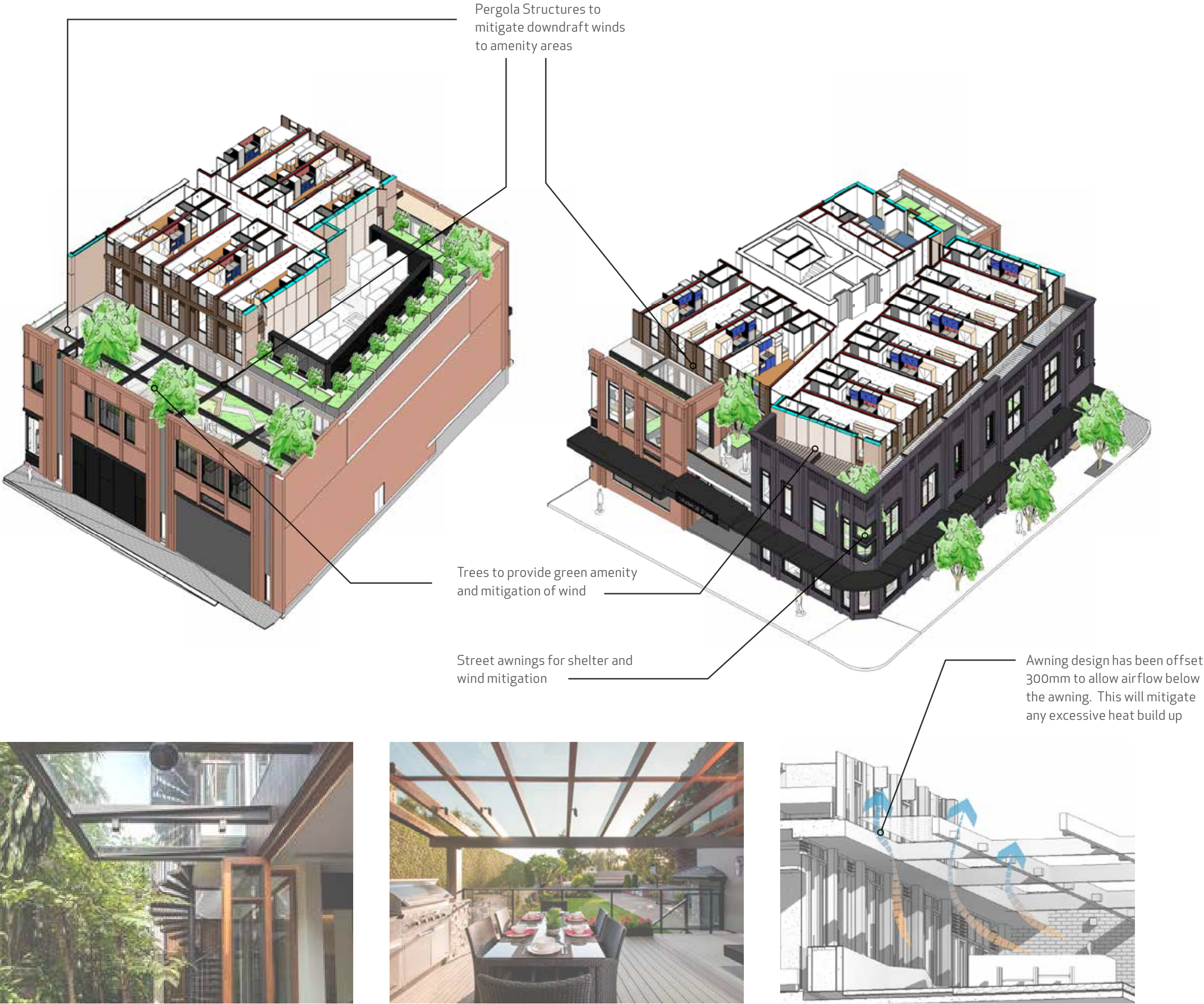
The wind tunnel testing showed that the existing situation experiences high localised winds occur at the north-northeast areas along Regent Street and Marian Streets. Additionally, downdraft winds will potentially impact the quality of amenity spaces at the Level 2 western, eastern and northern terraces.

Wind tunnel testing has not relied on landscaping as a mitigation element, but rather the proposed canopies. Wind mitigation in these areas includes awnings sympathetic to the architecture, as well as beneficial to the users. Vertical screens, planting and some native trees are also proposed to help ameliorate detrimental effects of wind. As a result, the L2 terraces achieve the sitting criteria in many areas, and the standing criteria which ensures a useable environment for outdoor common spaces. The western terrace adjacent the gym experiences peak annual gust wind speeds of 6 m/s satisfying the 10 m/s sitting and dining criterion. The south end of the western terrace, as well as the eastern terrace adjacent the lounge experiences peak annual gust wind speeds of 11m/s satisfying the 13 m/s standing criteria. The south end of the eastern terrace experiences peak annual gust wind speeds of 12 m/s satisfying the 13 m/s standing criteria.

At street level, awnings run along the Regent Street shop front, main entrance, and around the podium at Marian Street to William Lane. There are breaks to incorporate canopy growth of proposed and existing trees. As a result, the surrounding streets achieve the standing and walking criteria in almost all locations, appropriate for a retail high street. A limited number of areas in the existing situation achieve the safety criteria; the proposed development results in very similar predicted wind conditions in those locations.

The pergola design at the western terrace Level 2 has been improved to incorporate structural stability to the western podium facade, as well as provide additional opportunities for planting. The openings along the Regent Street and Marian Street podium have been adapted to suit the height of the pergola, maintaining the same reference to Redfern's built fabric. The terrace awnings have been further developed to incorporate an airflow gap of 300mm. This articulation will mitigate any excessive heat build up, while maintaining shelter from tower winds.

Finally, facade relief elements - 150mm slab and wall protrusions, as well as solar fins 300mm deep serve to additionally disrupt downdraft winds.





## 03 CIVIL DESIGN

PUBLIC DOMAIN

A barrier kerb is proposed to continue from Marian Street, around through to William Lane, ending at a proposed cutaway for the loading dock at the South western end of the site.





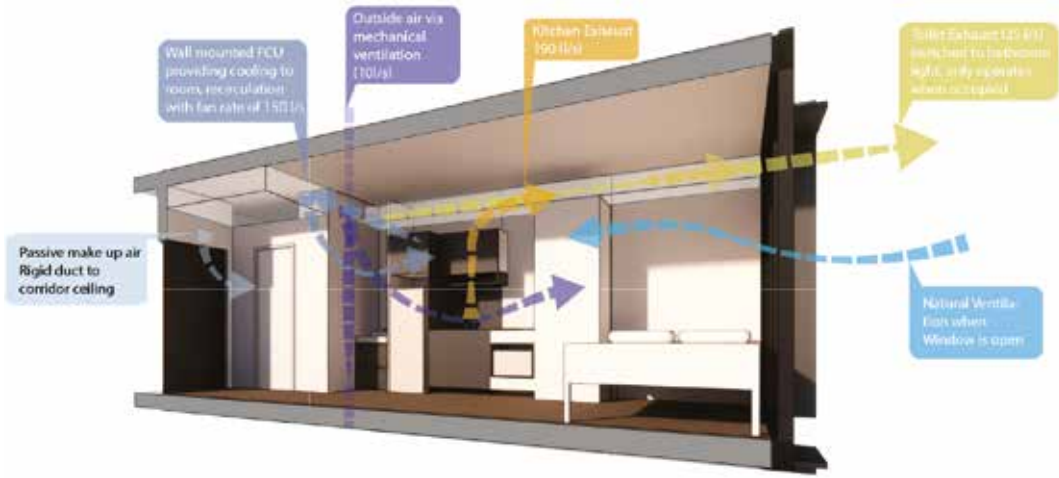
## 04 ESD STRATEGY

04 ESD STRATEGY

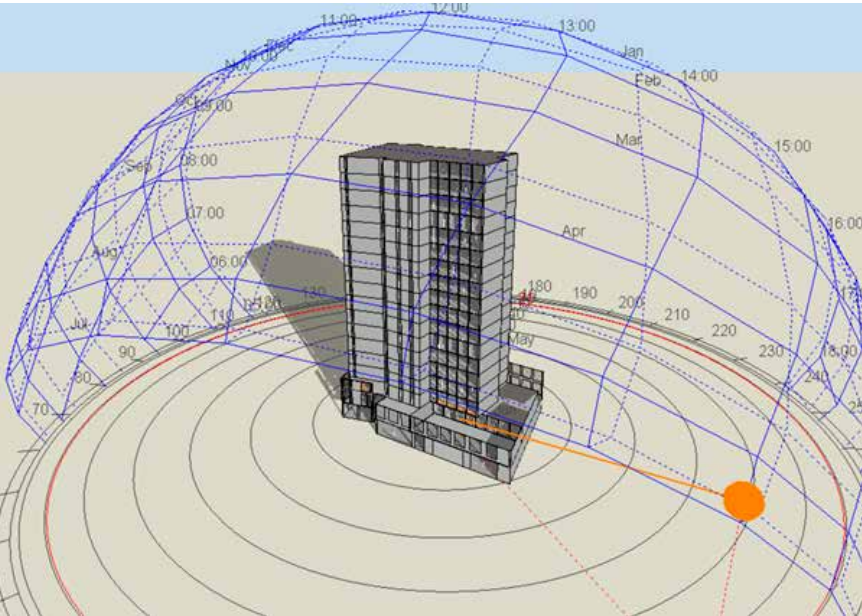
ESD PRINCIPLES



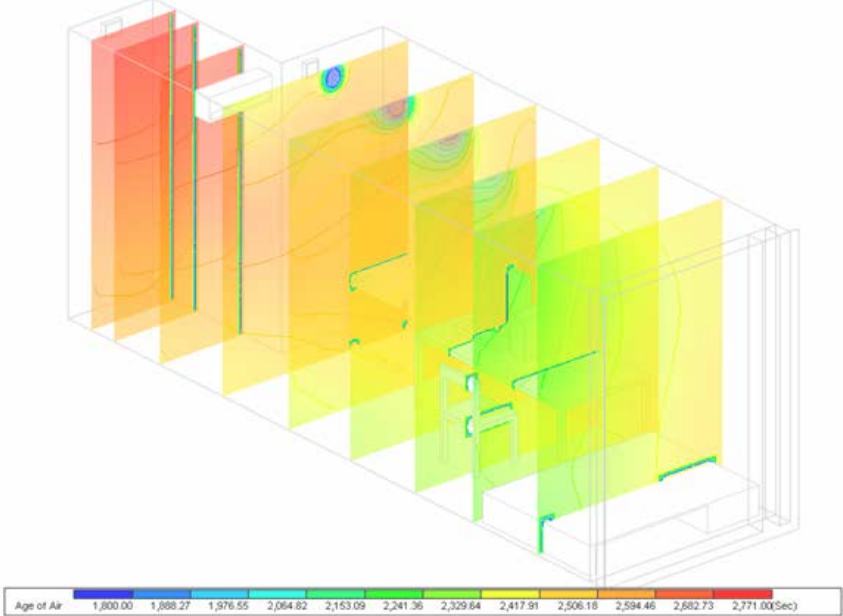
HVAC Strategy Diagram



Detailed Airflow Diagram



CFD Modelling Analysis



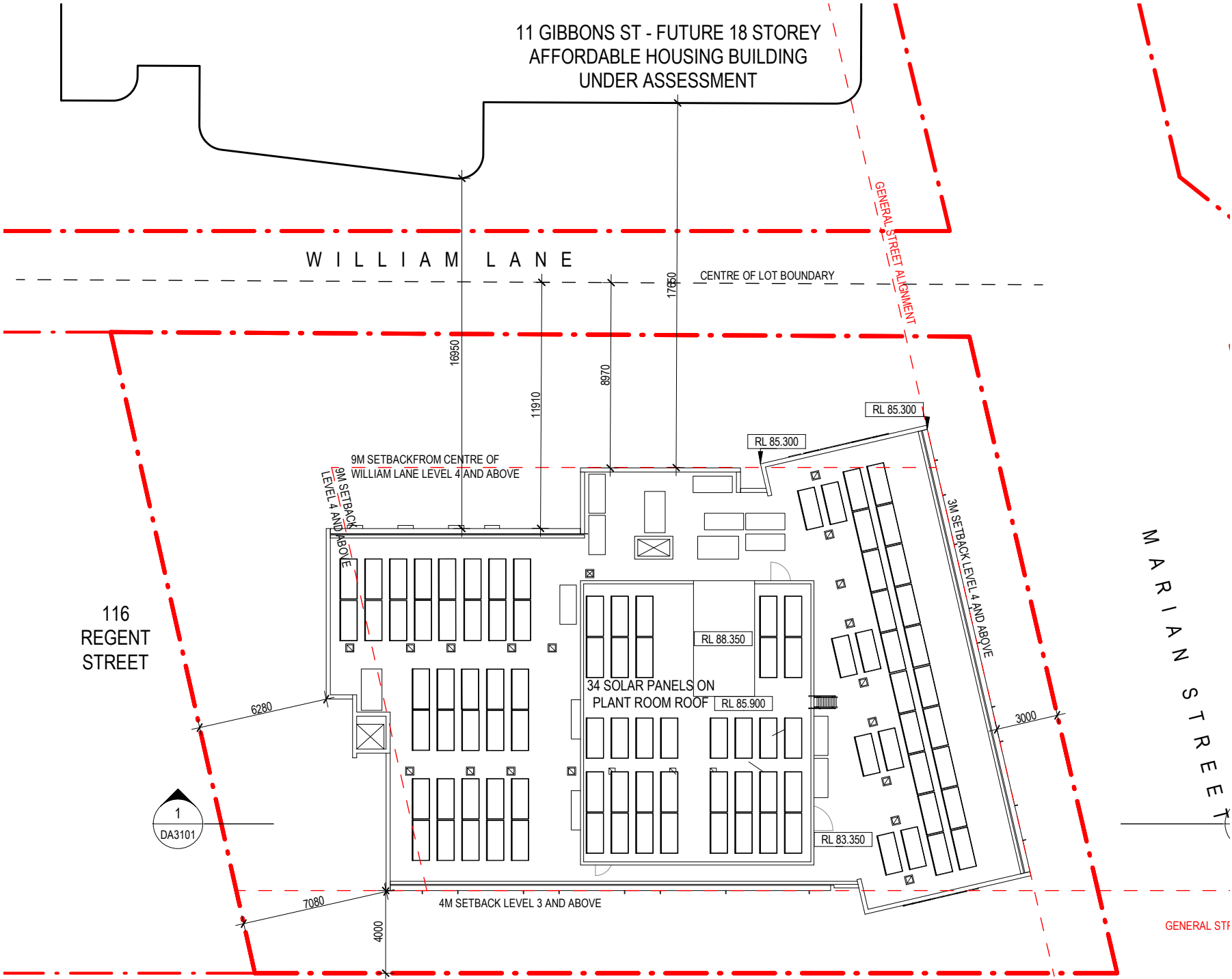
Age of Air Analysis

ESD PRINCIPLES

The ESD report provides a clear list and details of the proposed ESD measure including the relevant Section numbers from the report. The development is currently being investigated and included as part of the detailed design.

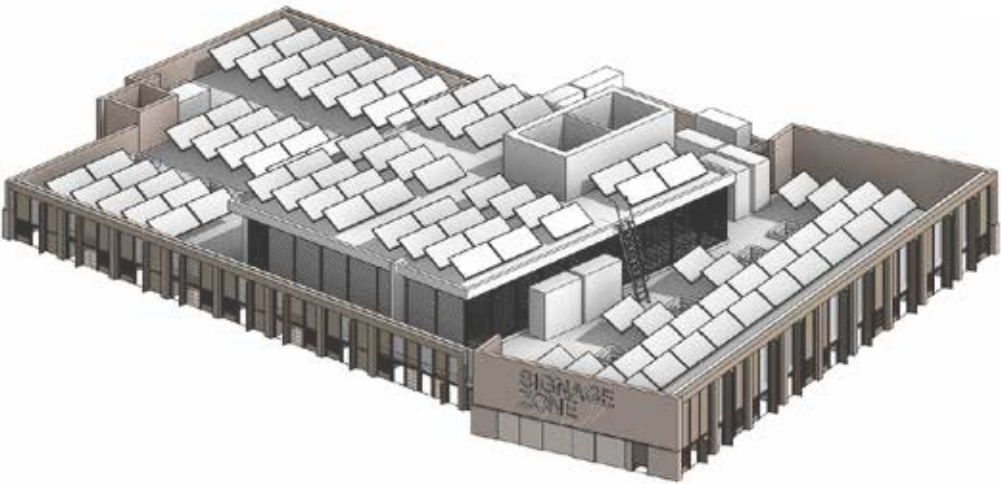
- Management
  - o 4.3.1 Environmental Ratings and Involvement of a GSAP
  - o 4.3.2 Commissioning Clauses
  - o 4.3.3 Building Tuning
  - o 4.3.4 Building User's Guide
  - o 4.3.5 Environmental Management Plan
  - o 4.3.6 Waste Management System
  - o 4.3.7 Environmental Management and Maintenance
- 4.4 Indoor Environmental Quality (IEQ) Initiatives
  - o 4.4.1 Thermal Comfort
  - o 4.4.2 Effective Daylighting / Natural Lighting
  - o 4.4.3 Natural Ventilation
  - o 4.4.4 Volatile Organic Compounds (VOC) & Formaldehyde Minimisation
- 4.5 Energy Conservation Initiatives
  - o 4.5.1 Passive Design
  - o 4.5.2 Building Envelope
  - o 4.5.3 Energy Efficient Systems and Services
  - o 4.5.4 Renewable Energy – Solar Photovoltaic (PV) System
- 4.6 Transport sustainability measures
- 4.7 Water Conservation and Management Initiatives
  - o 4.7.1 Demand Management
  - o 4.7.2 Landscape Selection
  - o 4.7.3 Water consumption monitoring and reporting
- 4.8 Materials
  - o 4.8.1 Reuse and Conservation of materials
  - o 4.8.2 New Materials
  - o 4.8.3 Materials with Ozone Depletion Potential
  - o 4.8.4 Operational Waste Minimisation
  - o 4.8.5 Timber
  - o 4.8.6 PVC Minimisation
- 4.9 Land Use and Ecology
- 4.10 Emissions





ROOF LEVEL ESD

The roof level has been further developed to incorporate additional photovoltaic cells. These provide 400kwh per cells, resulting in a total of ~40,000kwh meeting ESD targets.



Perspective view of Roof showing angled PV cells

V | 410W



PV cell product generating 410W

05 ARTWORK

ARTWORK CONSTRUCTABILITY

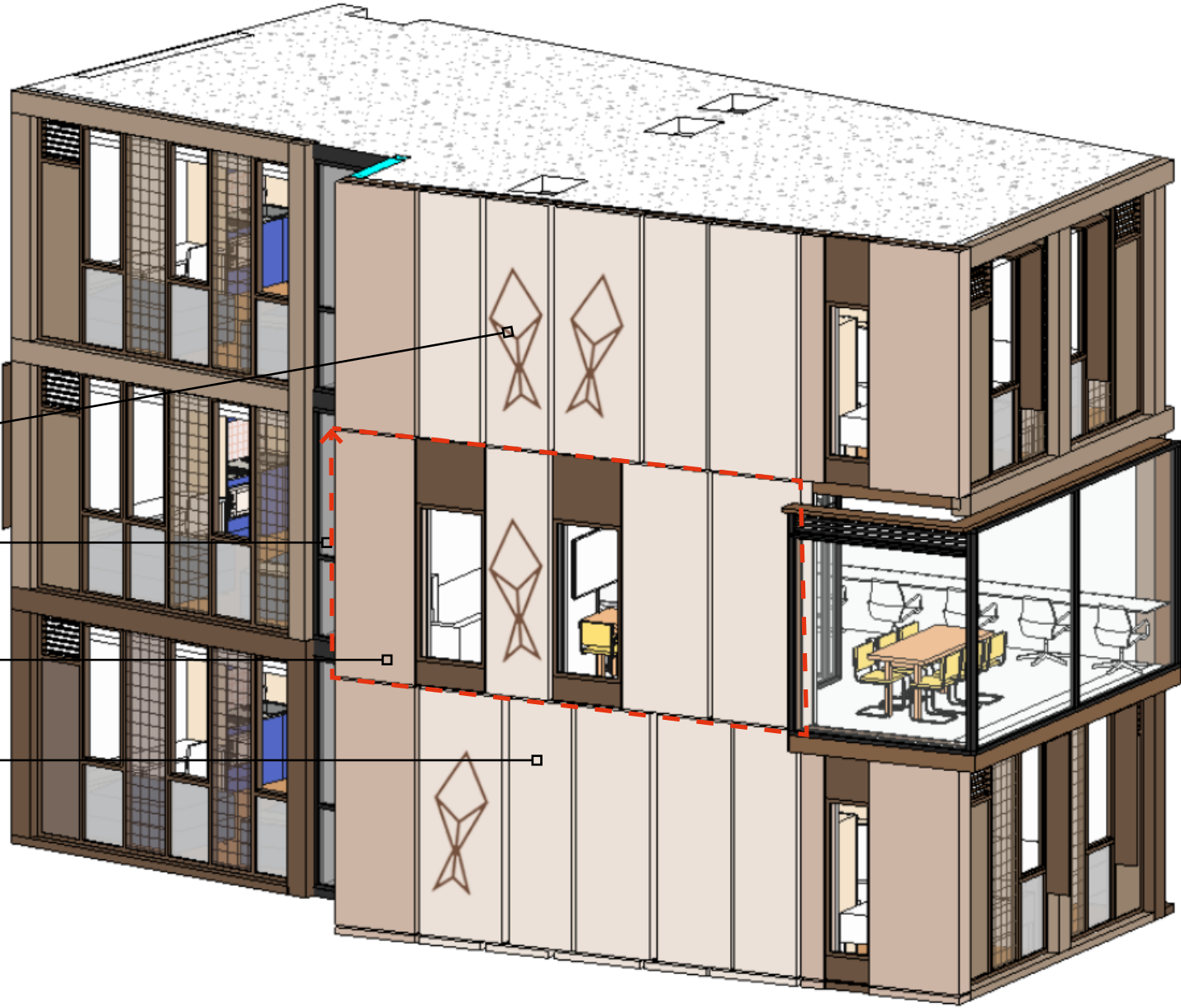
CONCRETE PRECAST PANELS

The concrete precast panels situated at the east, west, and southern elevations have been adapted to a 275mm module. These have been coordinated into the structural design of the building as shear wall elements, while also incorporating the artwork of 'fish swimming up a river' as an engraving on select panels of each module.

Further development of the spear via a community engagement workshop is set to occur through the design development stage.



- Artwork - engraved fish design
- Concrete module 275mm thick
- Kiem 9288 precast concrete panel
- Kiem 9292 precast concrete panel





## 06 TRAFFIC

## 06 TRAFFIC

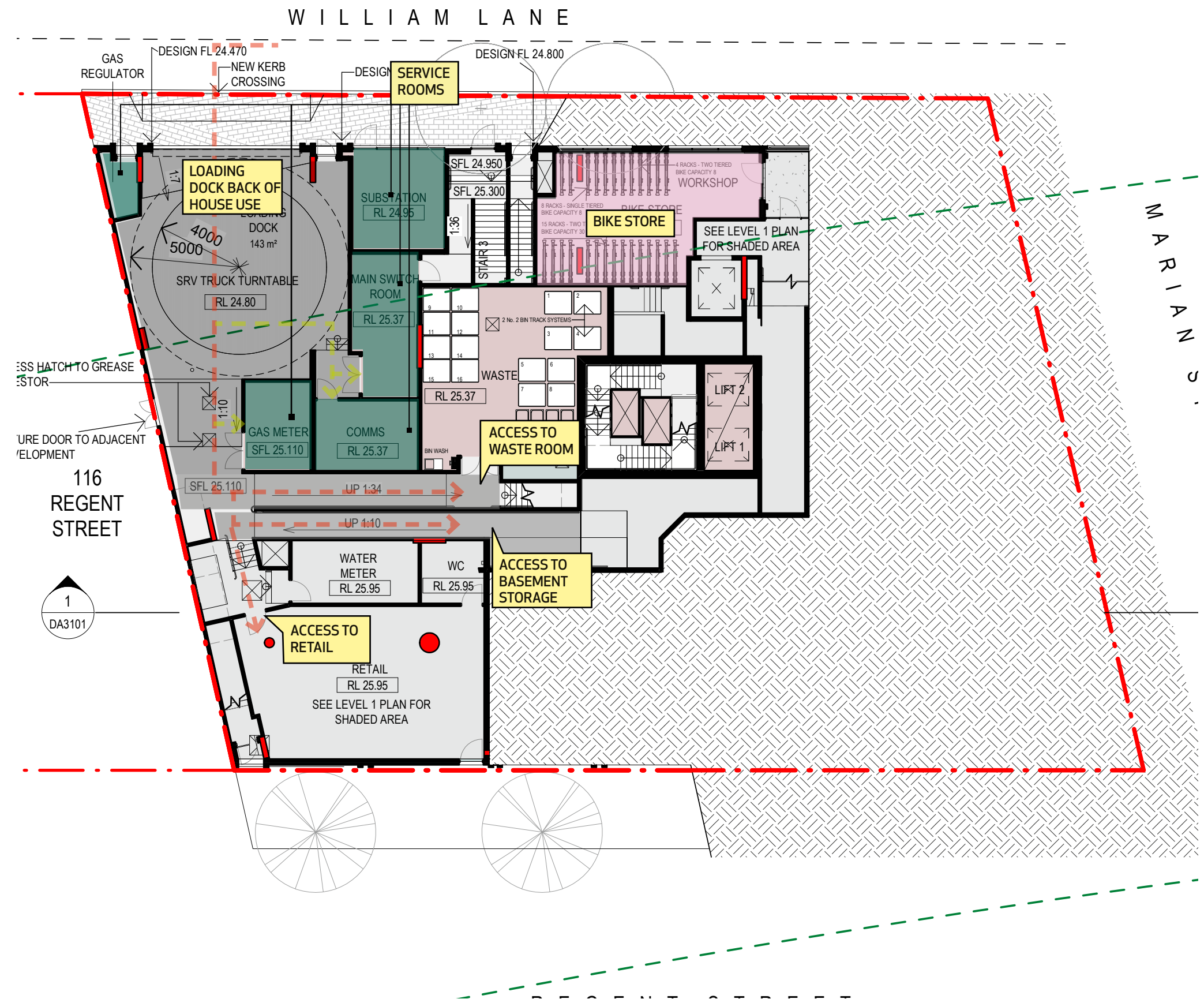
## BACK OF HOUSE

A 2m wide footpath is proposed to William Lane to create a pedestrian friendly street and provide adequate building separations to the residential apartments at 11 Gibbons Street.

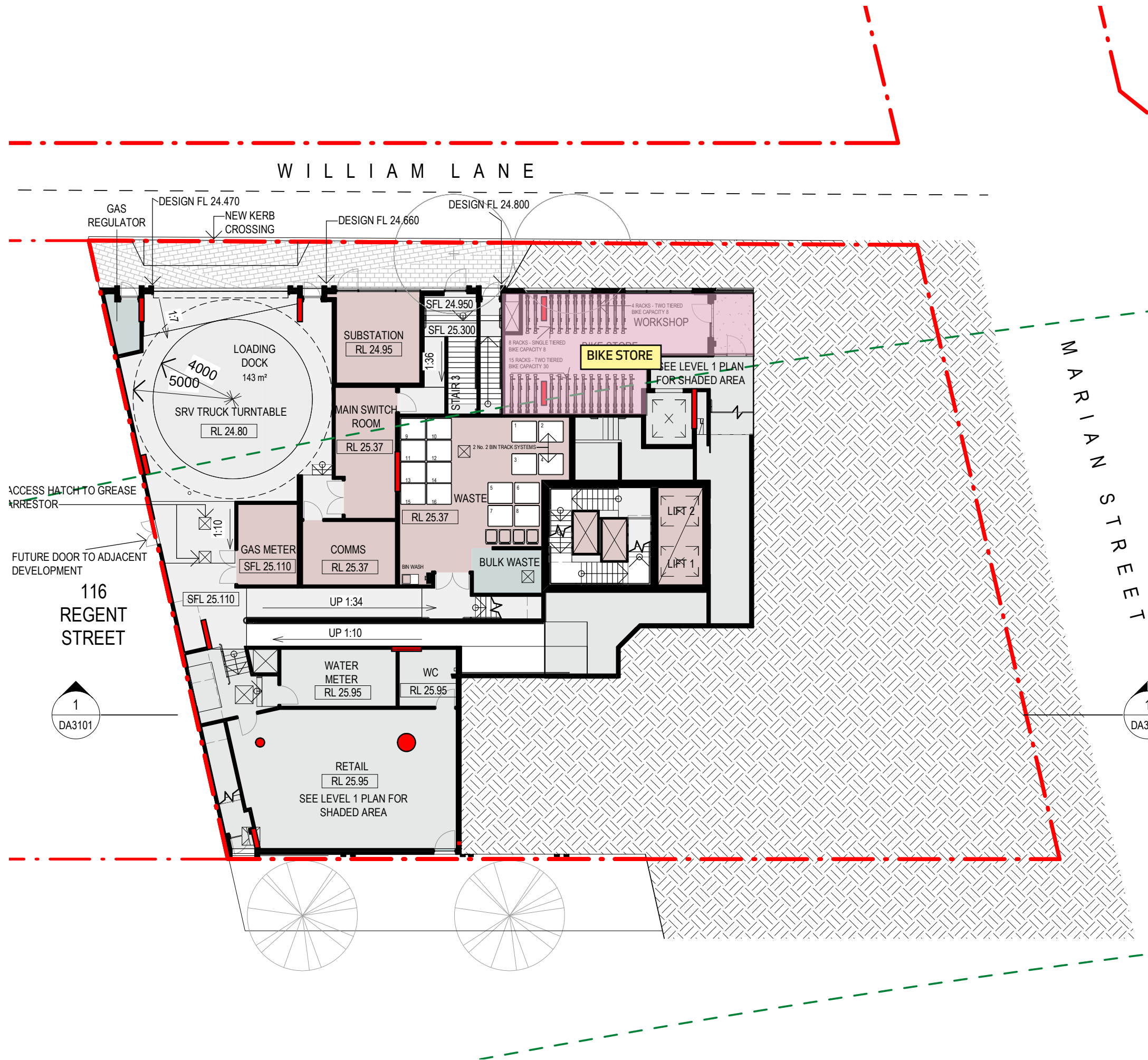
Service areas have been minimised as much as possible to promote an active street front and enhance security and visual surveillance of the public realm.

A compact truck turntable is proposed to ensure that vehicle movements across the William Lane footpath are forward in, forward out to ensure pedestrian safety. The turntable proposal also minimises the amount of space on the ground floor devoted to vehicle maneuvering to deliver more communal and retail space.

The student accommodation basement lift lobby and back of house service areas have direct ramped access to the loading dock for ease of servicing.







Bike numbers at basement and ground floor bike stores total 130. Both levels of bike store are now accessible via lift, and have been designed to incorporate passive surveillance from William Lane. The basement bike store incorporates a clerestory window.

Bicycle facilities are adequately lit via street lighting along new proposed through site link at William Lane. Basement bike parking incorporates CCTV, clerestory window to street and swipe card access.

06 TRAFFIC

BICYCLE PARKING

BICYCLE PARKING

The updated drawing set further clarifies the number of bicycle parking spaces provided on Ground and Basement levels. These spaces qualify as Class B bicycle parking as per AS2890.3 (2015).

Basement level provides two double tiered rack systems providing a total of 88 spaces. Ground level provides one double tiered rack system, and one single tiered rack system, providing a total of 46 spaces. The combined total of bike spaces is 134.

It is noted that the proposed provision of 1 bicycle space per 3 student beds is consistent with the approved student accommodation development at 13-23 Gibbons Street (SSD 9194) where the provision of 1 bicycle parking space per 3.2 beds was approved.

As per the Cora bike specification sheet, compliance iwth AS 2890.3:2015 is noted.

Construction

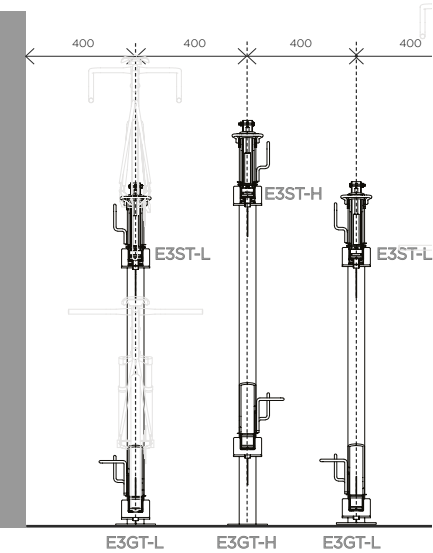
- + Heavy duty high quality steel

Finishes

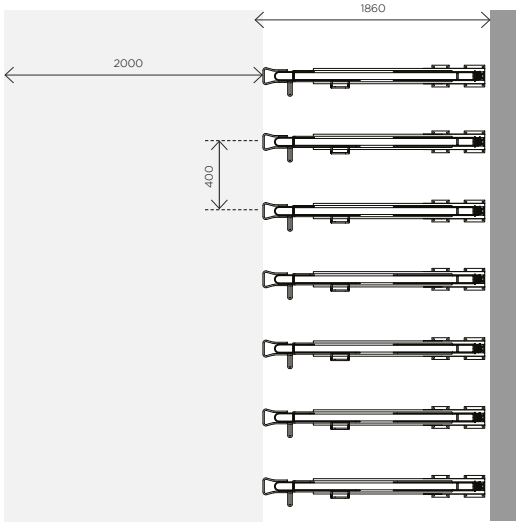
- + Galvanised with powder coated accents on handles
- + Option - Colour powder Coat (Cora Standard colour range)

Compliance

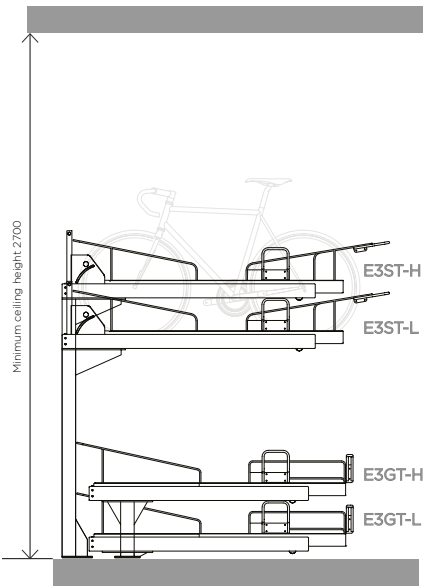
- + Rack is AS2890.3 (2015) compliant



Front view



Top view



Side view

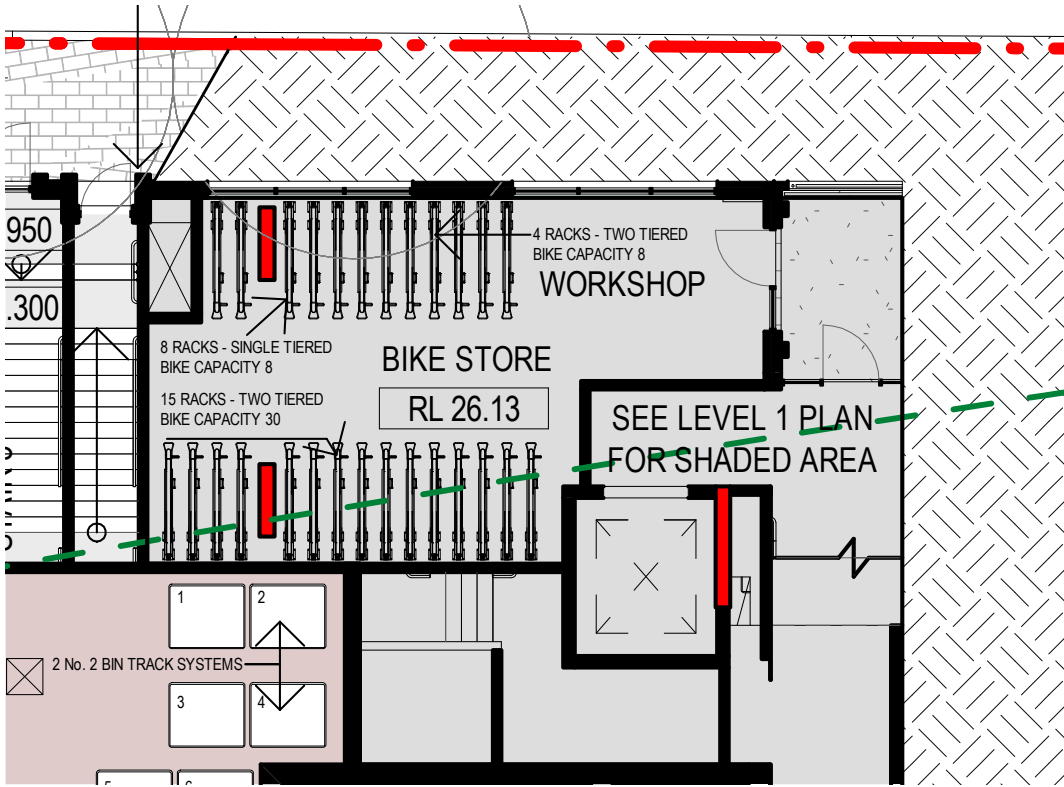
CORA BIKE RACK  
PRODUCT SPECIFICATION SHEET



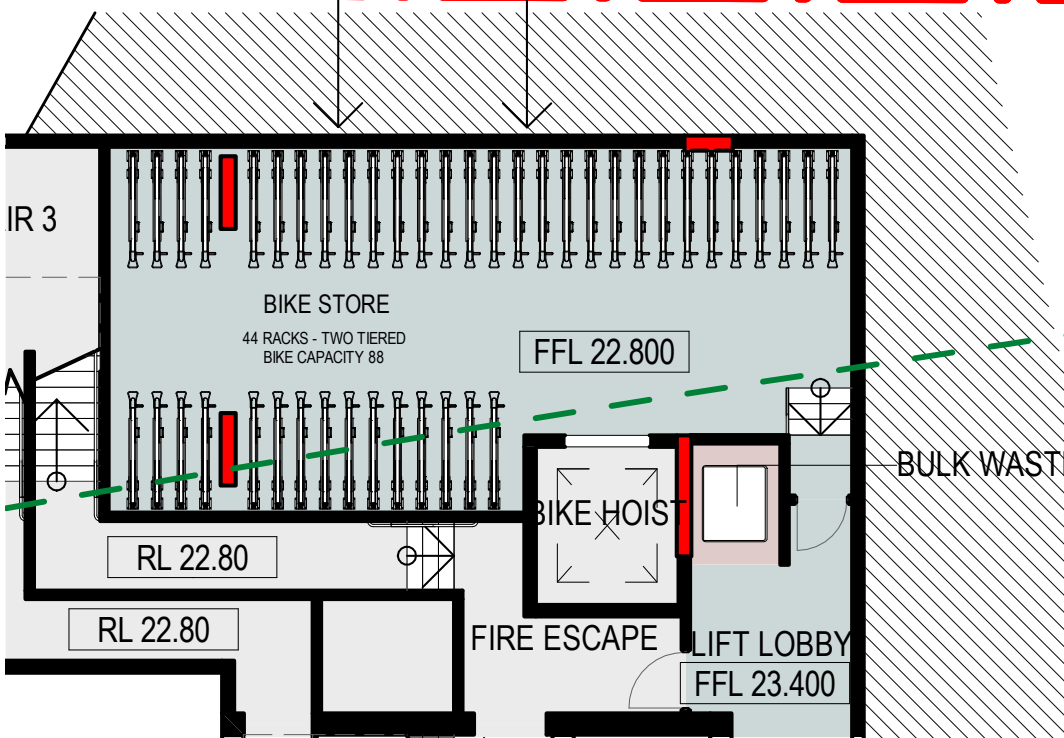
E3DT SERIES

E3DT-GT  
DYNAMIC UPPER TIER  
DYNAMIC LOWER TIER

A fully dynamic 2 tier system to provide reduced AS2890.3 compliant spacing of 400mm on both tiers. Dynamic in/out motion together with alternating height models. The dynamic upper tier includes gas assist lift for ease of use and is available in alternating heights. The dynamic lower tier uses the E3GT ground tier rack that allows users to move the rack in/ out for ease of access, and is available in alternating heights.



Basement level bicycle parking - 88 spaces provided



Ground level bicycle parking - 34 spaces provided



## 07 COMMUNITY IMPACT

07 COMMUNITY IMPACT

OVERSHADOWING IMPACTS

118 REGENT STREET, ST LUKES CHURCH

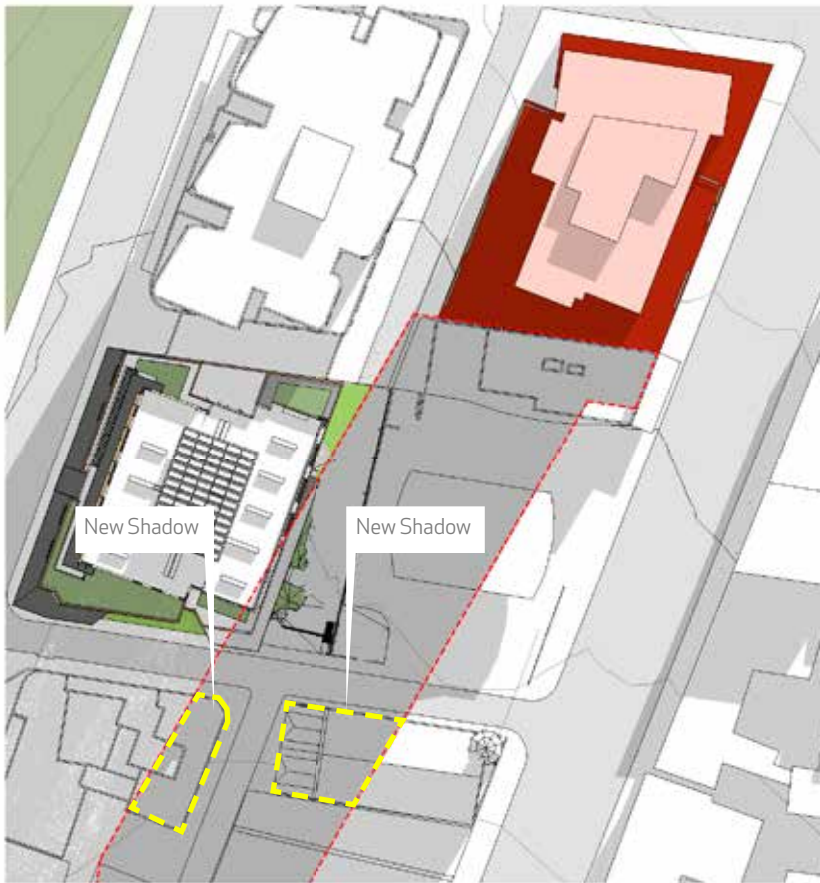
The proposed development reduces the solar amenity at 1 Margaret Street by 1 hour through mid-winter. However, an overshadowing analysis at 118 Regent Street shows that St Lukes church still receives up to 4 hours of solar access through mid winter.

1 MARGARET STREET

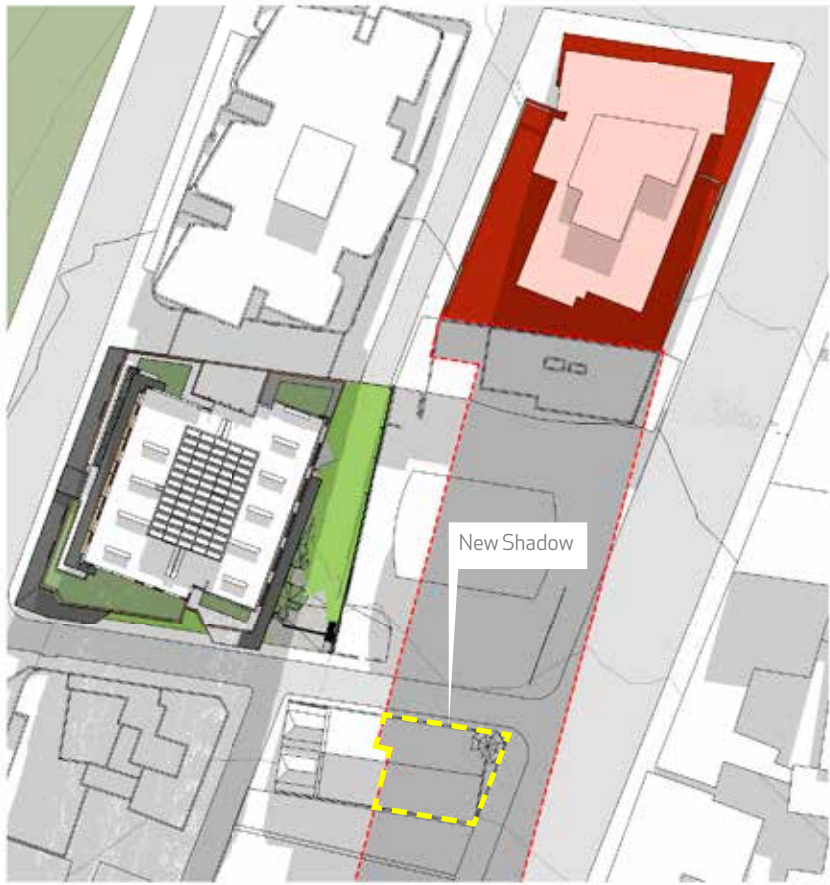
Similarly, the overshadowing impact of the proposed development shows a 1 hour window of overshadowing to the development at 1 Margaret Street between 9am and 10:15am.



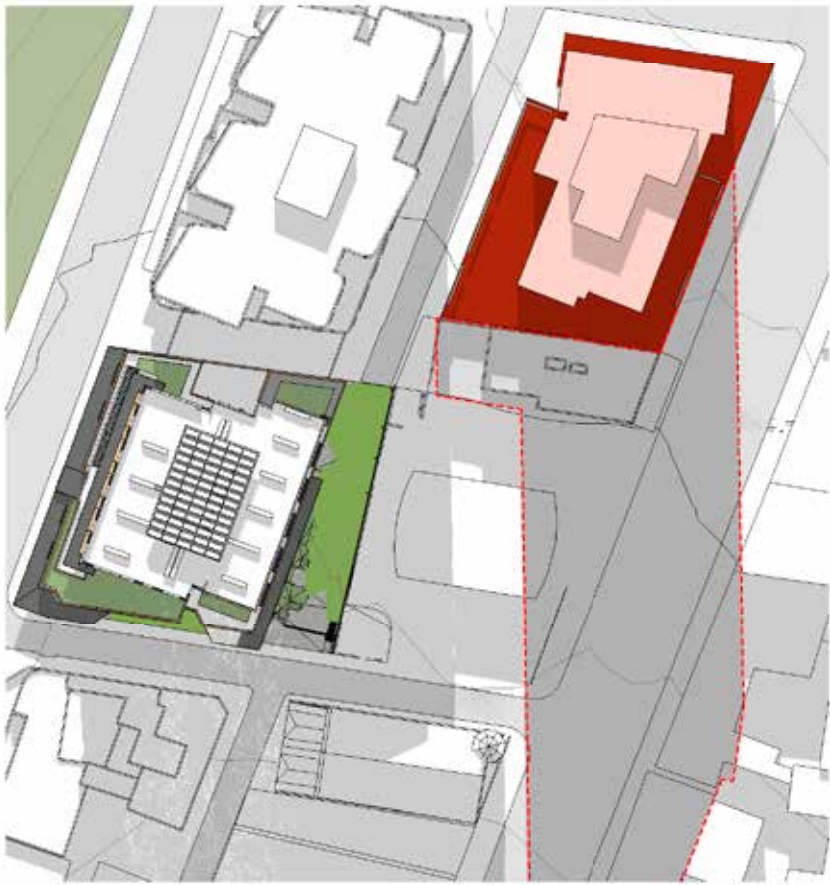
1 CONTROL & APPROVED CONTEXT MID WINTER 9AM  
1:500



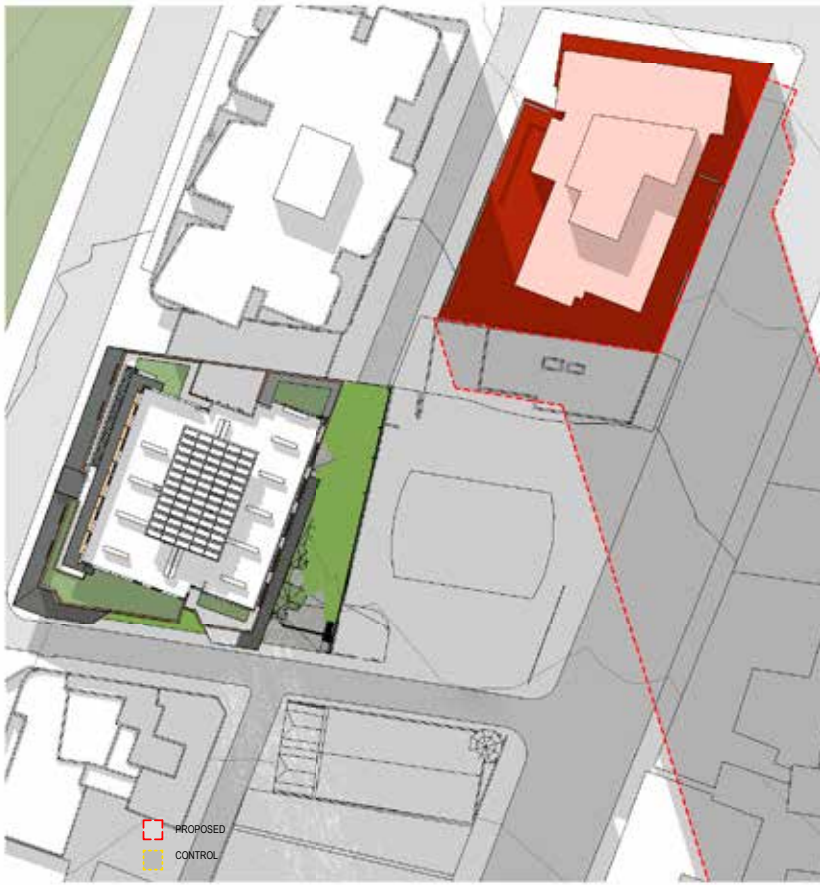
2 CONTROL & APPROVED CONTEXT MID WINTER 10AM  
1:500



3 CONTROL & APPROVED CONTEXT MID WINTER 11AM  
1:500

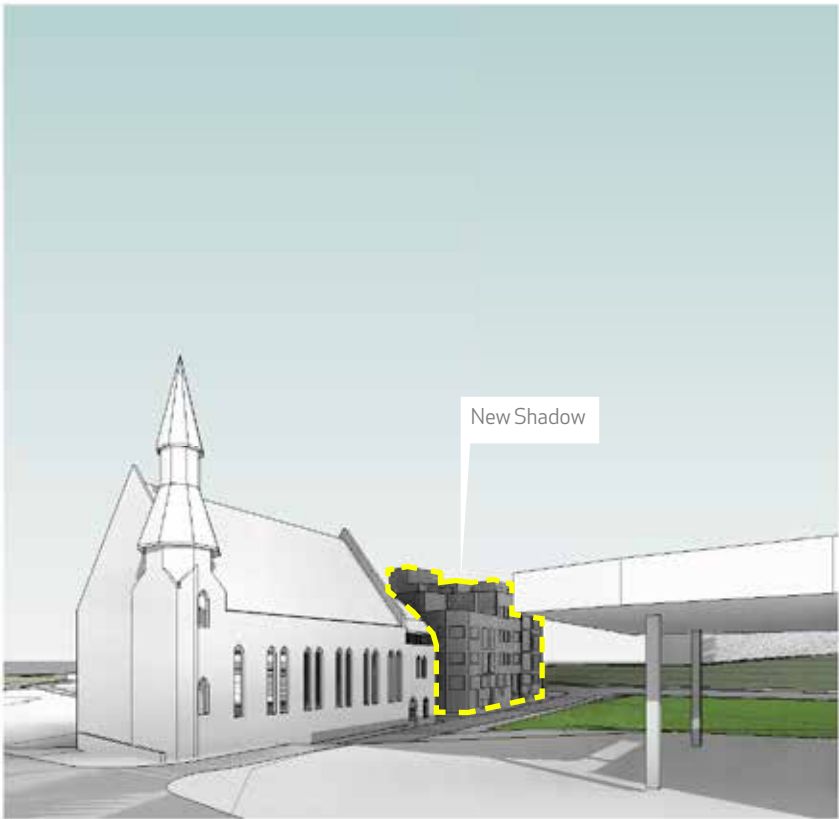


4 CONTROL & APPROVED CONTEXT MID WINTER 12PM  
1:500

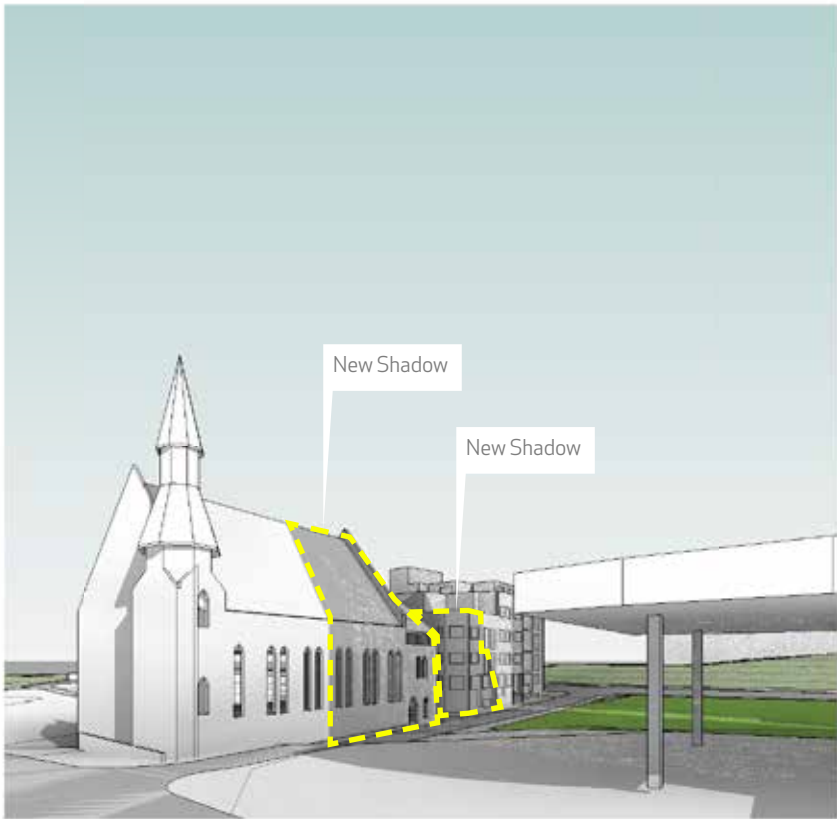


5 CONTROL & APPROVED CONTEXT MID WINTER 1PM  
1:500

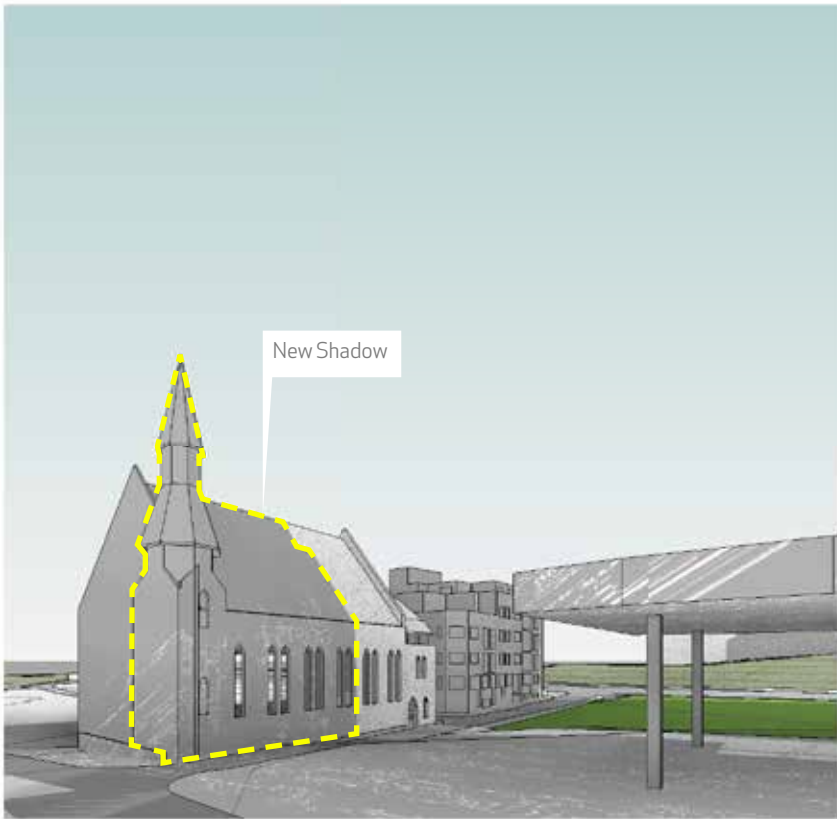




① Shadow Analysis - Church 9am



② Shadow Analysis - Church 10am



③ Shadow Analysis - Church 11am



④ Shadow Analysis - Church 12pm



⑤ Shadow Analysis - Church 1pm



⑥ Shadow Analysis - Church 2pm

07 COMMUNITY IMPACT

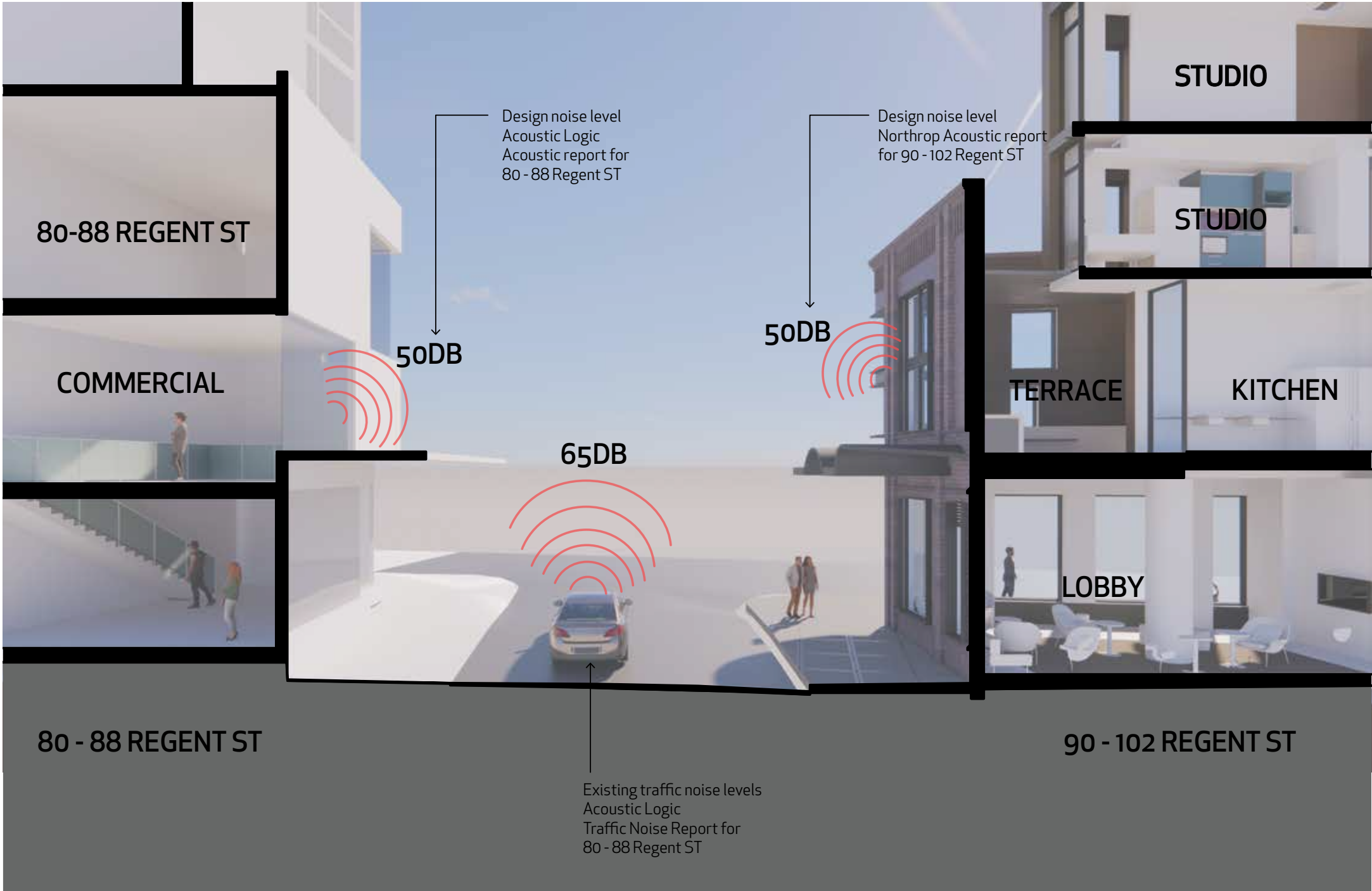
ACOUSTIC IMPACT

COMMON ROOM NOISE

An analysis of acoustic design requirements shows identical parameters used on neighbouring developments across Marian Street at 88 Regent Street.

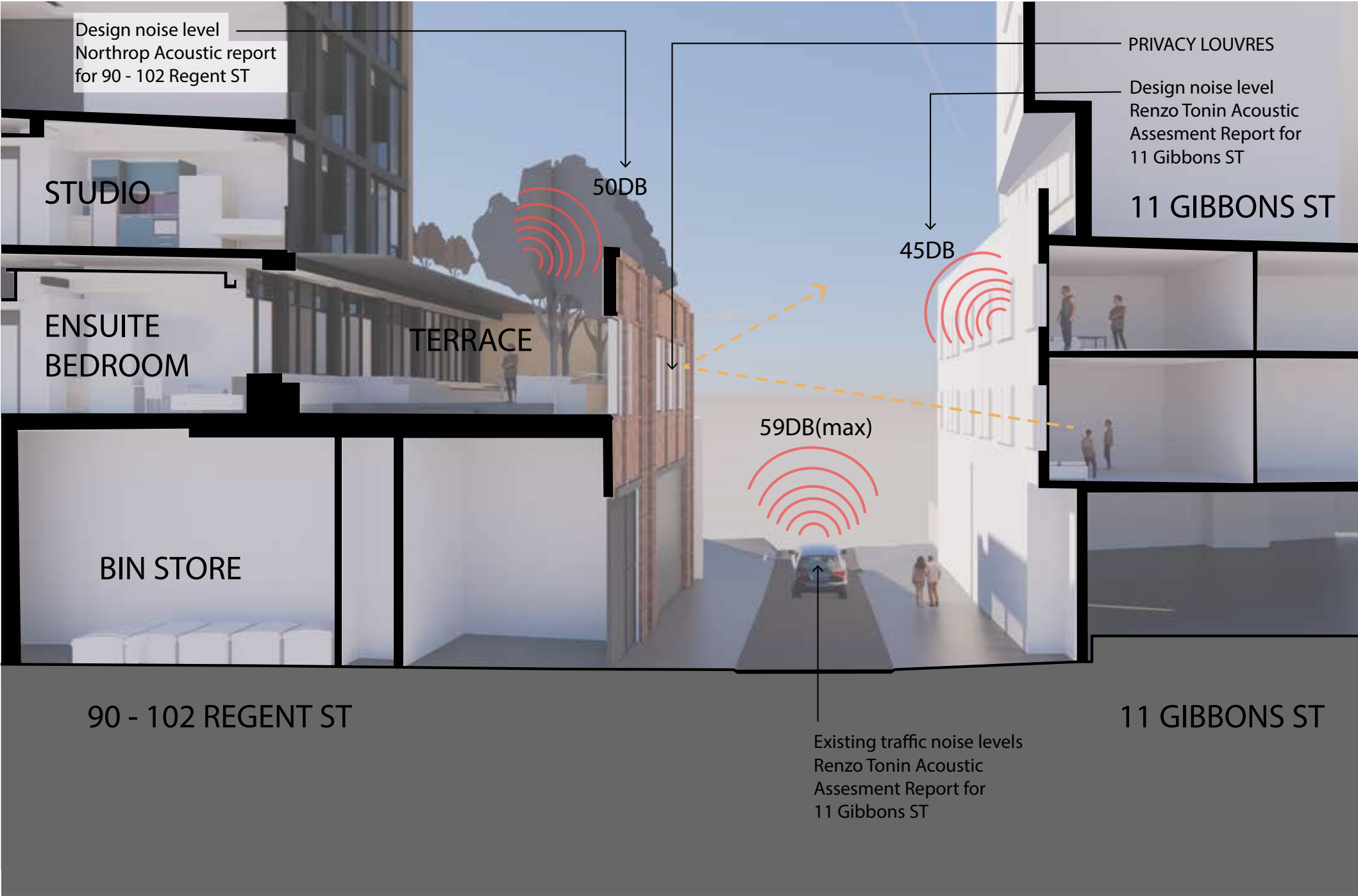
Traffic noise has been assessed to be greater than the noise levels designed to at the common spaces facing Marian Street.

It is intended that common area use will not operate beyond 10pm. Staff will operate the building between 9am and 530pm on weekdays, and 10am to 2pm on Saturdays. Residential Advisors and night managers will be present during after hours to monitor usage of the common spaces and noise levels.



Section through Marian Street, illustrating noise design level at 80-88 Regent and the proposed development





Section through William Lane, illustrating noise design level at 11 Gibbons Street and the proposed development, as well as the design features addressing privacy to the neighbouring development.

LEVEL 2 WESTERN TERRACE

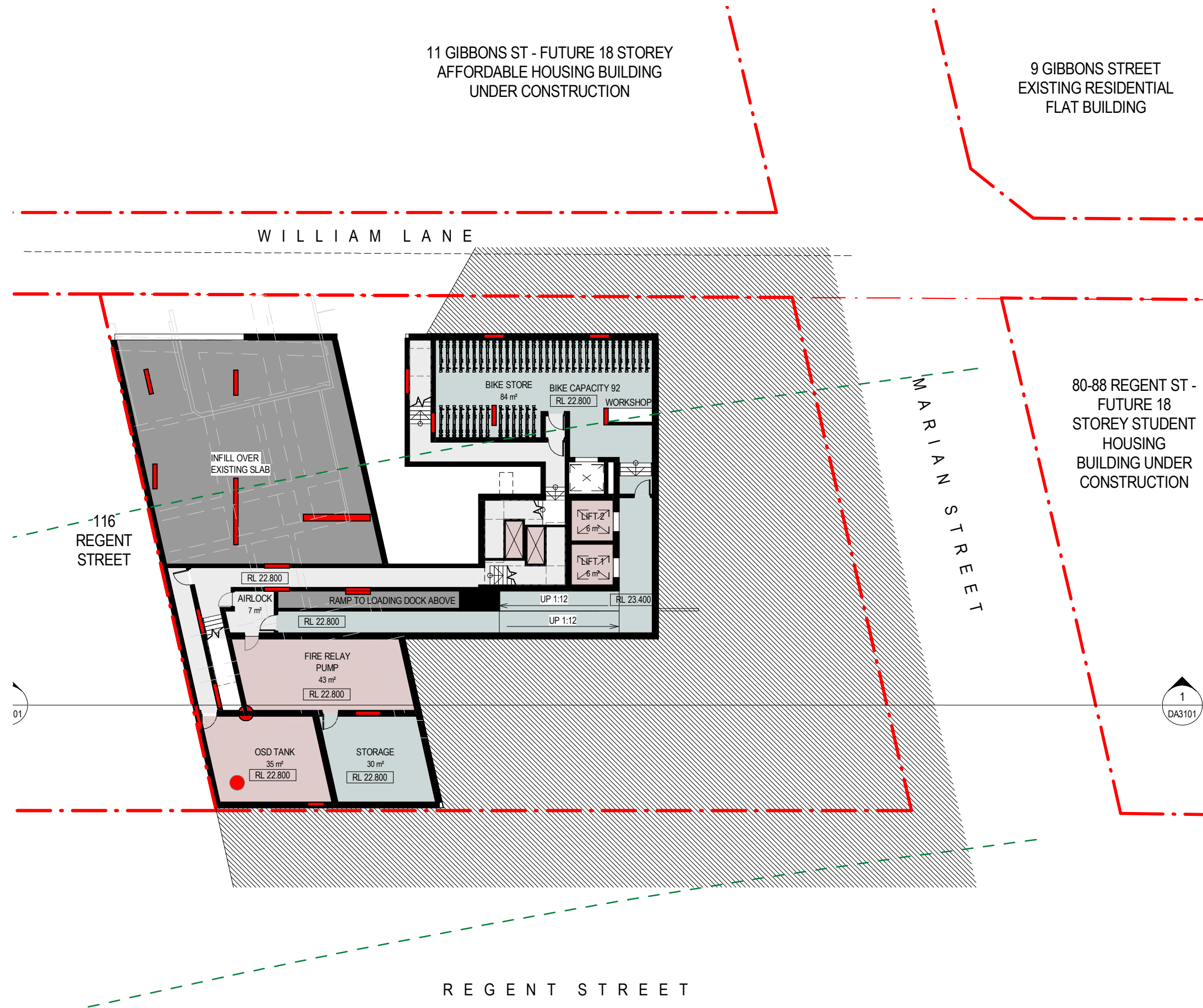
Consultation was undertaken with the developers at 11 Gibbons Street. Western facade building separation is 18m, compliant with ADG guidelines. The level 2 western terrace has incorporated the inclusion of privacy louvres to direct views away from the residences across the laneway. Inside the gym, colour backed glass obscures view into SGCH units.

Common outdoor areas are intended for use between 8am to 10pm Sunday to Thursday, and 8am to 12am on Friday, Saturday, and any day preceding a public holiday.



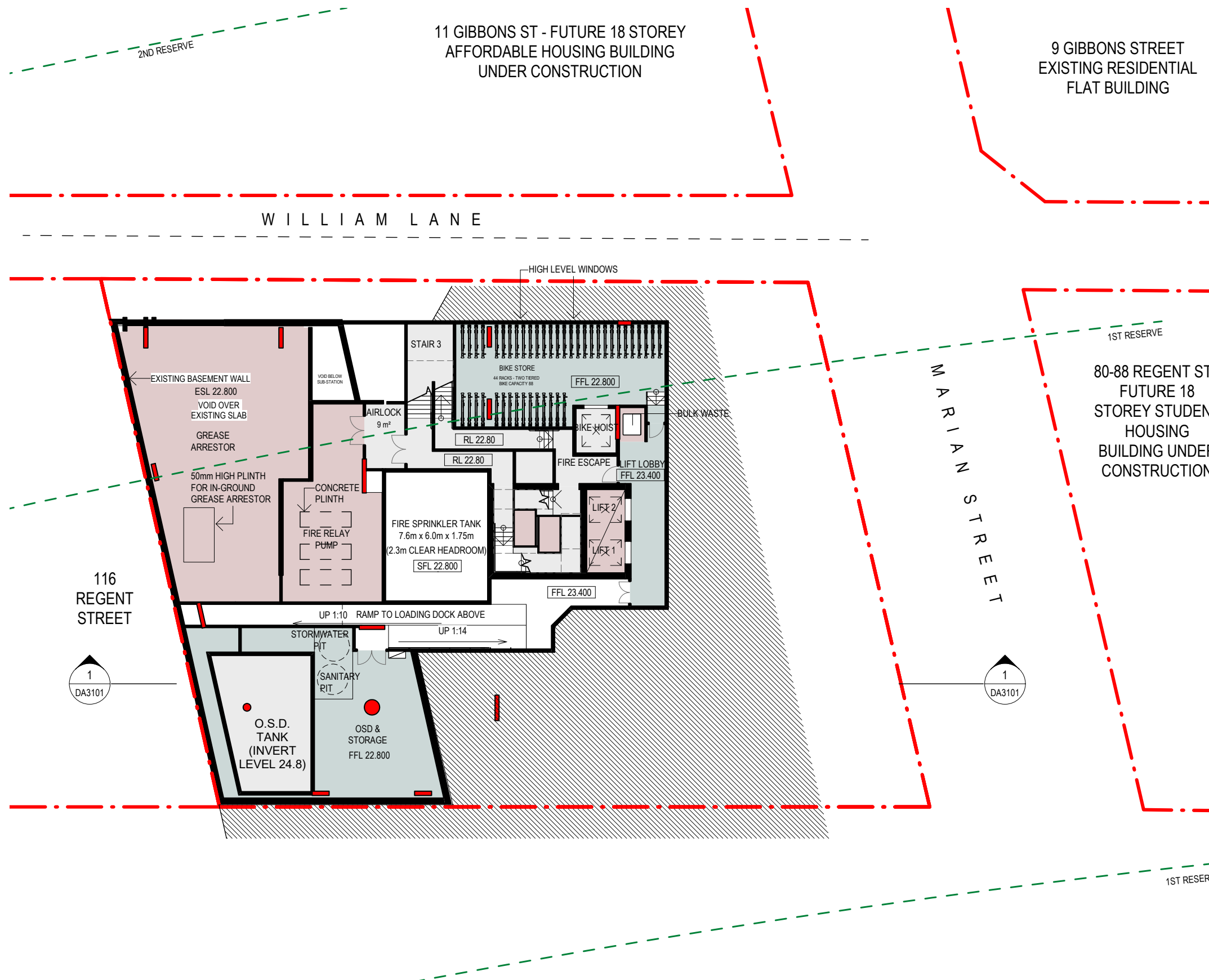


## 08 APPENDIX





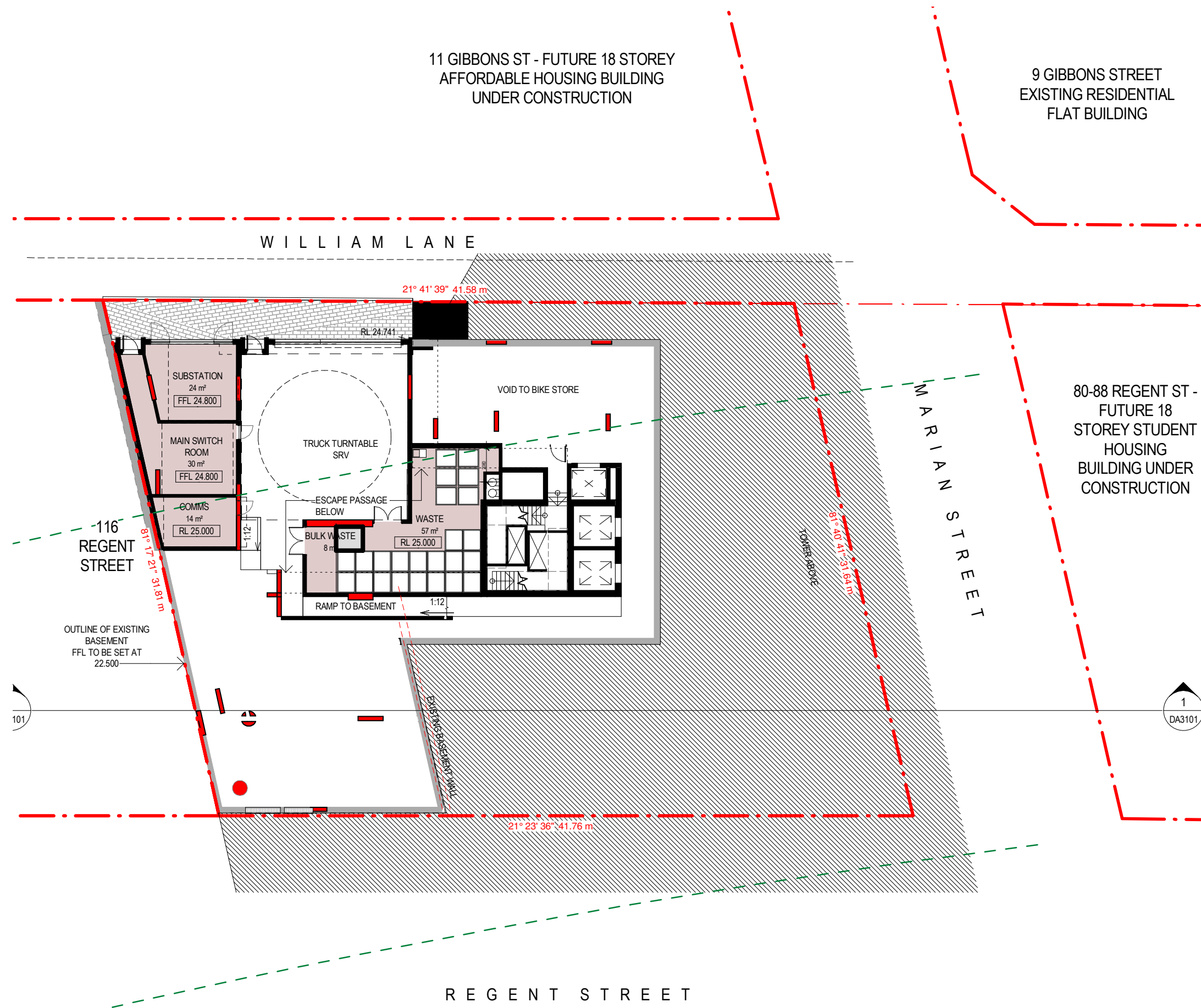
REVISED PLAN - BASEMENT LEVEL



The existing single level basement and retaining wall to the southern boundary is largely retained and used for service rooms..

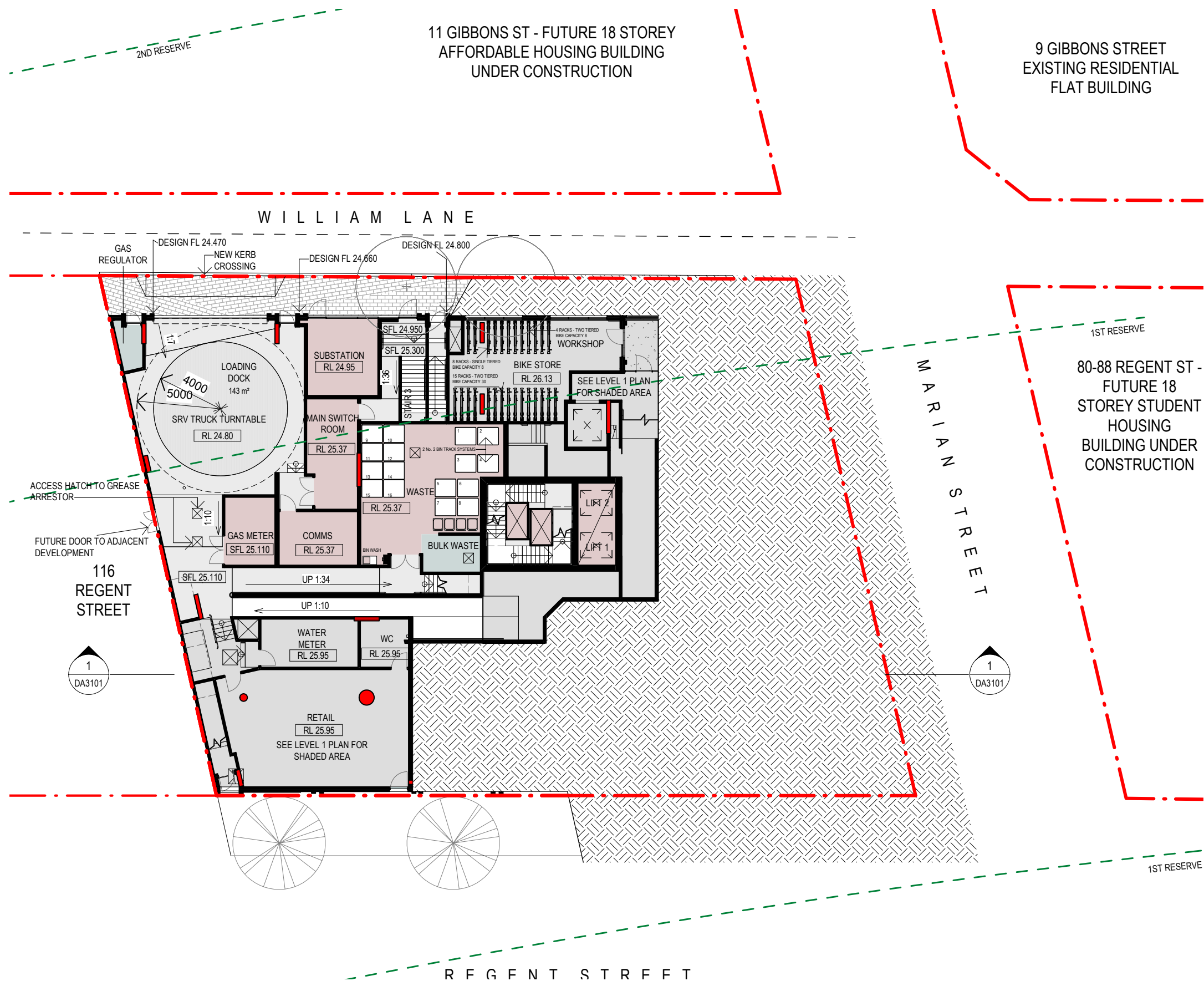
An additional area of basement is proposed to provide the balance of bicycle parking and lift access to the loading dock via a ramp to allow efficient and convenient servicing of the building.

The basement level has been further developed to better utilise opportunities for service rooms and efficient egress pathways towards the William Lane exits.





## REVISÉD PLAN - LOWER GROUND LEVEL

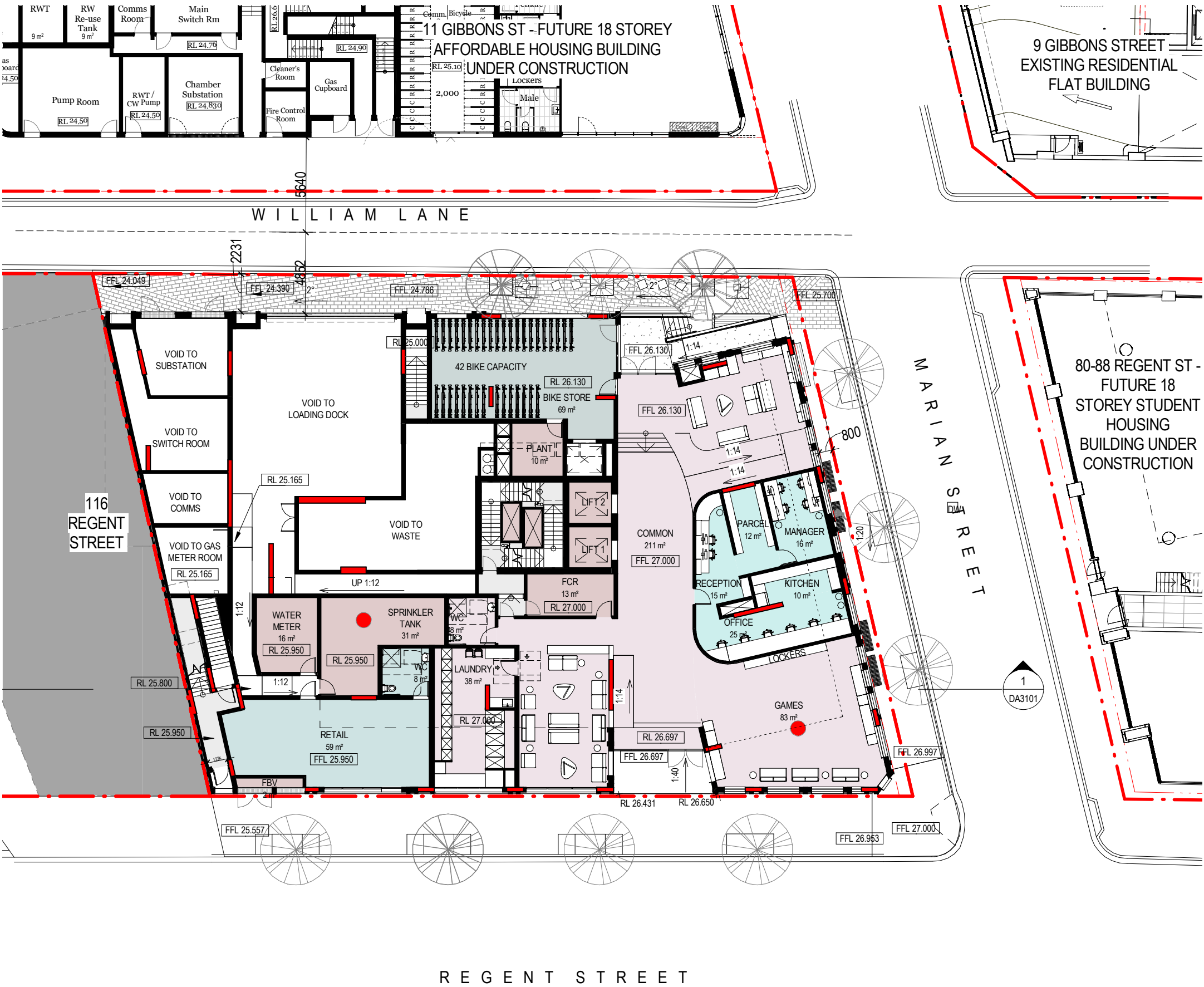


A 2m wide footpath is proposed to William Lane to create a pedestrian friendly street and provide adequate building separations to the residential apartments at 11 Gibbons Street.

Service areas have been minimised as much as possible to promote an active street front and enhance security and visual surveillance of the public realm.

A compact truck turntable is proposed to ensure that vehicle movements across the William Lane footpath are forward in, forward out to ensure pedestrian safety. The turntable proposal also minimises the amount of space on the ground floor devoted to vehicle maneuvering to deliver more communal and retail space.

The back of house loading strategy has been further developed to address flood levels and servicing requirements. Egress passageways have been consolidated towards exiting at William Lane. Shifting the loading dock further south has improved access ramp requirements to the waste room and basement below.





## REVISÉD PLAN - GROUND LEVEL



The ground floor has entry lobbies, retail spaces and communal active uses to 78% of the three street frontages to help activate and provide passive surveillance of the public realm.

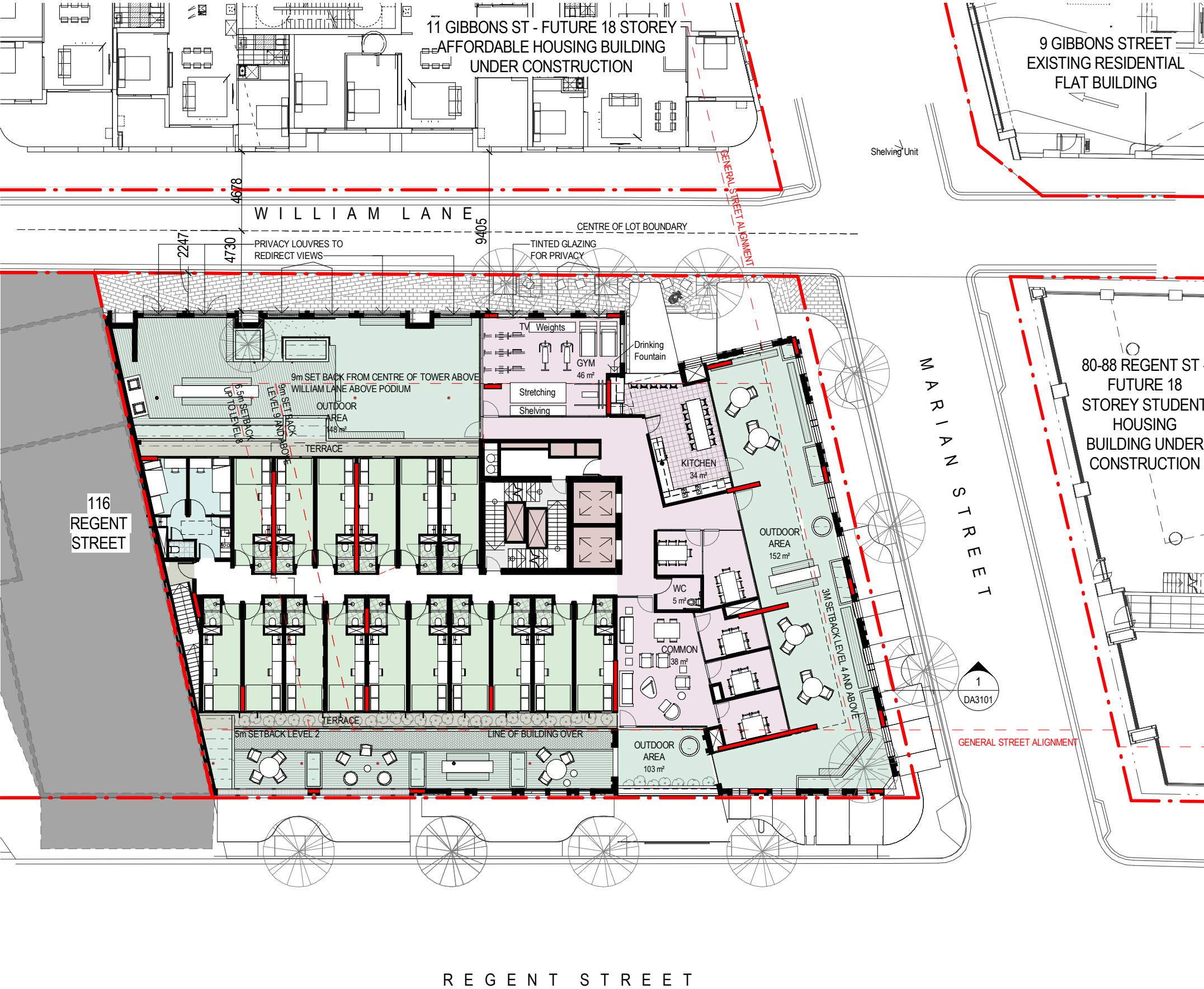
There are two public entries to the building; one facing west which will serve the desire line to Redfern Station and Sydney University beyond, and one on Regent Street which will connect to the shops and services of Redfern.

The two entries are connected by an internal street flanked by communal spaces with the office and reception in the middle opposite the lifts to visually control access to the rest of the building. This creates an open, welcoming feel while ensuring resident security.

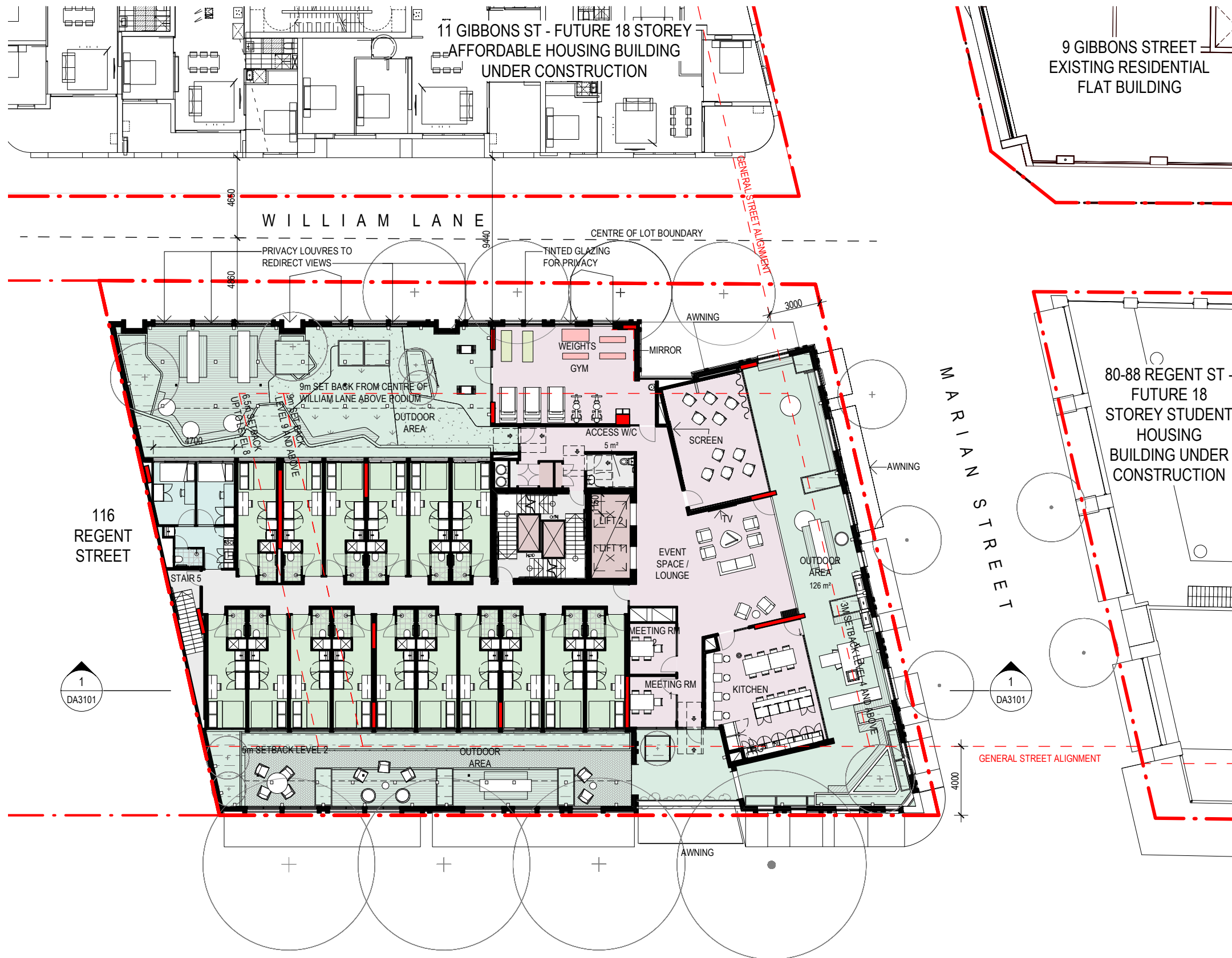
The bike hub is located in a prominent position on William Lane, which is a developing pedestrian and cycle link through the suburb, to promote and facilitate active transport.

The retail space and student accommodation back of house service areas have direct ramped access to the loading dock for ease of servicing.

This area has been developed to increase the size of the retail space and relocate the fire booster to increase the amount of shopfront glazing. The internal ramp has been deleted as the third lift will be used to provide DDA access from the William Lane level to the main ground floor level.







Level 2 includes some bedrooms and further communal spaces connected to the communal outdoor spaces.

The outdoor spaces are screened behind the podium parapet to provide visual privacy from the street and wind protection.

The eastern and northern outdoor spaces benefit from good solar access year round, while the western terrace has less solar access and offers an alternative well shaded space such as during hot summer days.

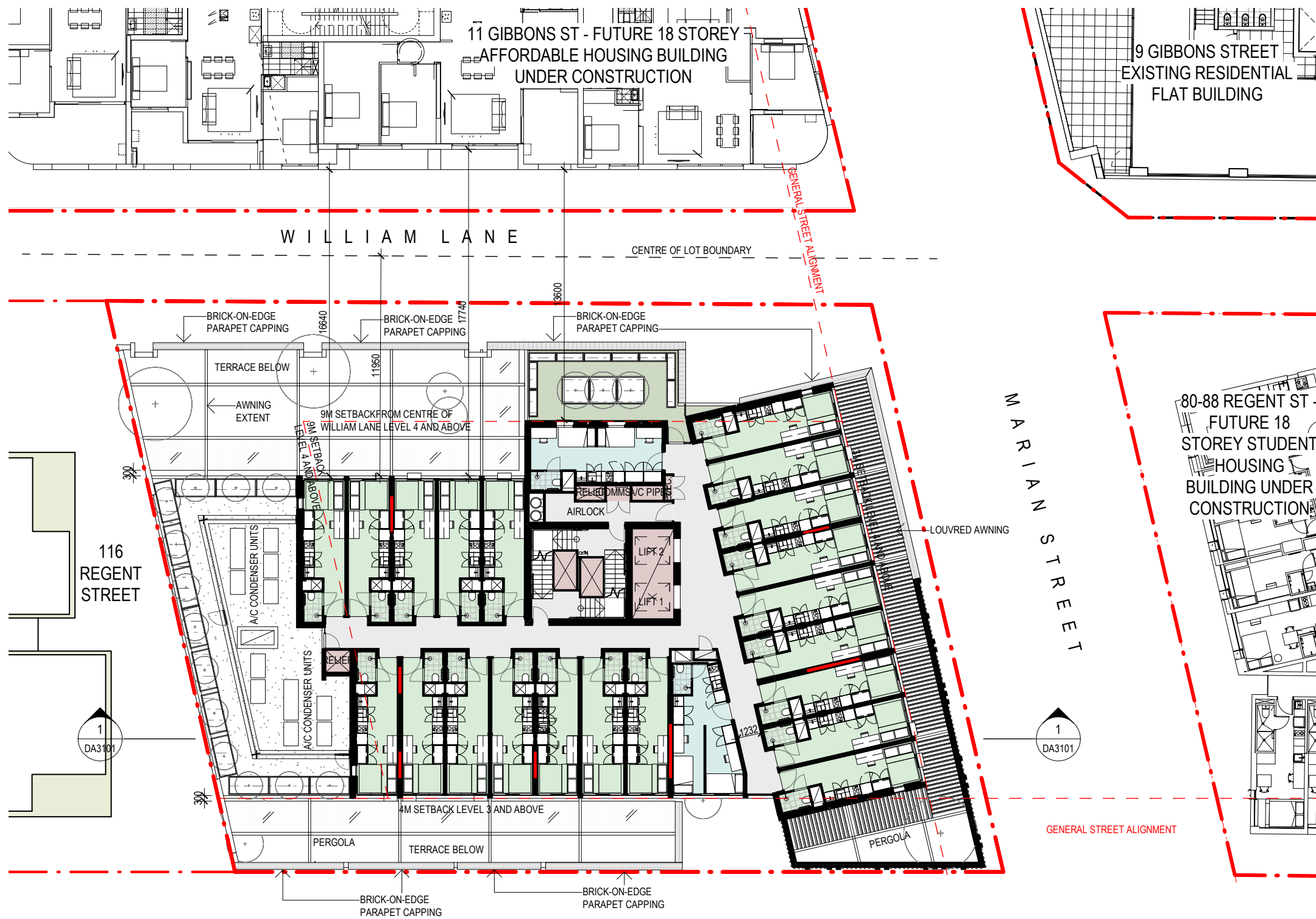
Planting and landscaping provide visual buffers between the bedrooms and the eastern and western outdoor spaces, with time management of the spaces ensuring privacy to the bedrooms.

This area has been developed to improve connectivity between internal and external common areas and to incorporate additional functions such as music rooms, a cinema, an extended outdoor gym.

Refer to the landscape section for further detail of external areas.



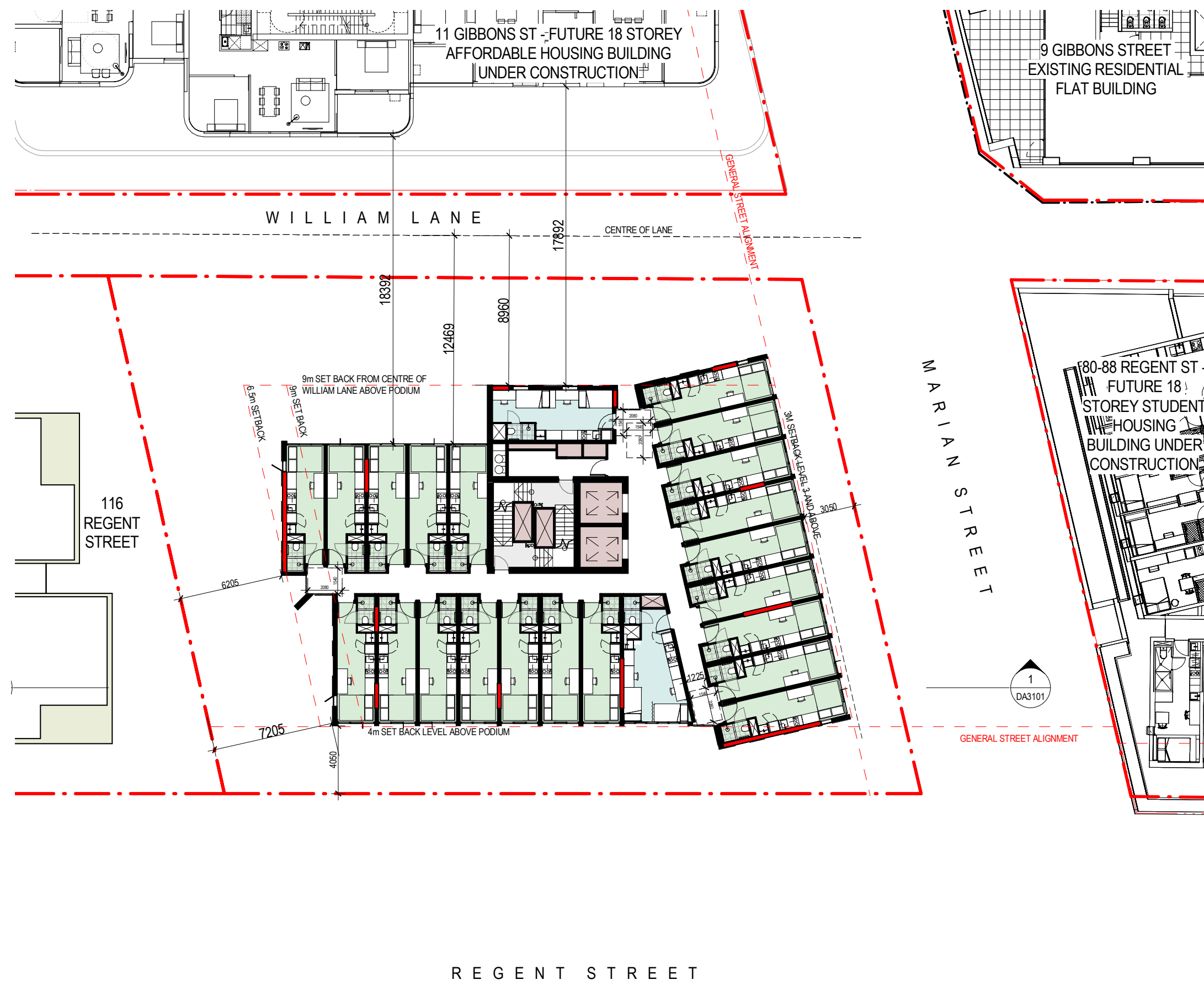




The Level 3 plan is the start of the lower typical floor plan. With the roof to the south over the extended Level 2 SOUs, there will be some dedicated plant spaces, well hidden with a perimeter planting bed and a pergola structure above.

Similarly above the western, eastern and northern terraces, there are proposed pergola structures, which help to ameliorate downdraft winds from the tower. These have been considered thoroughly and will be sympathetic to the architecture of the tower and podium.

Level 3 has undergone minor development associated with building servicing, structure and buildability. Access doors have been incorporated to service both the western and southern terraces.





REVISED PLAN - LOWER TYPICAL LEVEL



The typical tower levels maintain the predominant existing setback lines to Regent and Marian Streets, and set back from William Lane to deliver the 18m building separation required in the Redfern Urban Design Guidelines and ensure adequate visual privacy between the bedrooms and the apartments in 11 Gibbons Street.

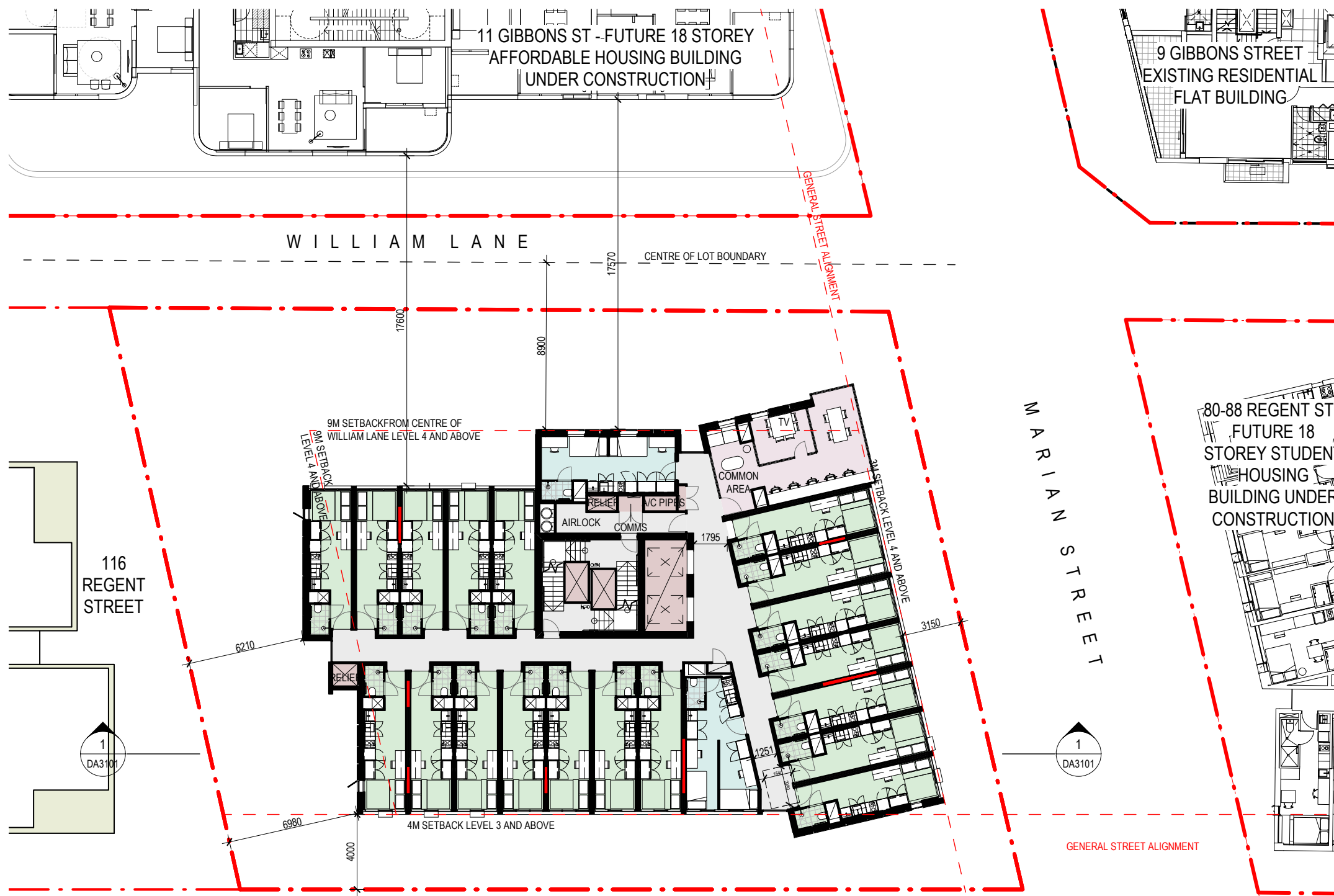
The angled northern block marks the corner of Regent and Marian Streets with a reduced setback, consistent with the existing and emerging pattern of variable tower setbacks to Regent Street.

The bedrooms face north, east or west to maximise solar access and views, while the southern facade is largely blank to preserve visual privacy to a future building on the site.

Circulation spaces have windows for natural light and views.

Lower typical level has undergone minor development associated with building servicing, structure and buildability.





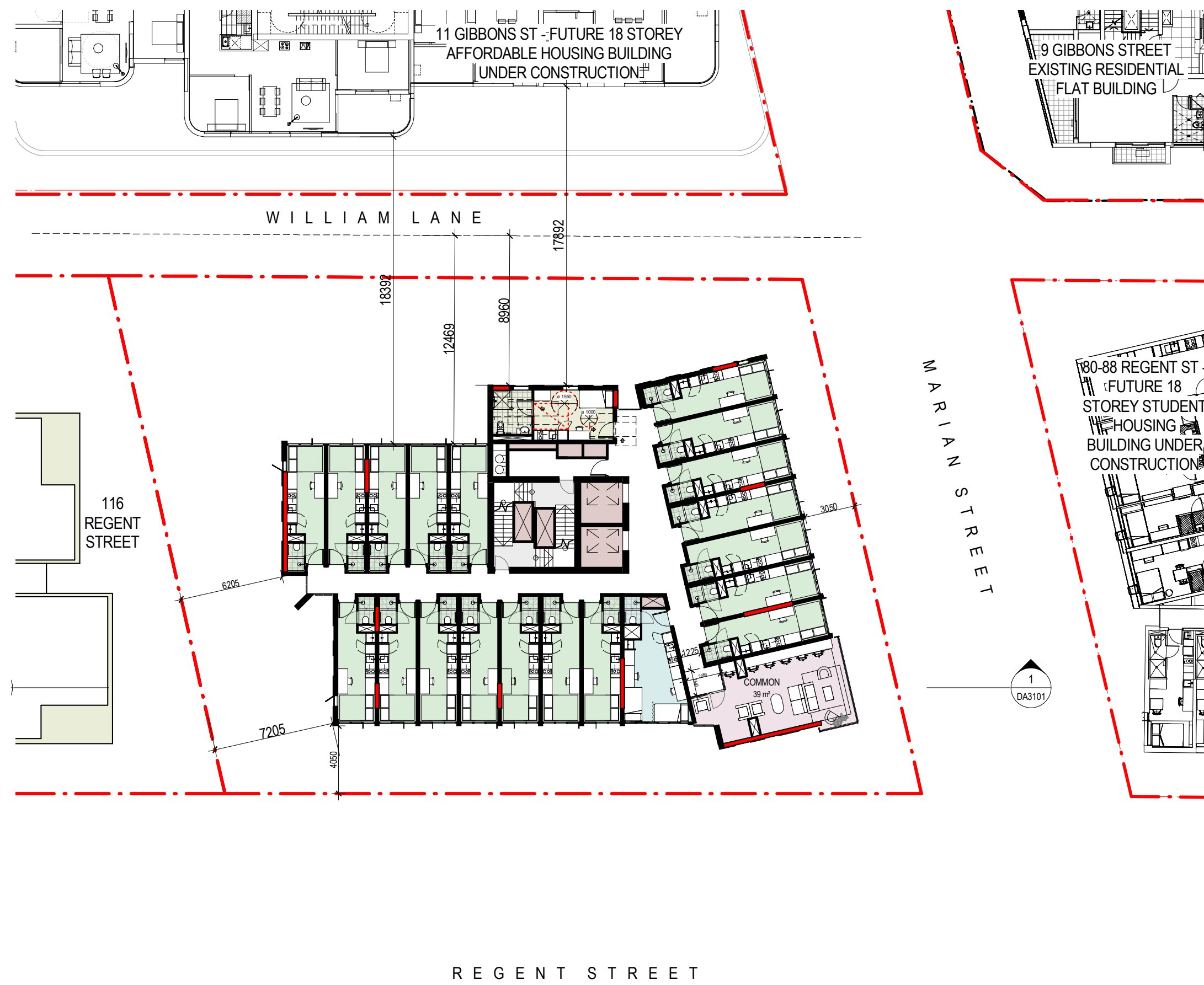
Common rooms are located at mid levels on the north east and north west corners.

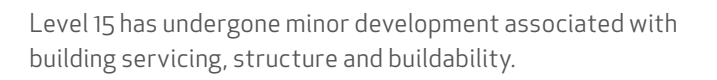
These look out over Redfern to the east and back towards Redfern Station to the west, forming visual markers and features in the facade design.

Each common room is a 2x typical module wide, allowing for adequate space for lounge and study areas for students.

Level 9 has undergone minor development associated with building servicing, structure and buildability.







08 APPENDIX

PLAN - UPPER TYPICAL, L13-18 - SUBMITTED NOV '20

Common rooms are located at mid levels on the north east and north west corners.

These look out over Redfern to the east and back towards Redfern Station to the west, forming visual markers and features in the facade design.

Each common room is a 2x typical module wide, allowing for adequate space for lounge and study areas for students.

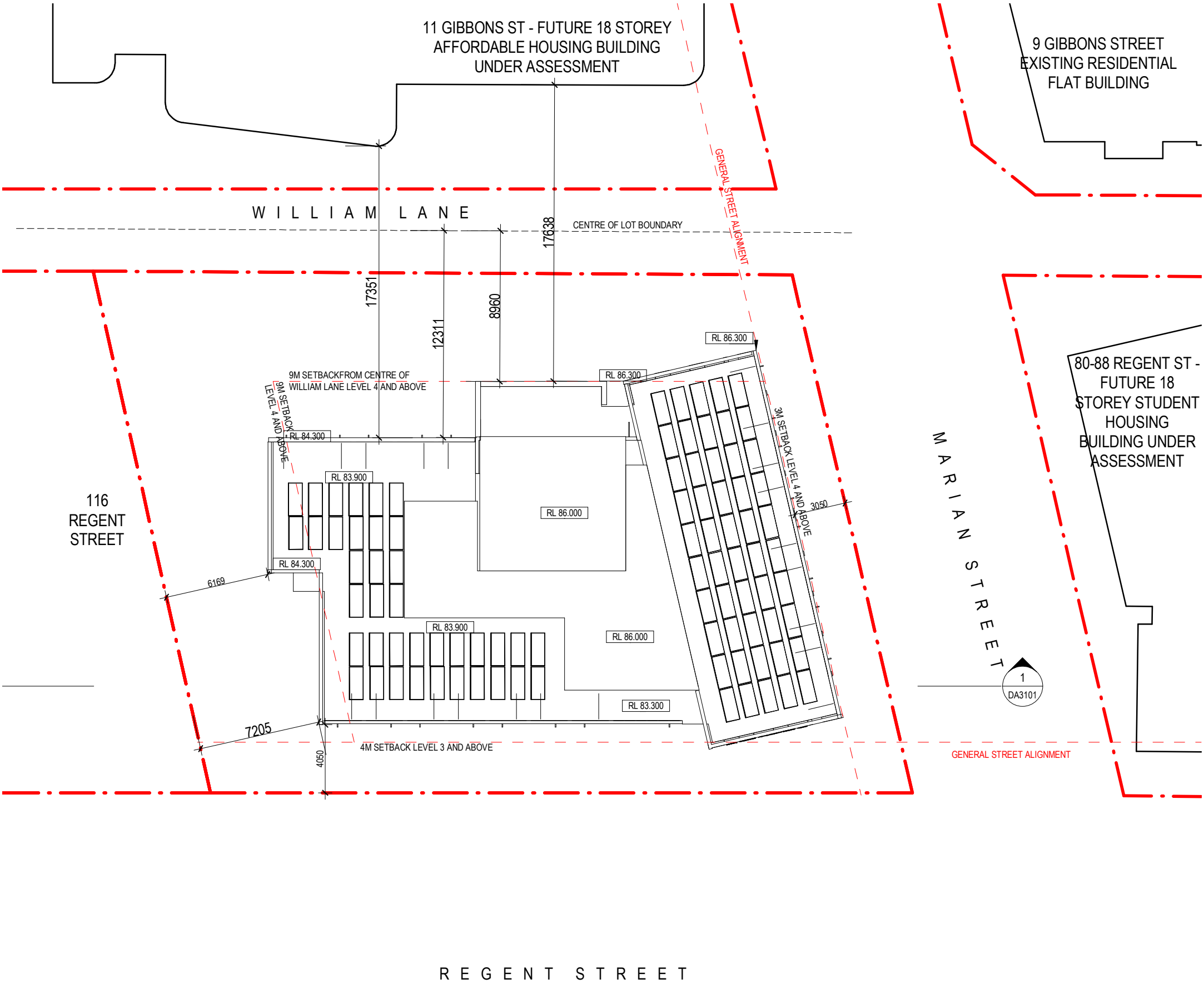


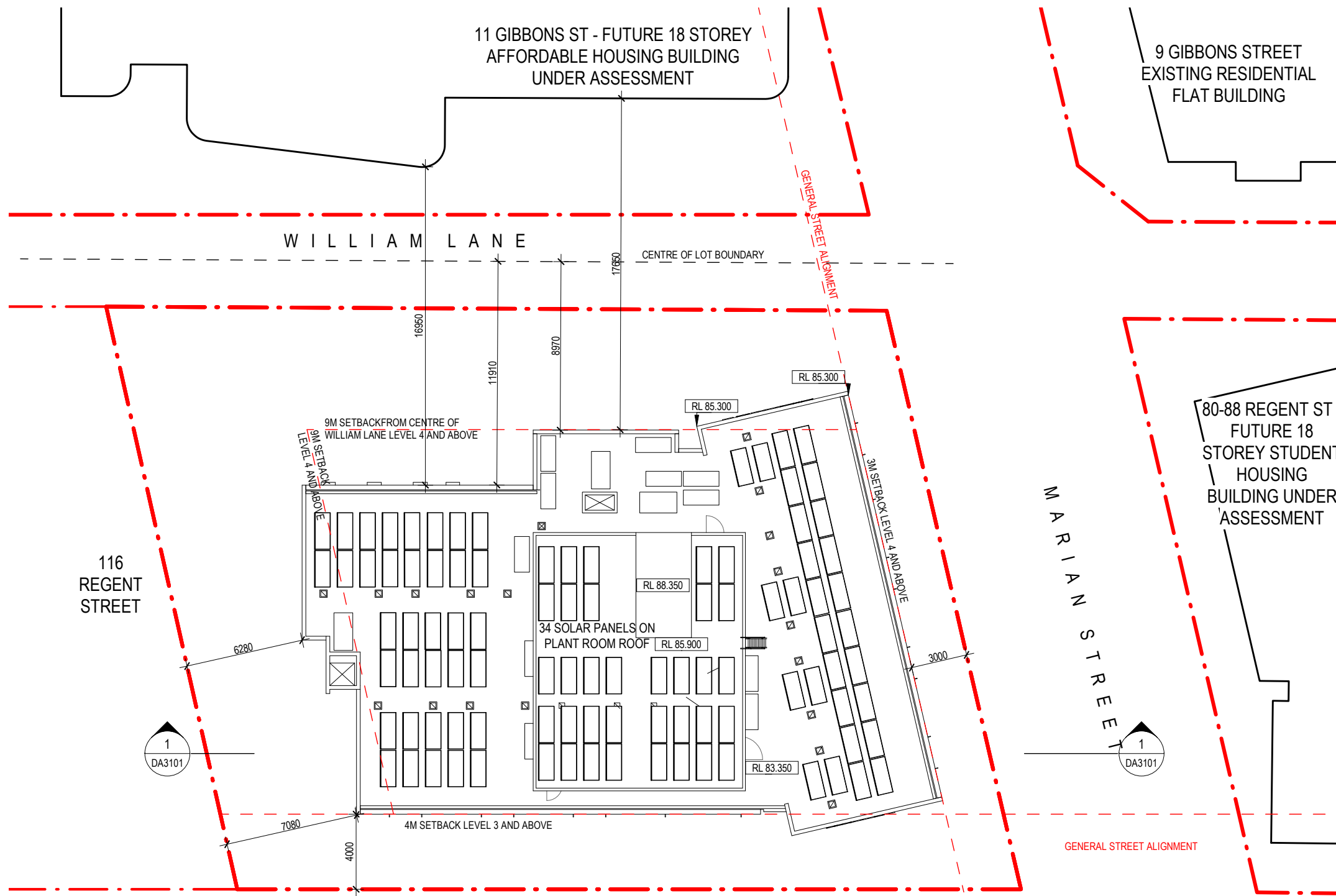


REVISED PLAN - UPPER TYPICAL LEVEL



Upper typical level has undergone minor development associated with building servicing, structure and buildability.





Roof level has undergone minor development associated with building servicing, structure and buildability. The circulation core has been extended to provide lift access to the plant room level. Photovoltaic cells have also been incorporated both at plant and roof levels as part of the ESD strategy.



08 APPENDIX

BEDROOM LAYOUTS



ENSUITE DORM

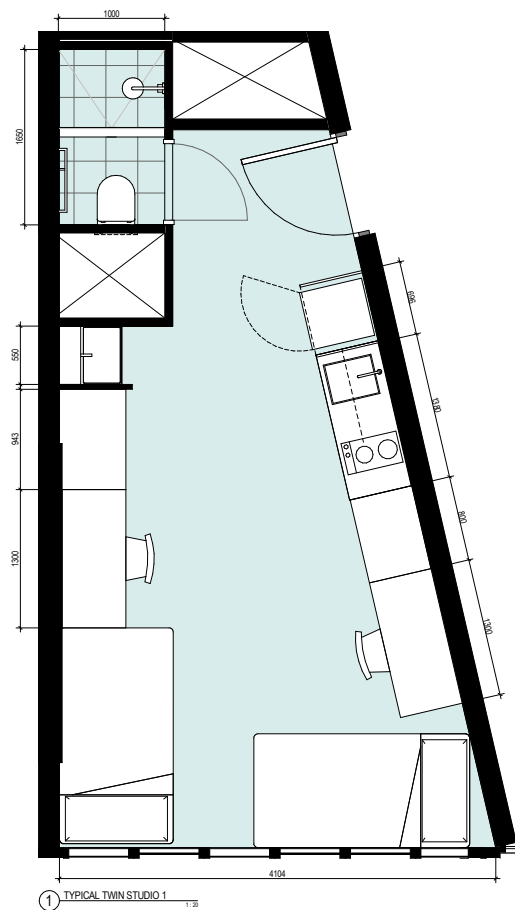
no of occupant(s)	1
room area (excl ensuite)	12.1 m <sup>2</sup>
ensuite	2.0 m <sup>2</sup>
kitchenette	N/A
total area	14.1 m <sup>2</sup>
general ceiling height	3.4m

QUEEN STUDIO ROOM

no of occupant(s)	1
room area (excl ensuite)	14.3m <sup>2</sup>
ensuite	2.0 m <sup>2</sup>
kitchenette	1.3 m <sup>2</sup>
total area	16.3m <sup>2</sup>
general ceiling height	2.7m

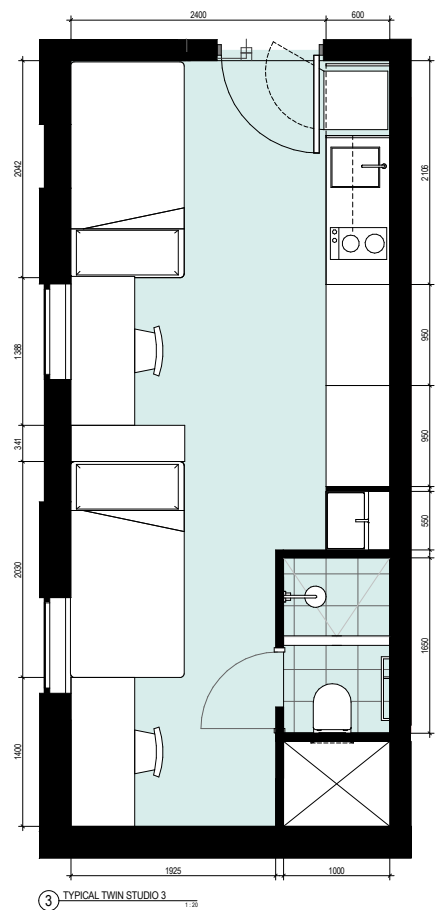
ADAPTABLE UNIT

no of occupant(s)	1
room area (excl ensuite)	14.5 m <sup>2</sup>
ensuite	6.2 m <sup>2</sup>
kitchenette	1.3 m <sup>2</sup>
total area	20.7m <sup>2</sup>
general ceiling height	2.7m



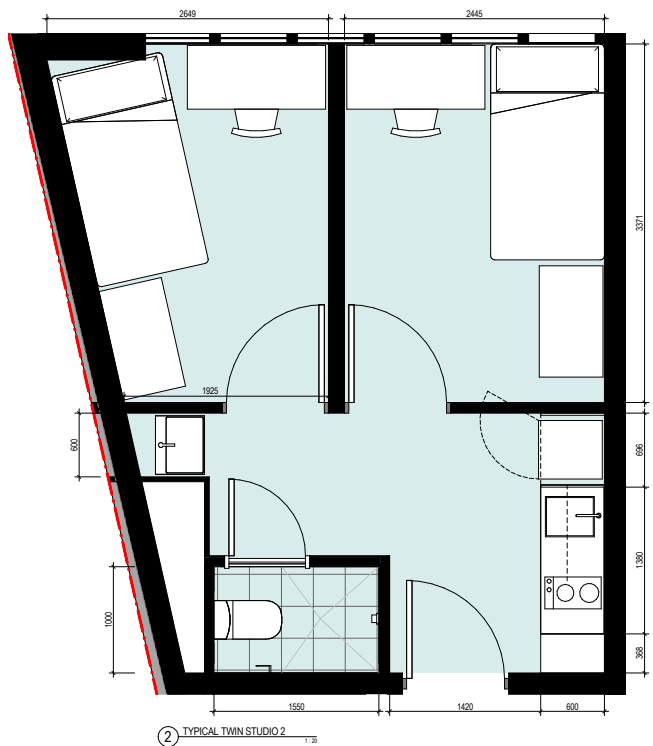
TWIN STUDIO ROOM 1

no of occupant(s)	2
room area (excl ensuite)	21.0m <sup>2</sup>
ensuite	2.0 m <sup>2</sup>
kitchenette	1.3 m <sup>2</sup>
total area	23.0 m <sup>2</sup>
general ceiling height	2.7m



TWIN STUDIO ROOM 2

no of occupant(s)	2
room area (excl ensuite)	19.7 m <sup>2</sup>
ensuite	2.0 m <sup>2</sup>
kitchenette	1.3 m <sup>2</sup>
total area	21.7 m <sup>2</sup>
general ceiling height	2.7m



TWIN STUDIO ROOM 3

no of occupant(s)	1
room area (excl ensuite)	24.0 m <sup>2</sup>
ensuite	2.0 m <sup>2</sup>
kitchenette	1.5 m <sup>2</sup>
total area	26.0m <sup>2</sup>
general ceiling height	2.7m









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