



STRATEGY  
ARCHITECTURE  
INTERIORS  
BRAND

# WMK ARCHITECTURE

1-13 COLERIDGE STREET,  
RIVERWOOD

BGXZ7

ARCHITECTURAL  
SEPP (HOUSING) 2021  
DESIGN STATEMENT

PREPARED FOR:  
HOMES NSW

NOVEMBER, 2024

REPORT

The following report presents the architectural design intent and assesses the proposed development against the nine urban design principles set out within Schedule 9 of SEPP (Housing) 2021 for the site located at 1-13 Coleridge Street, Riverwood. The report outlines the opportunities and constraints of the site and presents the best outcome for Residential Flat Housing in this location.

WMK acknowledge the traditional custodians of the land on which the site sits, the Bidjigal people of the Eora Nation and recognise their continuing connection to land, waters and culture.

CONFIDENTIAL

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DATE	REV	CREATED BY	REVIEWED BY	DESCRIPTION
12.08.2022	1.0	TB	TW	SEPP65 Report
05.09.2022	2.0	DL	TW	SEPP65 Report
01.06.2023	3.0	TB	TW	SEPP65 Report
10.09.2024	4.0	EY	BM	SEPP65 Report
01.11.2024	5.0	EY/NC	BM	HSEPP Report



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# 01 DESIGN VERIFICATION STATEMENT

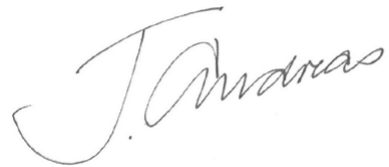
1-13 COLERIDGE STREET, RIVERWOOD  
DESIGN VERIFICATION STATEMENT

DESIGN VERIFICATION STATEMENT  
PROPOSED RESIDENTIAL DEVELOPMENT  
1-13 COLERIDGE STREET, RIVERWOOD

This report should be read in conjunction with the architectural drawings provided in the project development application responding to each of the nine urban design principles set out within Schedule 9 Design Principles for Residential Apartment Development of the State Environmental Planning Policy (Housing) 2021 (HSEPP) NSW and The Apartment Design Guide.

I verify that the proposed residential development, as shown in Architectural Drawings for Development Approval dated 18/10/24 was designed under my instruction and that the design quality principles as set out Schedule 9 Design Principles for Residential Apartment Development of the State Environmental Planning Policy (Housing) 2021 (HSEPP) NSW and The Apartment Design Guide are achieved for the proposed 42 residential apartments.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'J. Andreas', written in a cursive style.

John Andreas  
Registration No. 7590  
Design Director  
WMK Architecture

## 02 INTRODUCTION

## INTRODUCTION

This report applies to the proposed residential development at 1-13 Coleridge Street, Riverwood, New South Wales and assesses the design quality of the proposal in line with the design quality principles outlined in Schedule 9 of Design Principles for Residential Apartment Development of the State Environmental Planning Policy (Housing) 2021 (HSEPP)

The site is located on Coleridge Street, Riverwood and within the boundaries of the Georges River Council. The surrounding streets have a distinctive character generated by a diverse mix of residential typologies and architectural styles.

The proposed development is affordable housing provided by Homes NSW (Land and Housing Corporation) and is applicable for additional floor space and height bonus under SEPP (Housing) 2021 (NSW). The proposal consists of 42 units over a four storey brick building, including 22 x 1 beds units, 20 x 2 bed units inclusive of 5 accessible units. There is a single storey basement with 19 car parking spaces, including 5 accessible spaces. Waste collection is via ground floor and a large communal space is located to the eastern end of the site. Homes NSW proposed to subdivide a portion of the site for council ownership to allow access to Philip Street Reserve from Coleridge Street.

The Design Statement is structured in sections, whereby following the introductory sections, the context and parameters of the site are outlined, following this the report details the compliance of the development with the nine Design Quality Principles; along with the Apartment Design Guide in reference to Local Context, Site Design and Building Design.

A Pre-DA meeting was held with Georges River Council on 14th September 2022. Advice was provided by the Council to Homes NSW based on the development proposal and has been incorporated in the documentation presented. Feedback from Sydney Trains was received on 1st December 2022 and have been incorporated where required.

1-13 COLERIDGE STREET, RIVERWOOD  
LOCAL CONTEXT

Existing Site Local Context



# 1-13 COLERIDGE STREET, RIVERWOOD

## SITE OPPORTUNITIES

### SITE OPPORTUNITIES

#### 1. PROXIMITY TO TRANSPORT

- > The subject site is located in a prime location in close proximity to Riverwood Station, approximately 280m walking distance from the site.
- > It is a 40 minute journey on public transport from the site to Central station, which includes a 4 minute / 280m walk to Riverwood station.
- > The nearest bus stop is located at the corner of Belmore and Coleridge Street, approximately a 3 minute walk from the site. Bus routes 940, 942, 944 and 945 to Westfield Hurstville stop here.

#### 2. PROXIMITY TO AMENITIES

- > Riverwood Plaza is an 8 minute / 600m walk from the site, and contains supermarkets and a variety of specialty shops and restaurants.
- > The site is situated 4.0km away from Bankstown Central and 4.9km from Westfield Hurstville, both are large shopping centres which contain many options for shopping, eating and entertainment.
- > There is a cluster of shops located along Belmore Street on both sides of the train station that includes multiple eateries, specialty shops and a news agency.

#### 3. ASPECT

- > The site is located at the end of a cul-de-sac, backing on to the rail corridor and Philip Street Reserve.
- > The site has prominent street frontage to the North

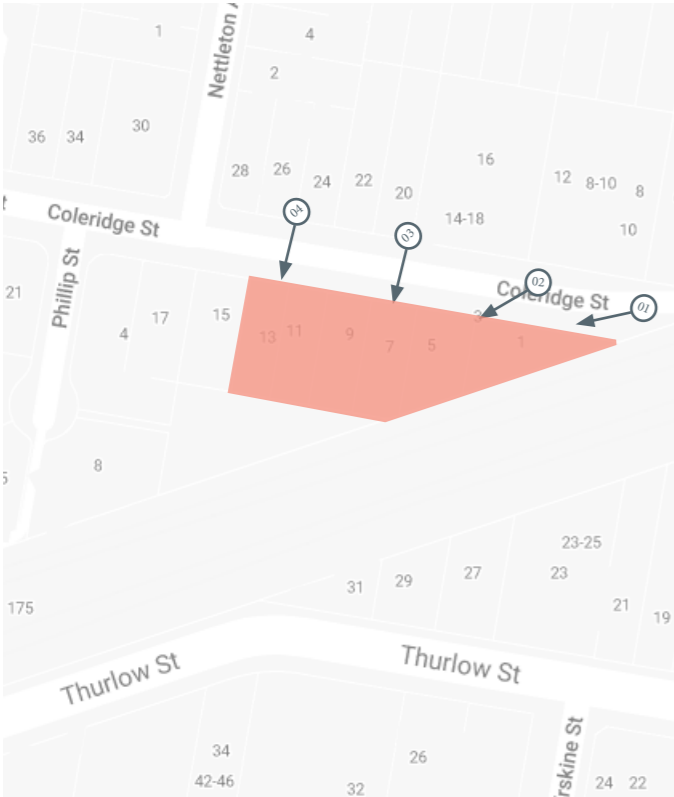
#### 4. CHARACTER

- > The site is located on a sloping site with water draining the north western corner of the site
- > The site contains a variety of trees ranging from low, medium and high retention value trees along the street frontage, varying in sizes from 8-13m in height.
- > There are also a number of smaller, low retention value trees in the south western corner, and low-medium retention value trees along the boundary facing the rail corridor. Refer to Arboricultural Impact Assessment, conducted by CPS for the Development Application for further information.
- > The site is currently unoccupied.

Existing Site Opportunities



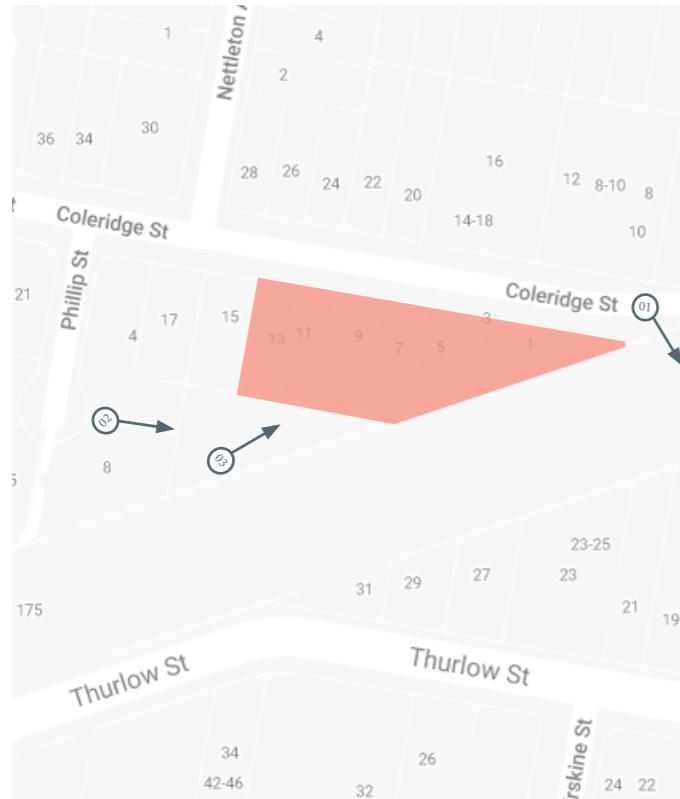
1-13 COLERIDGE STREET, RIVERWOOD  
SITE IMAGES - COLERIDGE STREET



Existing Site Photography and Site Map



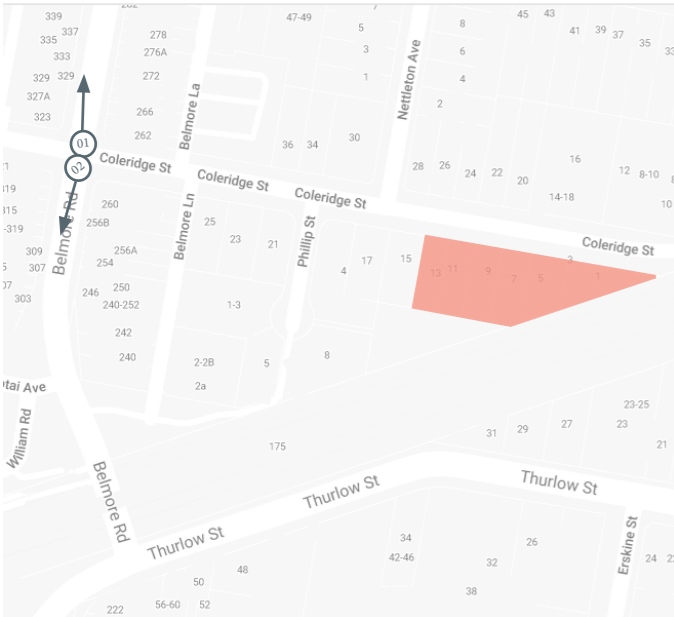
## 1-13 COLERIDGE STREET, RIVERWOOD



### Existing Site Photography and Site Map



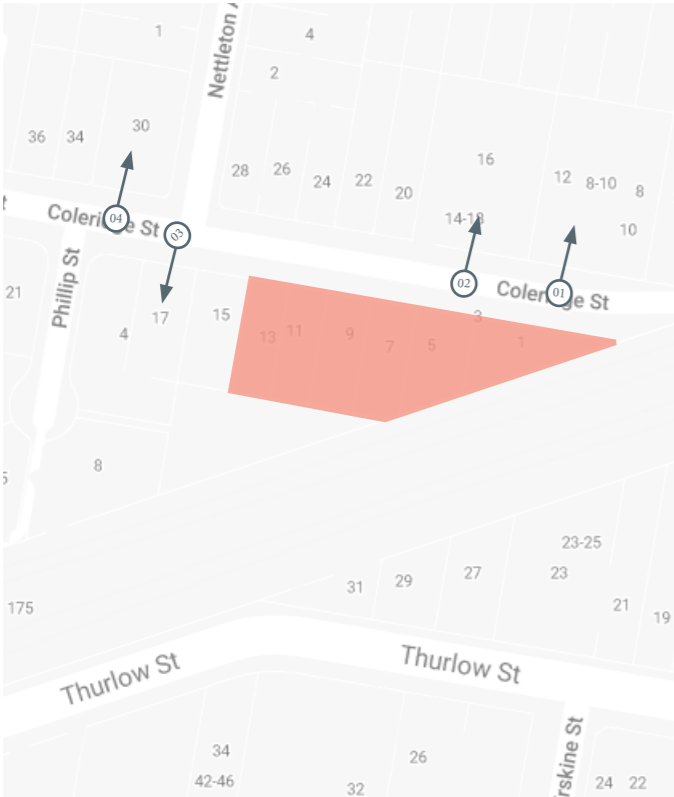
1-13 COLERIDGE STREET, RIVERWOOD  
SITE IMAGES - LOCAL SHOPS



Existing Site Photography and Site Map



1-13 COLERIDGE STREET, RIVERWOOD  
SITE IMAGES - NEARBY DEVELOPMENTS



Existing Site Photography and Site Map

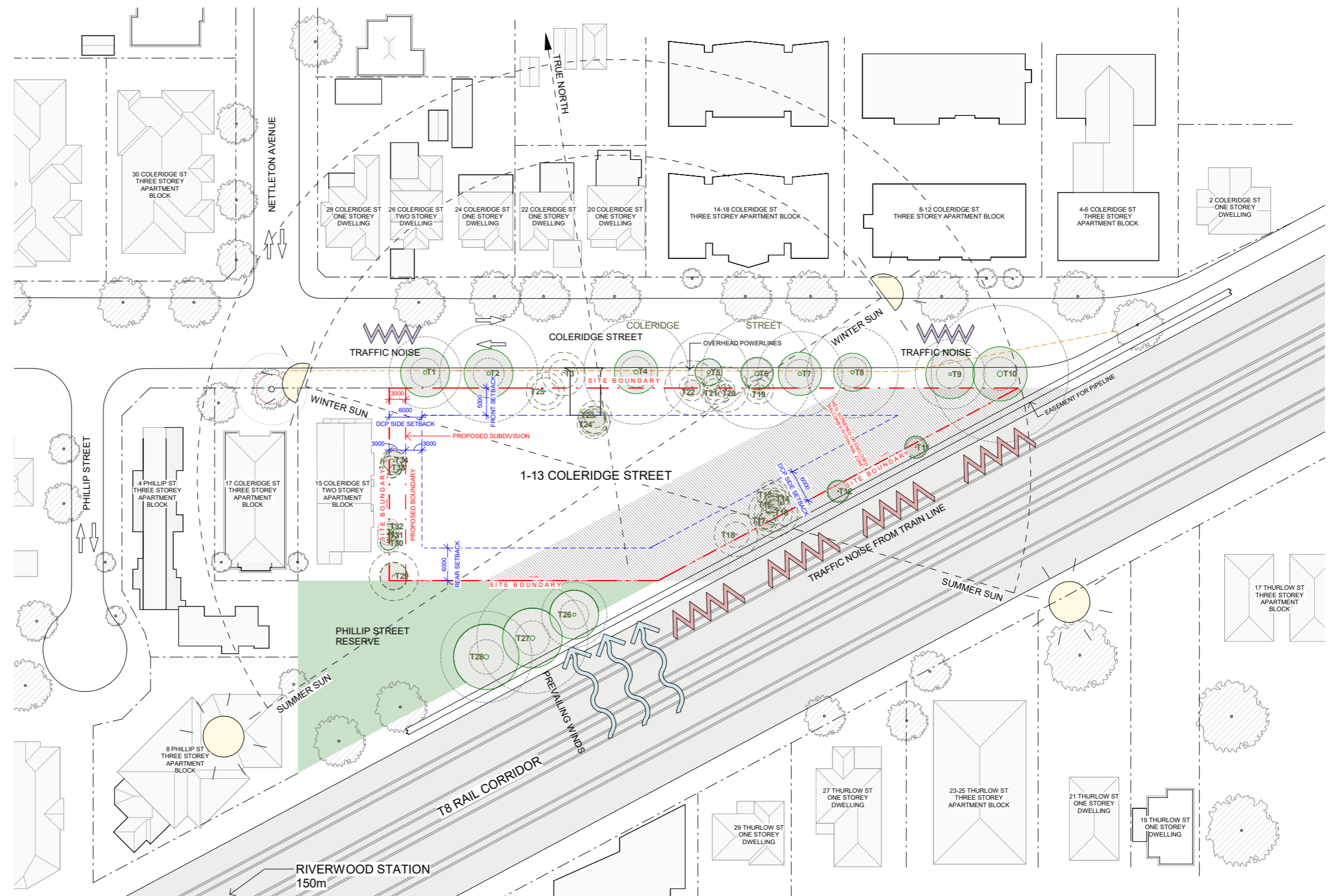


# 03 SITE ANALYSIS + METRICS

# 1-13 COLERIDGE STREET, RIVERWOOD

## SITE ANALYSIS

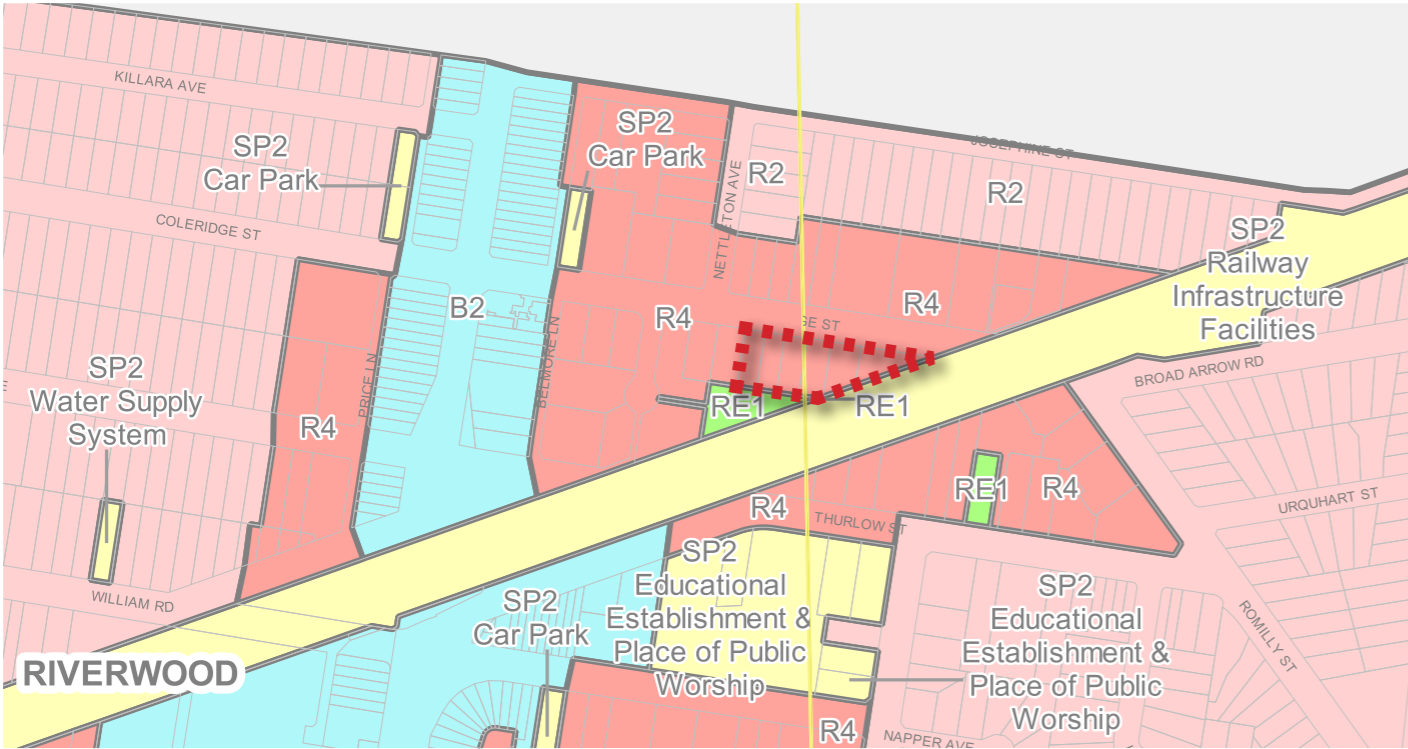
- The development site is identified as Lot 7-12 in DP 35640, 1-13 Coleridge Street, Riverwood.
- The site is situated on the southern side of Coleridge Street, with a good northerly aspect.
- There are street trees adjacent to the site.
- Current site drainage is to kerb and gutter and piped stormwater system in Coleridge Street.
- The site is not affected by heritage or bushfire related development controls.
- The site is not affected by flood, however the frontage road is affected by 100-year-flood. Consultation has been outlined further within this report under heading 'Flood Advice'.
- The site adjoins a state railway corridor (T8 line), architectural design measures are proposed for noise mitigation and satisfy the relevant authority requirements
- The site is unoccupied.



Proposed Site Analysis - Refer to 21182-DA003[A] - SITE ANALYSIS

1-13 COLERIDGE STREET, RIVERWOOD  
SITE CONTROLS - GRLEP 2021

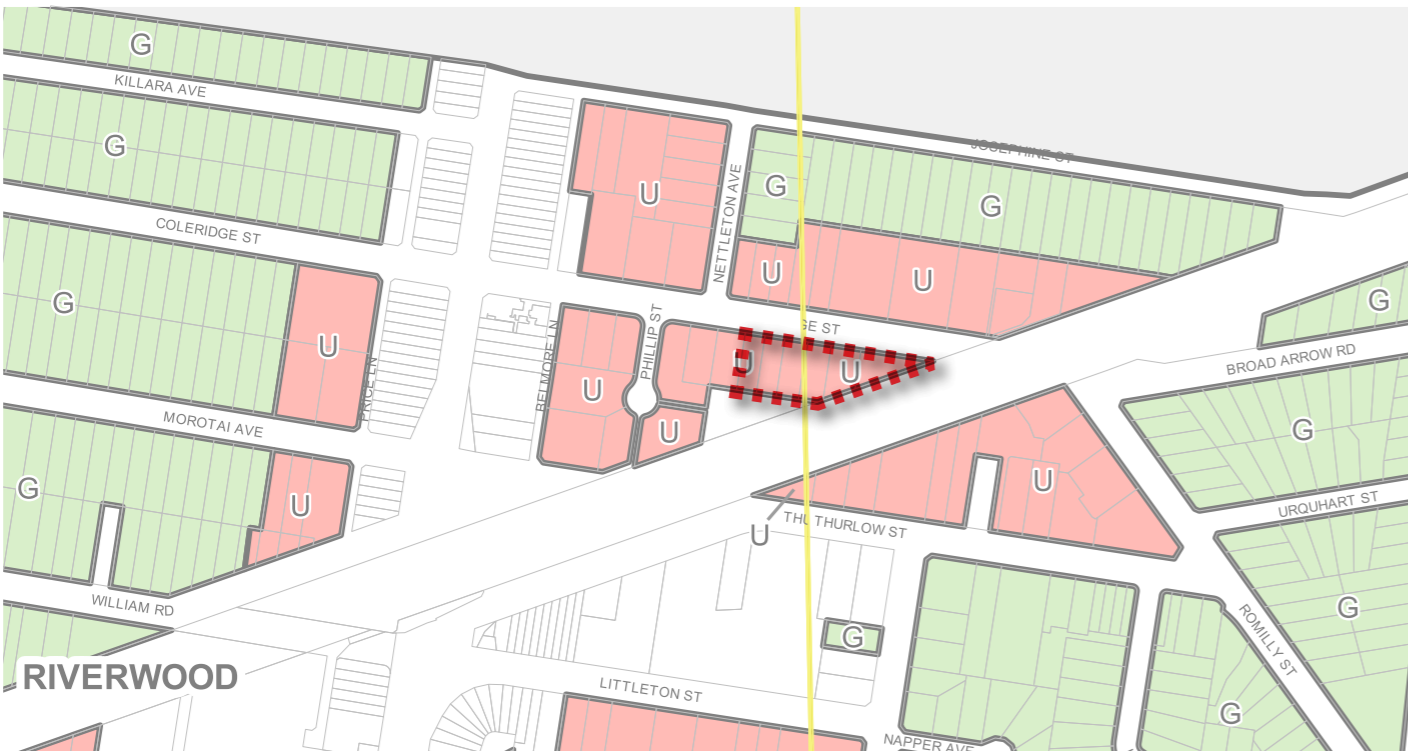
LAND ZONING: R4 - HIGH DENSITY RESIDENTIAL



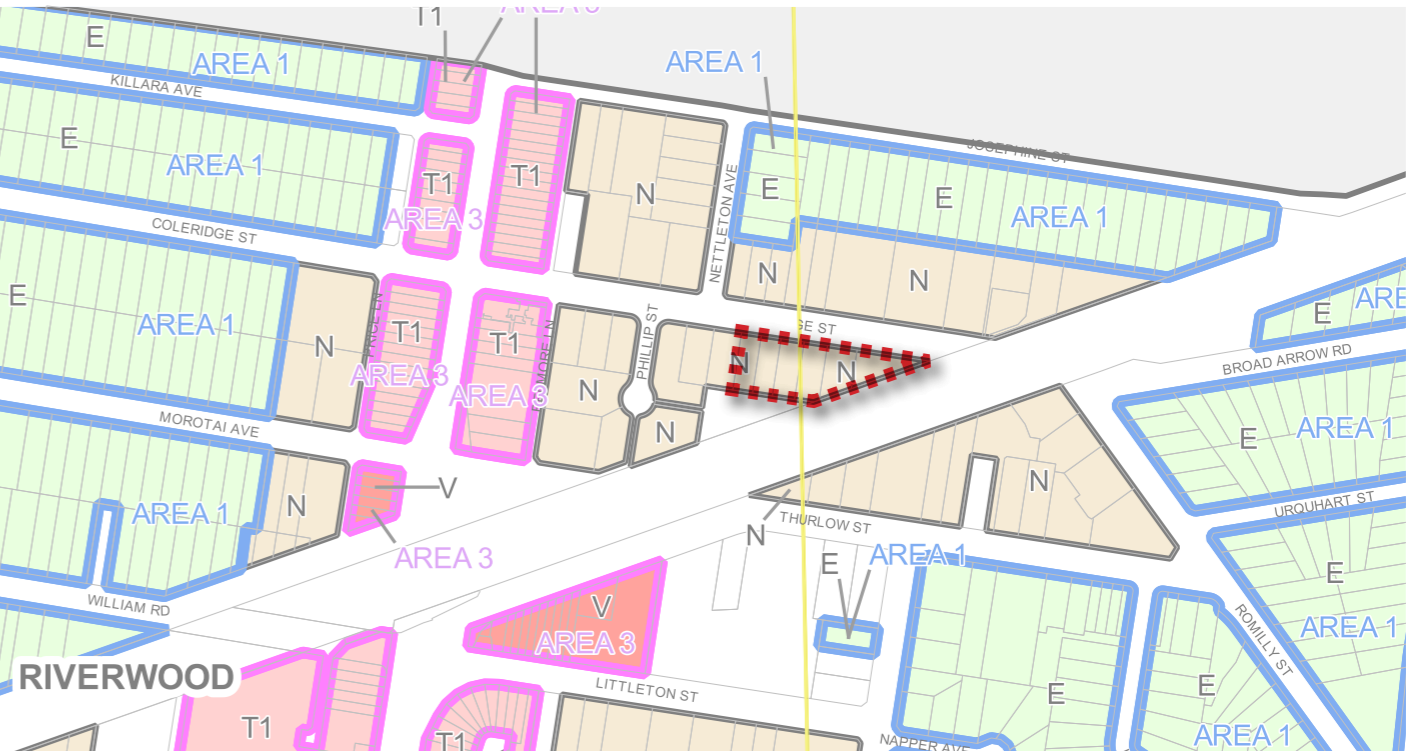
HEIGHT OF BUILDING: M - 12m



MINIMUM LOT SIZE : U - 1000sqm



MAXIMUM FLOOR SPACE RATIO (n:1) : N - 1:1



Mapping extracted from Georges River LEP 2021

1-13 COLERIDGE STREET, RIVERWOOD  
SITE CONTROLS - GRLEP 2021

LAND RESERVATION ACQUISITION: *NIL*



ACID SULFATE SOILS: *NIL*



HERITAGE: *NIL*



RIPARIAN LANDS AND WATERWAYS: *NIL*



Mapping extracted from Georges River LEP 2021

1-13 COLERIDGE STREET, RIVERWOOD  
SITE CONTROLS - GRLEP 2021

COASTAL HAZARD AND RISK :        *NIL*



ACTIVITY HAZARD RISK:  *NIL*



Mapping extracted from Georges River LEP 2021

1-13 COLERIDGE STREET, RIVERWOOD  
SITE METRICS

REQUIREMENTS:

SITE AREA: **2,911m<sup>2</sup>**

MAX FSR: **1:1 + 0.5:1 BONUS FSR = 1.5:1**

MAX GFA: **4,366m<sup>2</sup>**

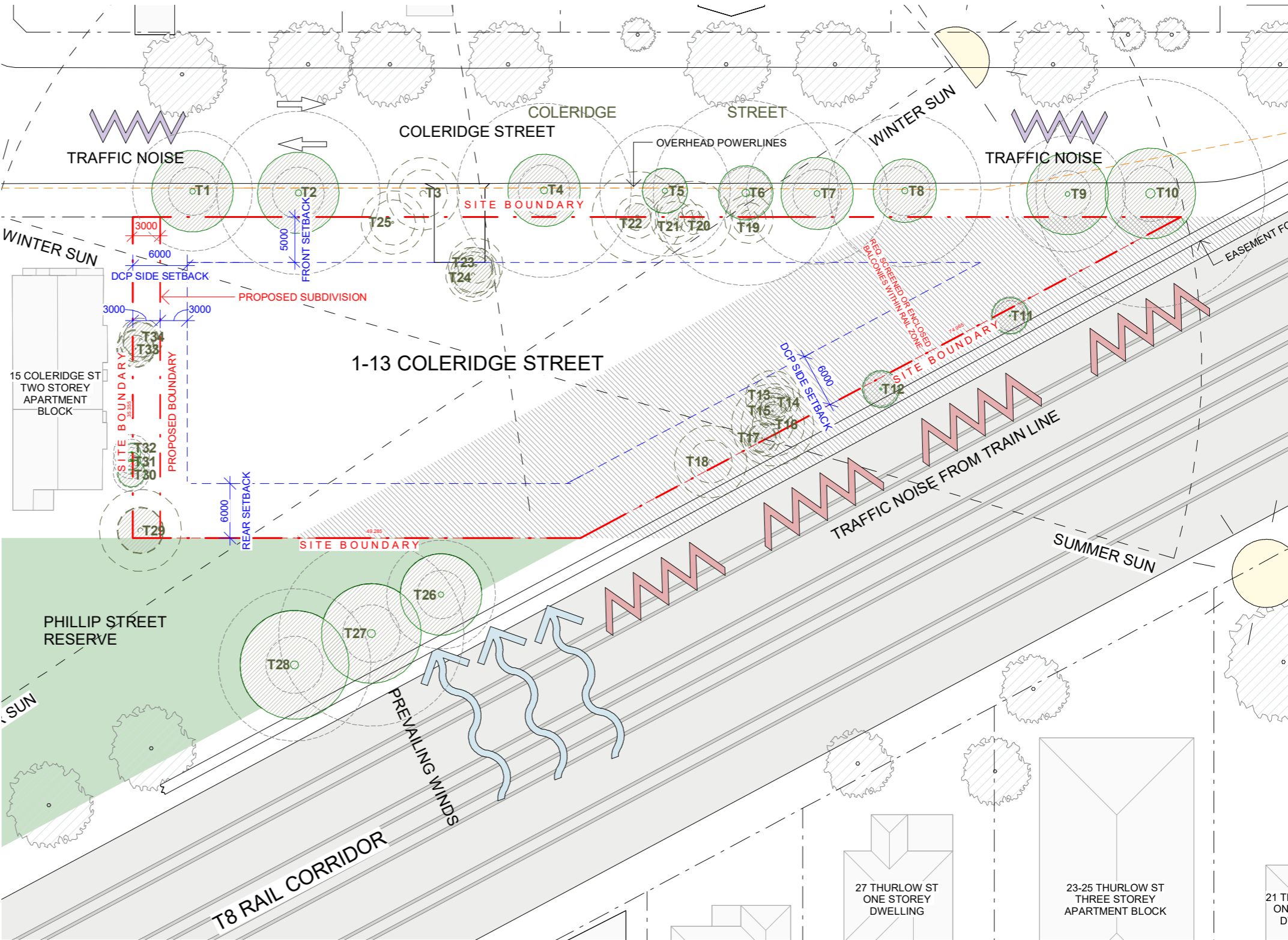
HEIGHT LIMIT: **12m + 30% BONUS = 15.6m**

DEEP SOIL: **15% OF SITE AREA = 437m<sup>2</sup>**

SETBACKS: **5m FRONT, 6m SIDE, 6m REAR**

RAIL SETBACKS: To eliminate any possibility of objects being dropped or thrown onto the rail corridor from balconies, windows, or any other external features (e.g., roof terraces and external fire escapes) that are within 20 metres of, and face, the rail corridor, the development must have measures installed. These measures must be to the satisfaction of Sydney Trains (e.g., awning windows, louvres, enclosed balconies, window restrictors etc.) which prevent the throwing of objects onto the rail corridor.

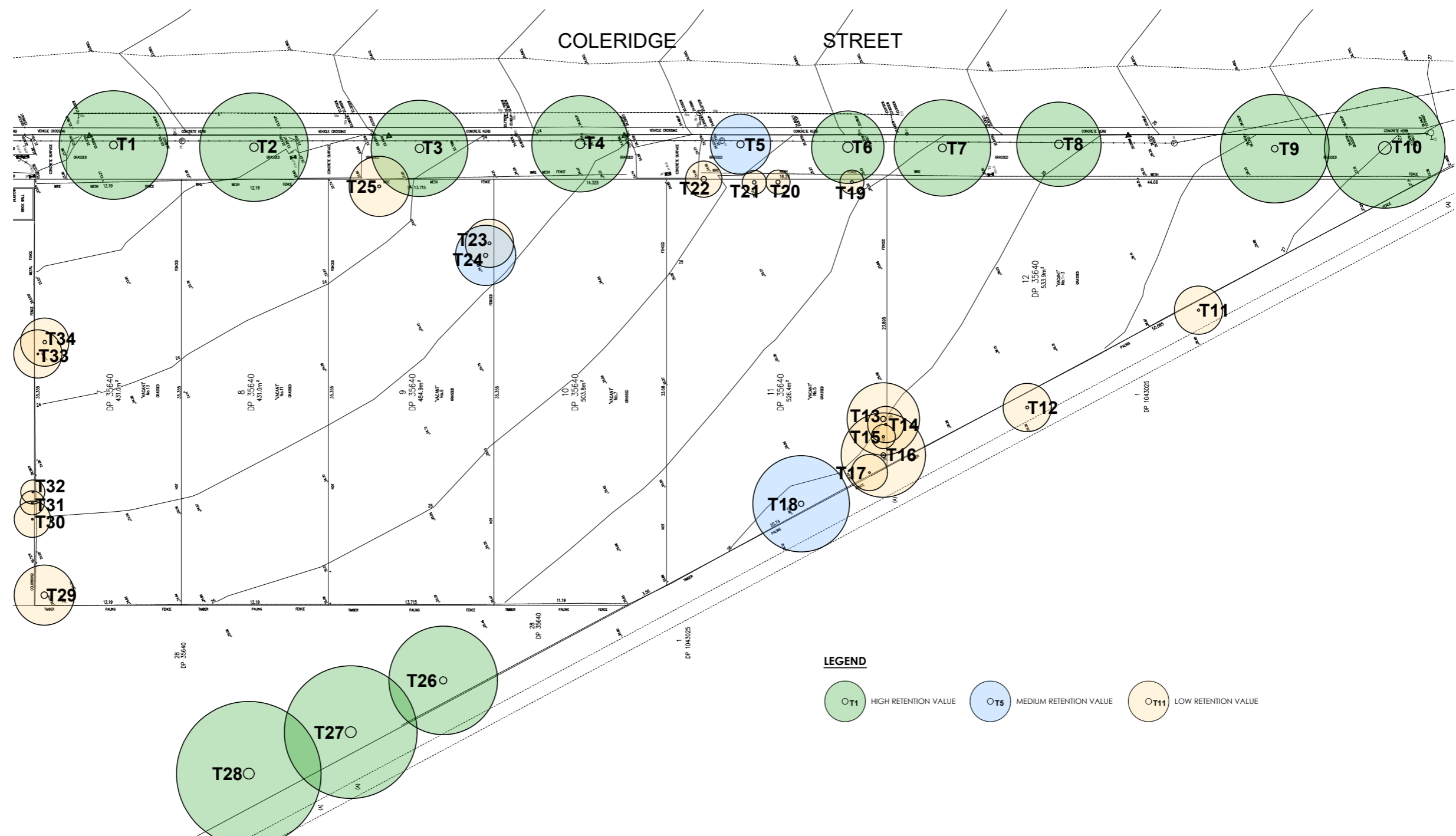
Refer to the section - ‘Security’ within this report.



Proposed Site Analysis - Refer to 21182-DA003[A] - SITE ANALYSIS

1-13 COLERIDGE STREET, RIVERWOOD  
TREE RETENTION VALUE PLAN

The site contains a varied range of low, medium and high retention trees. There are nine high retention value, one medium retention value and five low retention value trees located along the street to the front of the site. There are seven low retention value trees to the west of the site. Along the railway corridor there are seven low retention value and one medium retention value trees. One medium retention value and one low retention value tree is within the central portion of the site.



Existing Tree Plan detailing level of retention  
Prepared by CPS

• Pre DA advice received on 30th January 2023 stated:

*'The subject site is not affected by flood. However, the frontage road is affected by 100-year flood. This shall be considered in the design of driveways and the basement. A flood impact report shall be prepared addressing the flood affectation and prevention of flood water entering the basement car park. Report shall be prepared by a qualified civil engineer specialising in flood assessments and design.'*

Following this consultation with the council and the civil engineer;

• Council has provided the following information on the site:

**Coleridge st is not flood affected in 1%AEP and PMF events.**  
*However, driveway has to be designed in a way to protect basement from flooding in the major events.*

• BG&E Civil engineer has confirmed and advised:

*Council has noted the basement will need to be protected from general water ingress **however this is accounted for in typical footpath and verge crossfalls.***

GEOTECHNICAL ADVICE

The following geotechnical advice has been provided according to Additional Geotechnical Investigation prepared by STS Geotechnics Pty Ltd.

• Site Classification:

*Because of the AMC present and fill greater than 400mm, the site is classified a Problem Site (P). **Provided the recommendations given below are adopted the site may be reclassified Highly Reactive (H2).** Foundation design and construction consistent with this classification shall be adopted as specified in the above referenced standard and in accordance with the following design details.*

• Impacts on Adjoining Rail Corridor

*The rail corridor and the railway tracks are outside the zone of influence of the proposed excavation and would experience minor if any movement and numerical modelling (finite element) is not considered necessary.*

*The design of the development **does not affect the stability and integrity of the railway infrastructure** through loading from the development and ground deformations. Further, the foundations do not rely upon passive earth pressure from the rail corridor land.*

The following advice has been provided according to Development Risk Assessment Report (Design Input Stage) prepared by Plateway Pty Ltd, issued on 29th October 2024

*Subject to the implementation and ongoing review of the controls associated with the foreseeable identified safety risks in association with the Sydney Trains external development application, and approval process, **the proposed external development does not present any foreseeable unacceptable safety risks** associated with the railway operations carried out by Sydney Trains.*

ACOUSTIC ASSESSMENT

Summary

An Acoustic Assessment was compiled by Pulse White Noise Acoustics, please refer to ‘230318 - 1-13 Coleridge Street, Riverwood - DA Acoustic Assessment - R3’, issued on 1st November 2024. The assessment includes investigation into any potential noise and vibration sources such as the environmental noise including the rail and road noise into the building envelope, train vibration impacts and any noise emissions from the site.

External Wall, Roof Construction

*‘If external wall constructions are to be constructed from a masonry construction, compliance with the internal noise criteria will be achieved. If penetrations through any external skin are required, all gaps remaining in the penetration are to be filled with an acoustic grade sealant which provides an equal or better performance to the system being penetrated. Any light-weight external plasterboard walls should be constructed from a construction with a minimum acoustic performance of Rw 45.’*

*‘External roofing system will be a concrete construction. As such, no further acoustic treatments are required. If penetrations through any external skin are required, all gaps remaining in the penetration are to be filled with an acoustic grade sealant which provides an equal or better performance to the system being penetrated.’*

Alternative Ventilation

*‘Australian Standard AS2021:2015 (aircraft noise levels) and the Department of Planning Development Near Rail Corridor and Busy Roads – Interim Guideline (train noise) Alternative ventilation is required for when the windows are closed to be designed in accordance to AS 1668.2.’*

*‘The acoustic assessment covers possible pathways for this within their assessment.’*

Note: This is applicable to units along the south elevation which faces the railway corridor.

Conclusion

*‘An assessment of the potential noise and vibration impacts from the Railway line to the south-east of the project site has been undertaken. From our study, an assessment for the potential for structure-borne noise was undertaken to predict the ground-born noise level at the future proposed residential development. The prediction shows that all residential space was under 35 dB(A). In addition, the railway is above-ground and adjacent to the site, thus the impact of airborne noise is expected to mask the effects of any potential structure-borne noise for both the proposed development. Additionally, human comfort has been assessed based on the impacts of tactile vibration measured by a vibration dosage value (VDV) and is expected to be compliant with the relevant criteria established in Section 4.’*

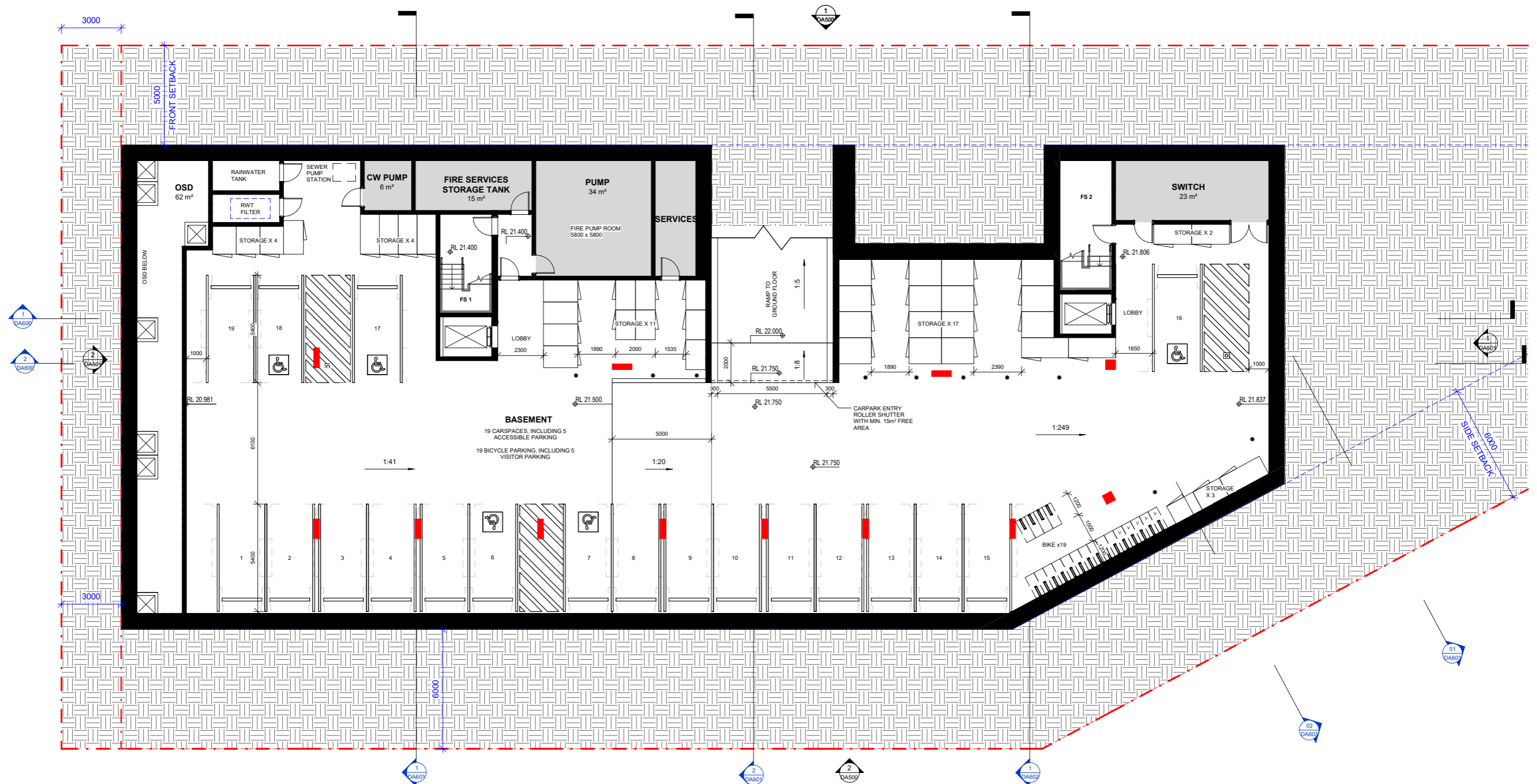
# 04 DESIGN



Photomontage, View from Coleridge Street - Refer to 21182-DA990[A] - PHOTOMONTAGE  
Prepared by The Chamber

Artist impression

## 1-13 COLERIDGE STREET, RIVERWOOD



Proposed Basement Floor Plan - Refer to 21182-DA100[A] - BASEMENT PLAN

1-13 COLERIDGE STREET, RIVERWOOD  
GROUND FLOOR PLAN

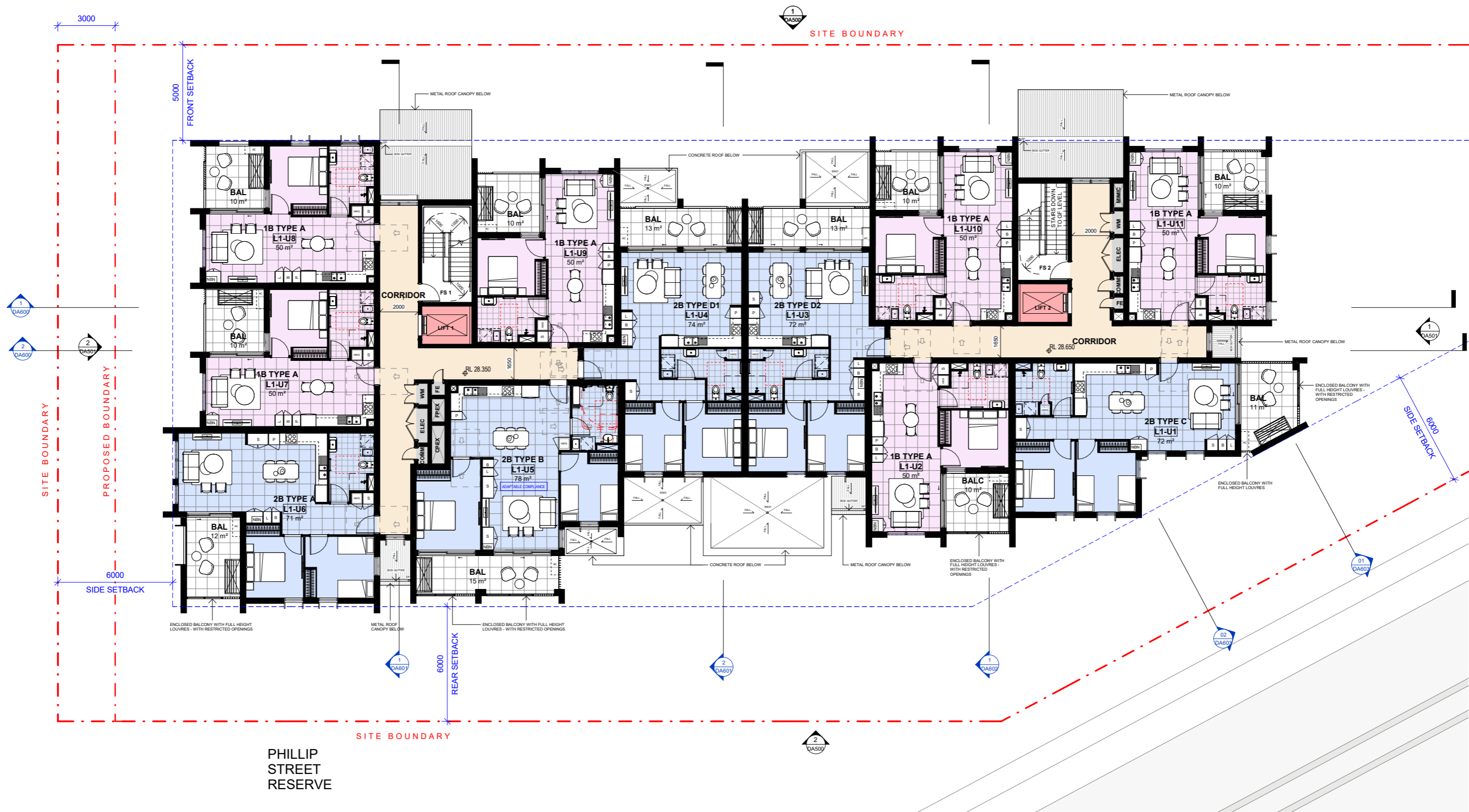


Proposed Ground Floor Plan - Refer to 21182-DA101[A] - GROUND FLOOR PLAN



1-13 COLERIDGE STREET, RIVERWOOD  
LEVEL 01 FLOOR PLAN

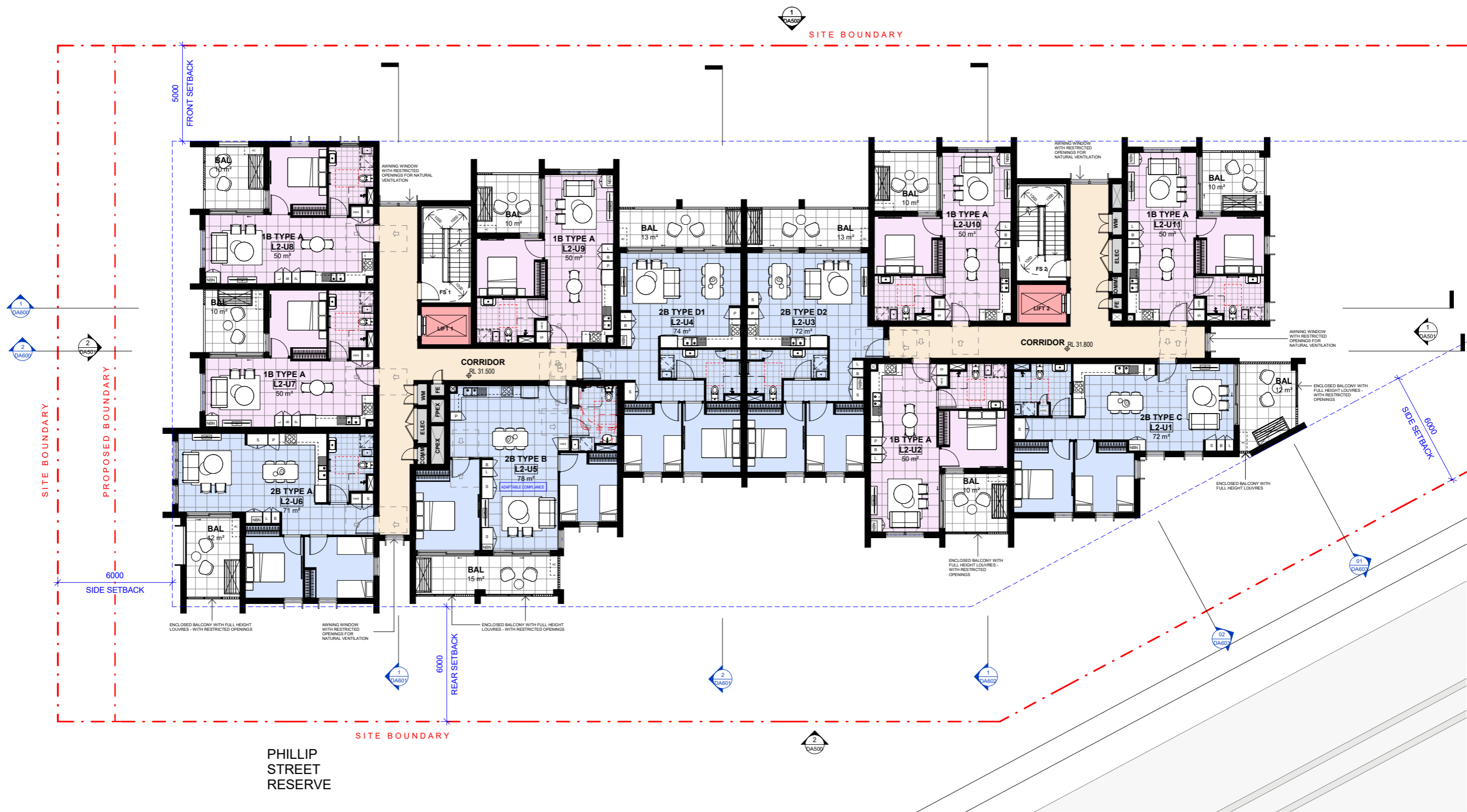
COLERIDGE STREET



Proposed level 01 Plan - Refer to 21182-DA102[A] - LEVEL 01 PLAN

1-13 COLERIDGE STREET, RIVERWOOD  
LEVEL 02 FLOOR PLAN

COLERIDGE STREET

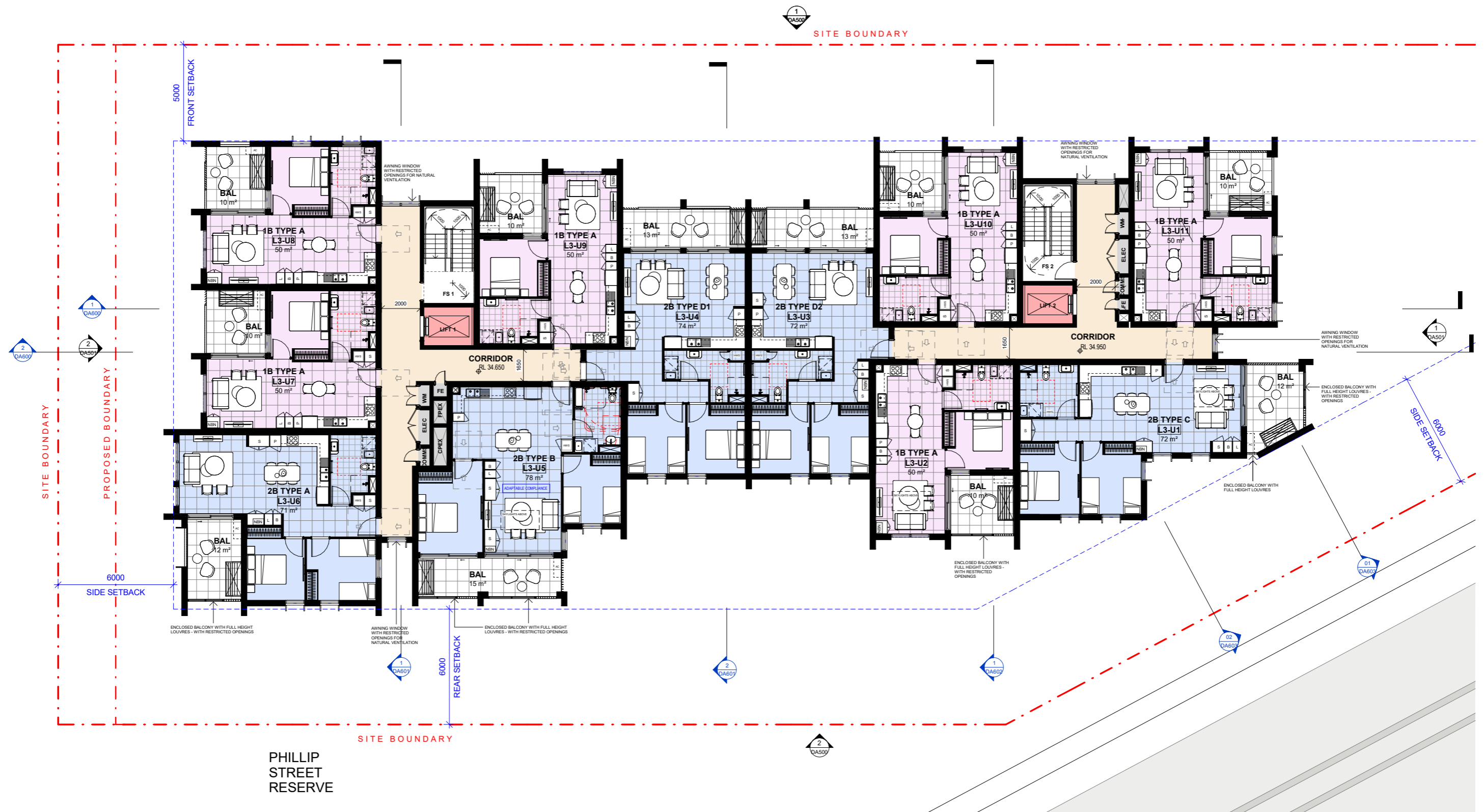


Proposed level 02 Plan - Refer to 21182-DA103[A] - LEVEL 02 PLAN



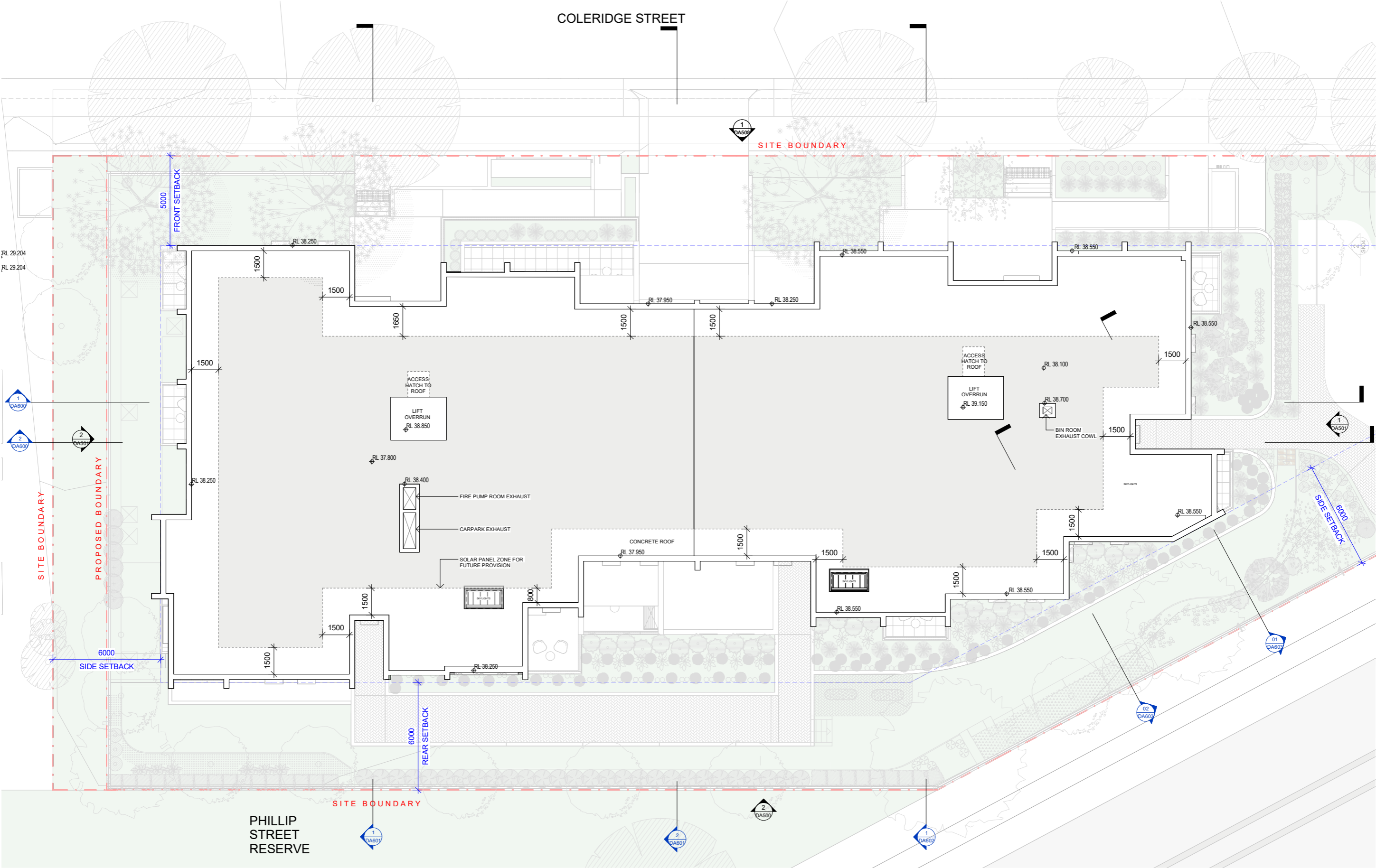
## 1-13 COLERIDGE STREET, RIVERWOOD

COLERIDGE STREET



Proposed Level 03 Plan - Refer to 21182-DA104[A] - LEVEL 03 PLAN

1-13 COLERIDGE STREET, RIVERWOOD  
ROOF PLAN



Proposed Roof Plan - Refer to 21182-DA105[A] - ROOF PLAN

1-13 COLERIDGE STREET, RIVERWOOD  
BUILDING ELEVATIONS & MATERIALS



FINISHES LEGEND



Proposed North and South Elevation - Refer to 21182-DA500[A] - NORTH AND SOUTH ELEVATION

1-13 COLERIDGE STREET, RIVERWOOD

BUILDING ELEVATIONS & MATERIALS



1 EAST ELEVATION

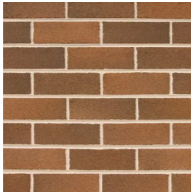


2 WEST ELEVATION

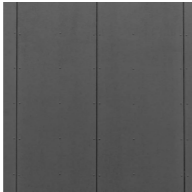
FINISHES LEGEND



BRK-01  
BRICKWORK  
BRICK IN STRETCHER BOND  
LIGHT BROWN



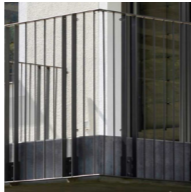
BRK-02  
BRICKWORK  
BRICK IN STRETCHER BOND  
MID BROWN



MC-01  
METAL CLADDING  
STANDING SEAM METAL CLADDING  
DARK GREY



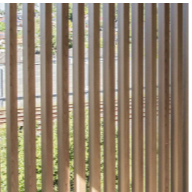
MC-02  
METAL CLADDING  
DARK GREY



MF-01  
METAL BALUSTRADE  
METAL PALISADE - DARK GREY,  
SIDE FIXED TO SLAB WITH ANGLED  
VERTICAL FLAT BARS



MF-02  
METAL FENCE  
METAL PALISADE - DARK GREY



VS-01  
VERTICAL SLATTED SCREEN  
PRIVACY VERTICAL SLATTED  
SCREEN - DARK GREY



FC-01  
FIBRE CEMENT CLADDING  
DARK GREY



GL-01  
GLASS FINISH  
CLEAR GLAZING WITH DARK GREY  
FRAME



GL-01b  
GLASS FINISH WITH SOLID BACKING  
CLEAR GLAZING WITH DARK GREY  
FRAME WITH SOLID BACKING



GL-02  
GLASS FINISH  
OBSCURE GLAZING WITH DARK  
GREY FRAME



GL-03  
GLASS FINISH  
VERTICAL SLATTED GLASS  
LOUVRES

Proposed East and West Elevation - Refer to 21182-DA501[A] - EAST AND WEST ELEVATION

# 05 DESIGN QUALITY PRINCIPLES

## PRINCIPLE 1: CONTEXT AND NEIGHBOURHOOD CHARACTER

(1) Good design responds and contributes to its context, which is the key natural and built features of an area, their relationship and the character they create when combined and also includes social, economic, health and environmental conditions.

(2) Responding to context involves identifying the desirable elements of an area's existing or future character.

(3) Well-designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood.

(4) Consideration of local context is important for all sites, including sites in the following areas—

- a) established areas,
- b) areas undergoing change,
- c) areas identified for change.

The proposed design responds and contributes to its context. The site is located at the western edge of Coleridge Street with an adjacent public right of way through to Kingsway. The residential developments neighbouring are characterised by multi story residential flat housing.

The development includes one 4 story building that has been designed in accordance with the envelopes defined in the development controls, with a distinct building having adequate building separation for resident privacy. A pedestrian walkway is located at the eastern edge of the site to increase permeability and pedestrian amenity from the future potential northern housing precinct.

The desirable elements of the local coastal character and the desired future character of the masterplan have been analysed and inform the design of the proposal, contributing to the quality, amenity and identity of the area. Native planting incorporated with large external courtyards creates the indoor-outdoor living with a balance between resident privacy and passive surveillance for security. Above the building envelope steps back to reduce street presence and allow more of these larger outdoor balcony spaces.

The proposal has been designed to respond sympathetically to the context including the massing, height variance, articulation of the facade. The landscape design to the front street facing enhances the streetscape. Pedestrian access to the Philip Street Reserve to the rear of the site has been created to the western side of the site.



Existing Site Context

# 1-13 COLERIDGE STREET, RIVERWOOD

## PRINCIPLE 2: BUILT FORM AND SCALE

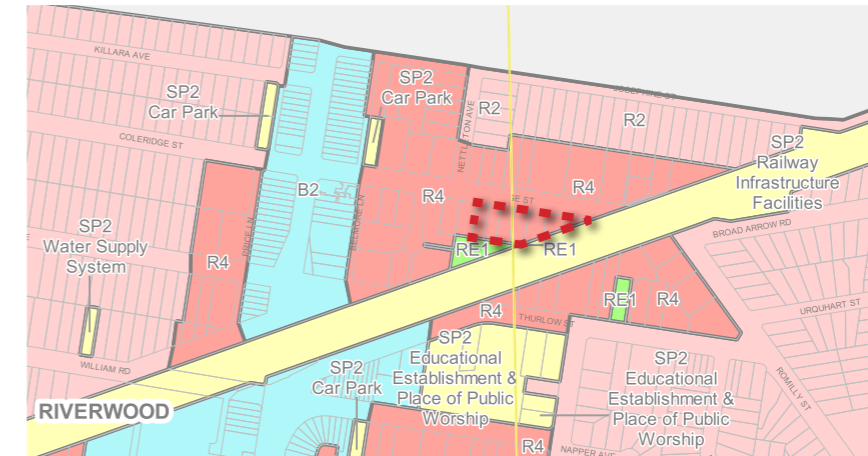
- (1) Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings.
- (2) Good design also achieves an appropriate built form for a site and the building's purpose in terms of the following—
  - a) building alignments and proportions,
  - b) building type,
  - c) building articulation,
  - d) the manipulation of building elements.
- (3) Appropriate built form—
  - a) defines the public domain, and
  - b) contributes to the character of streetscapes and parks, including their views and vistas, and;
  - c) provides internal amenity and outlook.

The site setback controls and LEP 12m height plane plus additional 30% height bonus has defined the built form and scale of the development. The controls have provided the permissible scale of the development presenting a building which through articulation, reflect the scale and mass of the surrounding context.

The building form is strategically placed toward the western end within the site boundary to take advantage of the existing streetscape and improved amenity stepped back from the railway, dedicating the narrowest eastern end of the site with good solar access to communal open space. A landscape buffer also enhances the green environment connected to Phillip St Reserve.

The building's massing is carefully articulated into three main masses, separated by two entry lobbies positioned at the east and west ends of the site. The middle portion is recessive in nature with its position away from the street facade line and a change in material to reduce the scale of the building to the street. The overall building form is further separated by recessive elements in the form of building articulation and open balconies, emphasizing the verticality by introducing brick blade walls to the facade, break the facade into several blocks to reduce the building length visually.

LAND ZONING: R4 - HIGH DENSITY RESIDENTIAL



MINIMUM LOT SIZE : U - 1000sqm



HEIGHT OF BUILDING: M - 12m +30% bonus = 15.6m



MAXIMUM FLOOR SPACE RATIO (n:1) : N - 1:1 (with additional 0.5 for 1.5:1)



Mapping extracted from Georges River Local Environmental Plan 2021

## 1-13 COLERIDGE STREET, RIVERWOOD

### PRINCIPLE 3: DENSITY

*(1) Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context.*

*(2) Appropriate densities are consistent with the area's existing or projected population.*

*(3) Appropriate densities are sustained by the following—*

- a) existing or proposed infrastructure,*
- b) public transport,*
- c) access to jobs,*
- d) community facilities,*
- e) the environment.*

The proposal delivers an apartment mix with a variety of apartment types.

The proposed 42 residential dwellings are serviced by two cores, with a mix of dwelling types as follows:

- o 22 x 1-bedroom apartments, representing 52% of the total
- o 20 x 2-bedroom apartments, representing 48% of the total

Of these, 5 apartments are proposed to be adaptable apartments (11%) and all additional units meeting Universal Silver Living requirements(89%).

The site is within walking distance of public transport whereby Riverwood Station serves as the primary access to the precinct. The proposal has abundant access to open space and public park land with the reserve immediately south of the site, and the local shopping centre within walking distance to the southwest with retail, public services and additional transport amenity. Most surrounding buildings are residential housing of 3 storeys and are comparable in scale and amenity.



3D View from South East Railway Corridor

## PRINCIPLE 4: SUSTAINABILITY

- (1) Good design combines positive environmental, social and economic outcomes.*
- (2) Good sustainable design includes—*
  - a) use of natural cross ventilation and sunlight for the amenity and liveability of residents, and;*
  - b) passive thermal design for ventilation, heating and cooling, which reduces reliance on technology and operation costs.*
- (3) Good sustainable design also includes the following—*
  - a) recycling and reuse of materials and waste,*
  - b) use of sustainable materials,*
  - c) deep soil zones for groundwater recharge and vegetation.*

The design incorporates several sustainable design measures. The proposal combines positive environmental design for increased environmental, social and economic outcomes. The principles of Ecologically Sustainable Development (ESD) have been considered in the planning of this development and the applicant has committed to achieving environmental objectives during the construction and operation of the proposal.

The proposal includes a range of apartment types using natural cross ventilation. The buildings are generally orientated in an east-west axis with expansive façades facing north and south. End apartments have northeast and northwest aspects for sunlight to living spaces. Apartments have a range of sunlight access from 9am to 3pm during mid-winter. Of 42 apartments, 30 (71.4%) achieve min 2h solar ADG requirements, and 26 (61.9%) achieve cross ventilation ADG requirements.

The design responds to western sun with screening to increase shade and solar protection to balconies. Deep soil zones allow for recharge of ground water and waste facilities and management allows for recycling and the future reuse of materials and waste. A 7 star NatHERS rating is achieved making use of the additional R values applied to insulation to achieve acoustic requirements for proximity to the rail line and through strategic use of double glazing.

Residential units within the development have been assessed in terms of their passive energy design and achieve NatHERS/BASIX compliance. Technical aspects of the compliance are included in the BASIX Report.

Further aspects of sustainable provision of soil zones are included in the Landscape section.



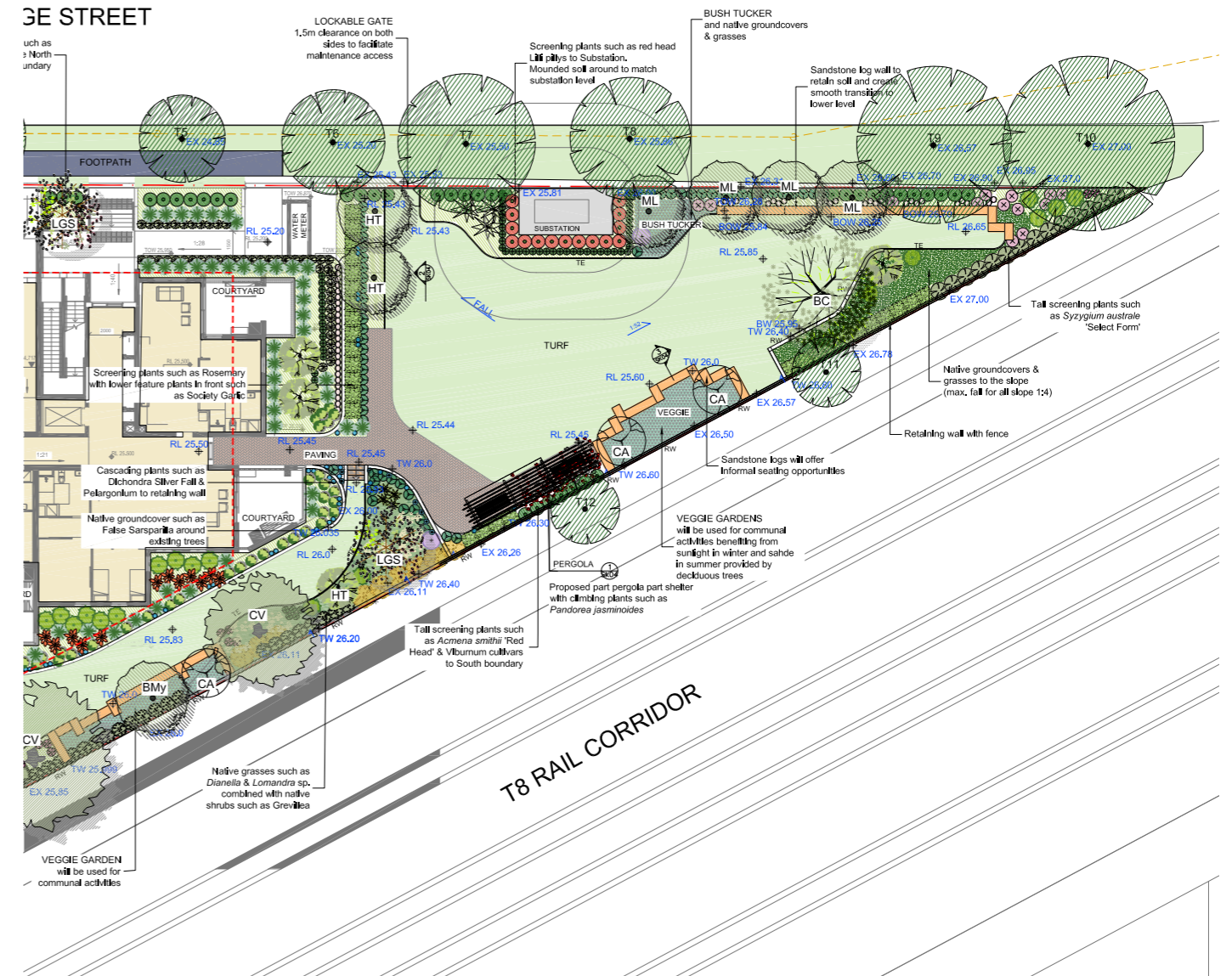
Proposed photomontage - Refer to 21182-DA990[A] - PHOTOMONTAGE

- (1) Good design recognises that landscape and buildings operate together as an integrated and sustainable system, resulting in development with good amenity.
- (2) A positive image and contextual fit of well-designed development is achieved by contributing to the landscape character of the streetscape and neighbourhood.
- (3) Good landscape design enhances the development's environmental performance by retaining positive natural features that contribute to the following—
  - a) the local context,
  - b) co-ordinating water and soil management,
  - c) solar access,
  - d) micro-climate,
  - e) tree canopy,
  - f) habitat values,
  - g) preserving green networks.
- (4) Good landscape design optimises the following—
  - a) usability,
  - b) privacy and opportunities for social interaction,
  - c) equitable access,
  - d) respect for neighbours' amenity.
- (5) Good landscape design provides for practical establishment and long-term management.

The Landscape proposal for the development provides amenity for residents and the surrounding neighbourhood and follows guidelines for best practice initiatives. Diversity of landscape is provided with the use of deciduous and evergreen plants, a mix of deep soil larger trees, with planters, and a separate through site link has been allocated to Council at the western boundary, increasing connectivity within the local area to greenspaces. Native tree planting for privacy have been considered and mounding with low level planting has been incorporated at the western railway boundary to minimise impact of root structures on TAHE land. All planting proposed is co-ordinated with planting in the public domain, native indigenous and endemic landscapes.

Landscaping within the development softens the edge of each building, provide clear entry points to the site and enhance the privacy of internal courtyards and balconies without impeding through site views of communal areas or lobbies. Greenwaste will be recycled with composting provided in the communal open space for residents.

Further detail of the landscape design and plant selection is included in the Landscape Design proposal prepared by Umbaco, 'ULa\_LAHC\_Riverwood DA\_Rev H\_15.10.24\_', 15th October 2024.



Proposed Landscaping - Refer to ULa\_LAHC\_Riverwood DA\_Rev H\_15.10.24\_

(1) Good design positively influences internal and external amenity for residents and neighbours.

(2) Good amenity contributes to positive living environments and resident well-being.

(3) Good amenity combines the following—

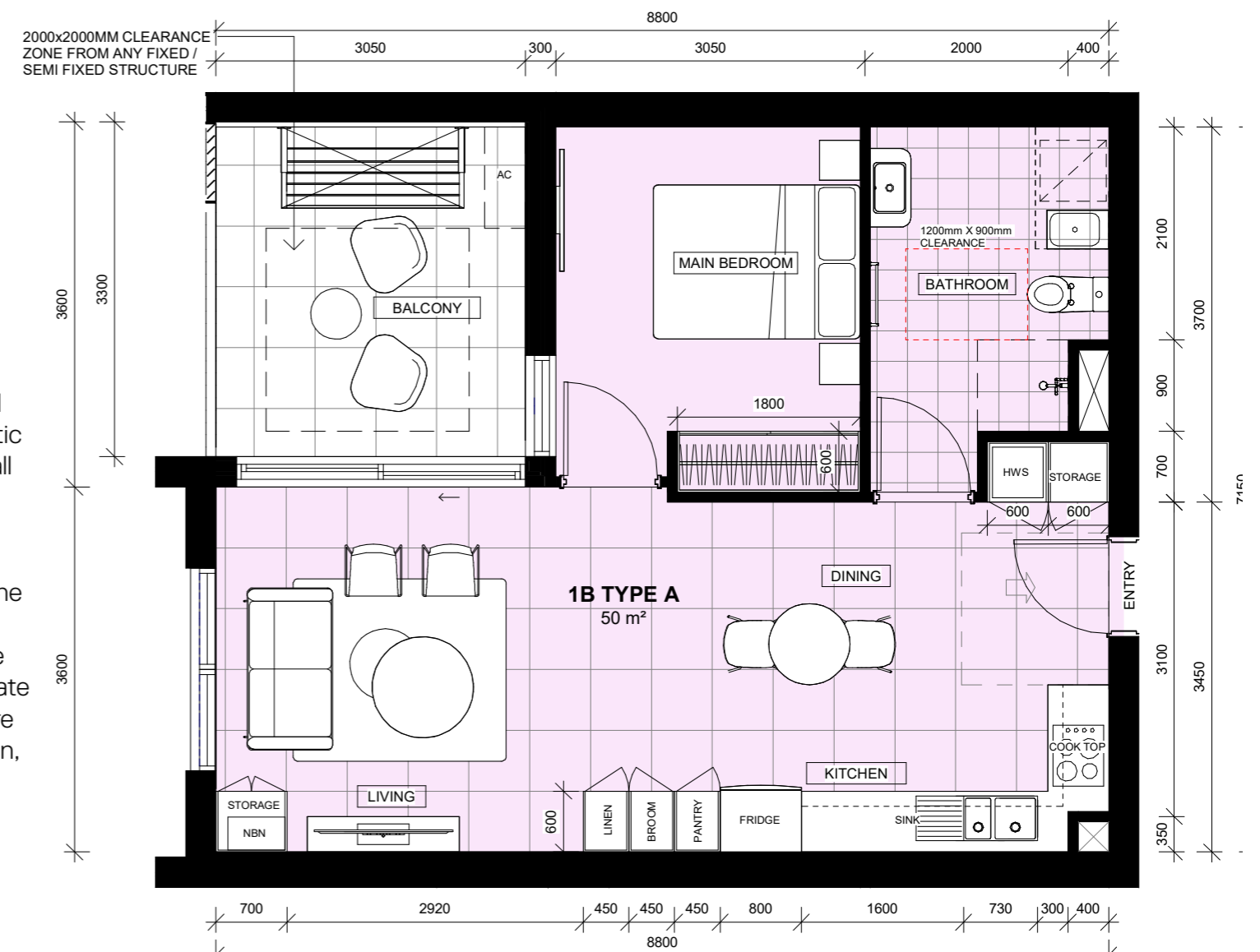
- a) appropriate room dimensions and shapes,
- b) access to sunlight,
- c) natural ventilation,
- d) outlook,
- e) visual and acoustic privacy,
- f) storage,
- g) indoor and outdoor space,
- h) efficient layouts and service areas,
- i) ease of access for all age groups and degrees of mobility.

The proposal is designed to meet the requirements of the Apartment Design Guide objectives for good amenity, appropriate room dimensions, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space and ease of access for all age groups with lifted access to all floors and apartment entries.

Apartments within the subject development have appropriately-sized rooms with usable proportions. Furniture layouts have been carefully considered so that occupants can reasonably use the spaces in the manner intended. All apartments are provided with at least one balcony or courtyard directly accessed from the primary living space. The primary private open space has an area and configuration conducive to furnishing and recreational use, as well as providing the apartment access to ventilation. Where private open space directly faces the public domain, particularly at the lower levels, balustrades and screens are employed for enclosure and occupant privacy. Where private courtyards directly front the public domain, planting, permeable fencing and level change is utilised to provide privacy.

Visual privacy is achieved by building location and orientation. Adequate separation is provided in the development and neighbouring residential sites. Privacy between apartments is maintained through a combination of separation, orientation of balcony enclosures, screens and the configuration of internal layouts.

Daylight has been considered for the general amenity of all apartments with 71% meeting the ADG requirements. The depth of the dwellings has been restricted to maintain reasonable access to natural daylight to all rooms. In addition, 62% of dwellings include measures to create cross ventilation to optimise the internal environment and reduce reliance on air conditioning.



Proposed Apartment Type Example - Refer to 21182-DA900[A] - APARTMENT TYPES 1 OF 3, 21182-DA901[A] - APARTMENT TYPES 2 OF 3, 21182-DA902[A] - DDA COMPLIANCE - 3 OF 3

# 1-13 COLERIDGE STREET, RIVERWOOD

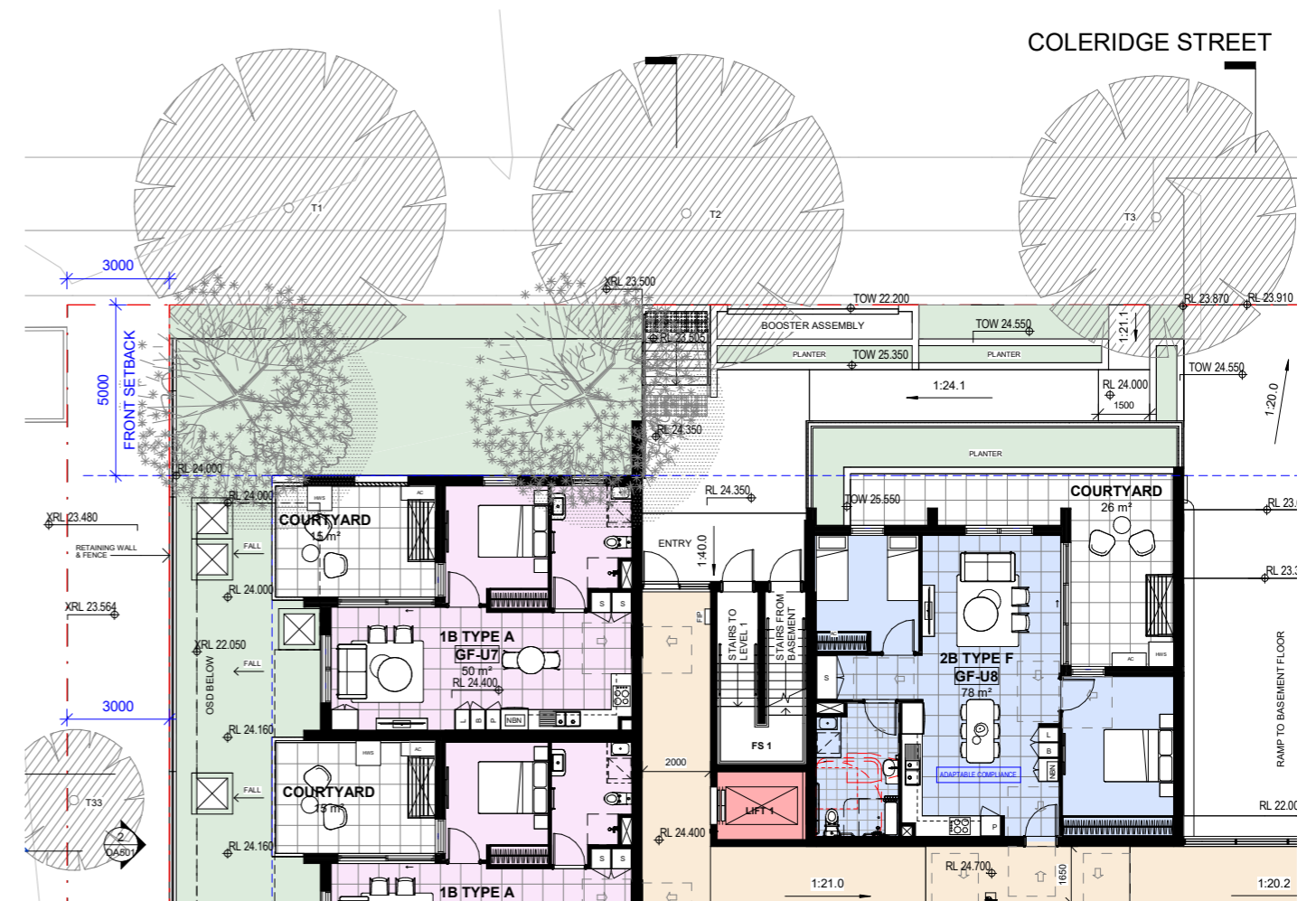
## PRINCIPLE 7: SAFETY

- (1) Good design optimises safety and security within the development and the public domain.
- (2) Good design provides for quality public and private spaces that are clearly defined and fit for the intended purpose.
- (3) Opportunities to maximise passive surveillance of public and communal areas promote safety.
- (4) A positive relationship between public and private spaces is achieved through clearly defined secure access points and well-lit and visible areas that are easily maintained and appropriate to the location and purpose.

The proposal optimises safety and security, within the development and public domain. The demarcation between public and private domain are clearly identified through appropriate fencing, level change and clearly articulated resident lobbies and entries. Balconies facing the surrounding streets provide suitable places to overlook the public domain for passive surveillance and outlook.

Design initiatives incorporate the following:

- o Principle building entrances are clearly identifiable, well-lit and allow for passive surveillance.
- o Building entrances are highlighted through the use of building form and articulation of materials.
- o Basement carpark layouts are designed to minimise opportunities for alcoves. Columns or walls do not obstruct sight lines and the carparks are generally open. Security access in the form of remote controls will be provided.
- o Direct access is available from the basements to common lobby spaces.
- o Active private spaces are attached to external façades in the form of living areas and courtyards to ensure surveillance of the surrounding public and common property domain.
- o Communal open space is directly accessed from lobbies and overlooked from adjacent apartments for passive surveillance.
- o Adjacent streets and public domain is overlooked from raised apartments for passive surveillance.



Proposed Ground Floor Plan - Refer to 21182-DA101[A] - GROUND FLOOR PLAN

# PRINCIPLE 8: HOUSING DIVERSITY AND SOCIAL INTERACTION

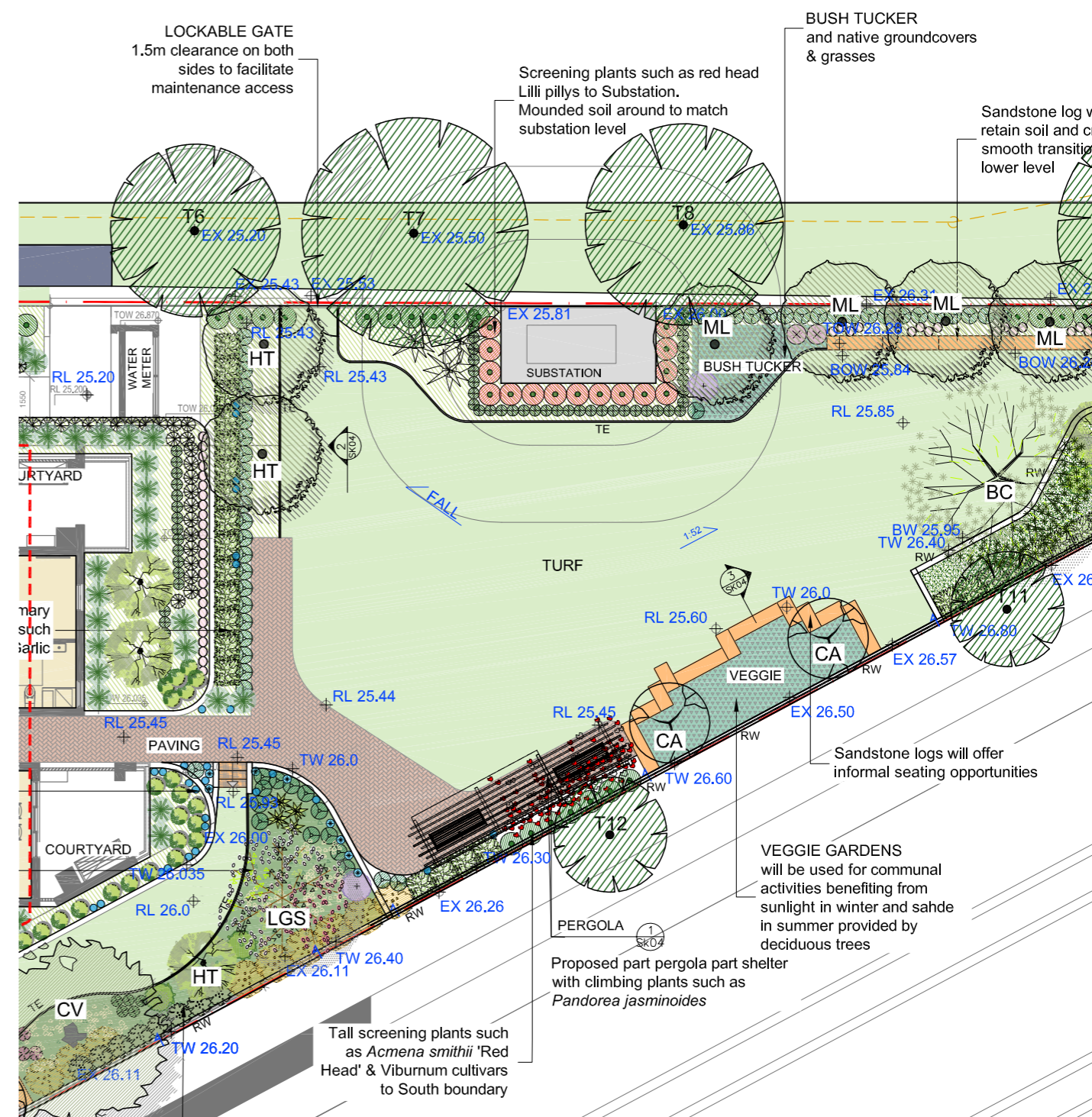
- (1) Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.
- (2) Well-designed residential apartment development responds to social context by providing housing and facilities to suit the existing and future social mix.
- (3) Good design involves practical and flexible features, including—
  - a) different types of communal spaces for a broad range of people, and
  - b) opportunities for social interaction among residents.

The development has opted for close to 50/50 split between 1 and 2 bedroom apartment types. This is due to the increased need for social housing to be delivered in an efficient and effective manner in the area with the sites close proximity to local transport and amenities making it a prime candidate for this approach. This will allow a greater number and diverse range of residents, with the 5 x adaptable apartments being delivered in conjunction with improved Silver Living Housing to all remaining apartments.

Social sustainability will be enhanced through the provision of common facility within the development, such as the communal open landscaped spaces at ground level.

With strong existing demand for residential dwellings in the Georges River area, the proposed development will deliver high quality residential buildings with strong longevity in close proximity to public transport and new services and infrastructure of the Riverwood local centre.

The delivery of the development will result in the creation of jobs in the short to medium term and the delivery of a range of public improvements and public spaces, including enhanced access to the Phillip St Reserve.



- (1) Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure.
- (2) Good design uses a variety of materials, colours and textures.
- (3) The visual appearance of well-designed residential apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape

As noted previously, the proposed architecture responds formally to a number of diverse criteria, particularly with respect to scale, context and built form. The aesthetics of the proposed development respond to a number of specific requirements and desires, and devices include:

- o Highly articulated building components to encourage the idea of the building having developed over time in a nature setting;
- o Clear articulation and architectural treatment in the building connection to the street context with domestic design responses to Coleridge Street;
- o Employment of robust materials which weather naturally and have inherent character;
- o Utilisation of a variety of materials and detail at the ground levels of the buildings to provide visual interest and a human scale;
- o Use of colours which are found naturally, creating an architecture that sits calmly within the environment;
- o The incorporation of landscaping to soften the building, and the creation of significant landscape connections between the 'private' interior of the site and the public domain, both visual and physical;
- o Facades with fine grain detail, and provision of balconies and recessive elements for changing light and shadow to the facade over the course of the day, providing visual interest active façades;
- o Design elements which are legible, reflecting both the building's internal organisation and exterior organisation in response to context.



Proposed Landscape Plan - Refer to 21182-DA500[A] - NORTH AND SOUTH ELEVATION

# 1-13 COLERIDGE STREET, RIVERWOOD

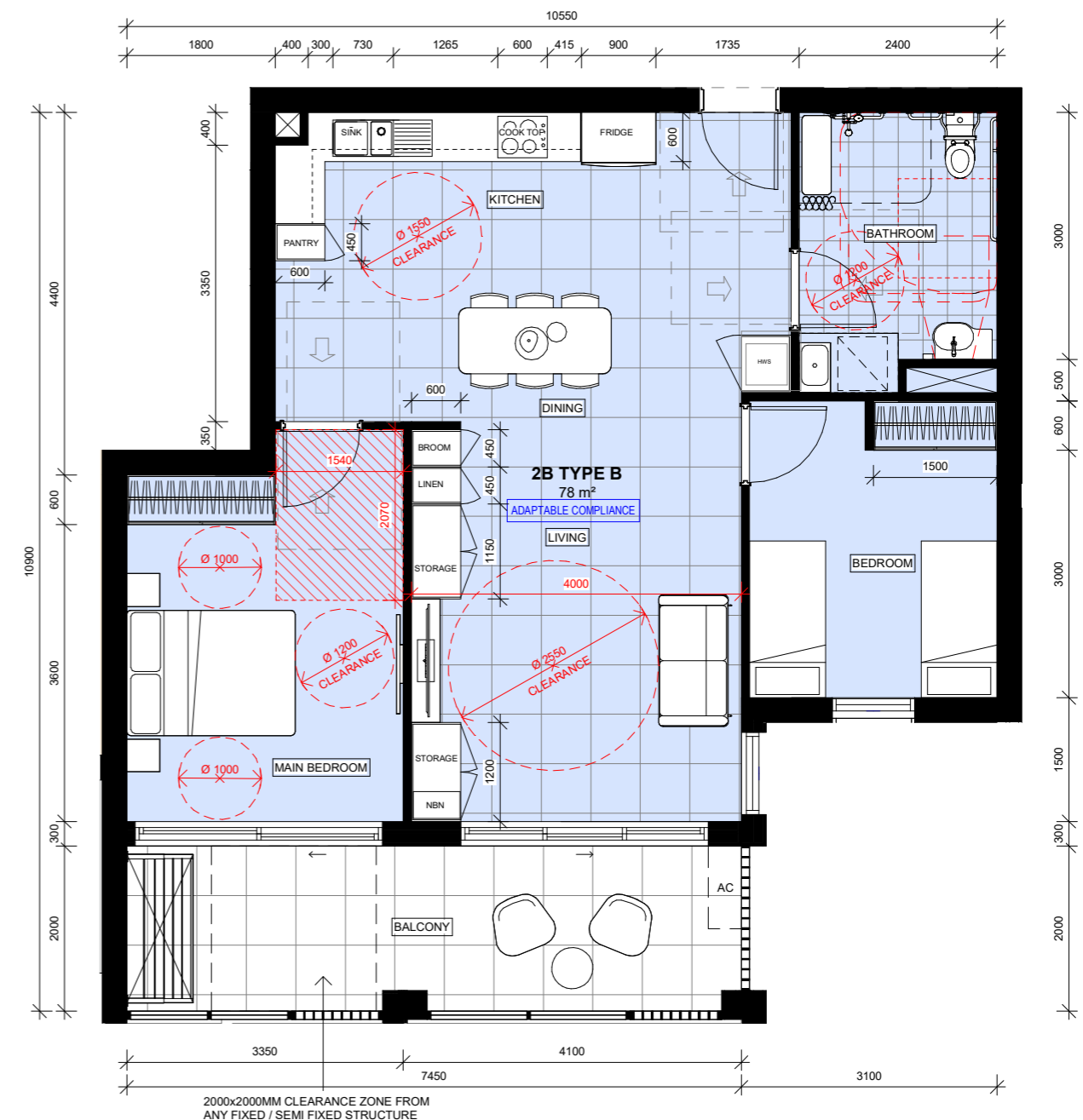
## ACCESSIBILITY

The proposal achieves accessibility requirements through the provision of 5 adaptable units (11%), and 37 universal silver living units, resulting in a total of 42 units.

These units reflect a number of unit types with a variety of outlooks, external spaces and apartment layouts. Each apartment will have the required door and access clearances and each layout allows adaption with minimal impact or changes. Each apartment has been designed with external balcony areas flush to the internal areas, allowing use of both internal and external spaces without an access ramp. The basement achieves the required 5 disabled space, located with close proximity to the building lift core.

Accessibility has also been considered in the approach from the street and landscape areas, with ramps providing access when grading at 1:40 cannot be achieved.

Refer to the Access Report by Jensen Hughes - '1-13 Coleridge Street, Riverwood - DA Access Report' - 31st October 2024 for further information.



Proposed Accessible Apartment Type - Refer to 21182-DA902[A] - DDA COMPLIANCE - 3 OF 3

1-13 COLERIDGE STREET, RIVERWOOD  
VISUAL IMPACT STUDY - CONTEXT

Context

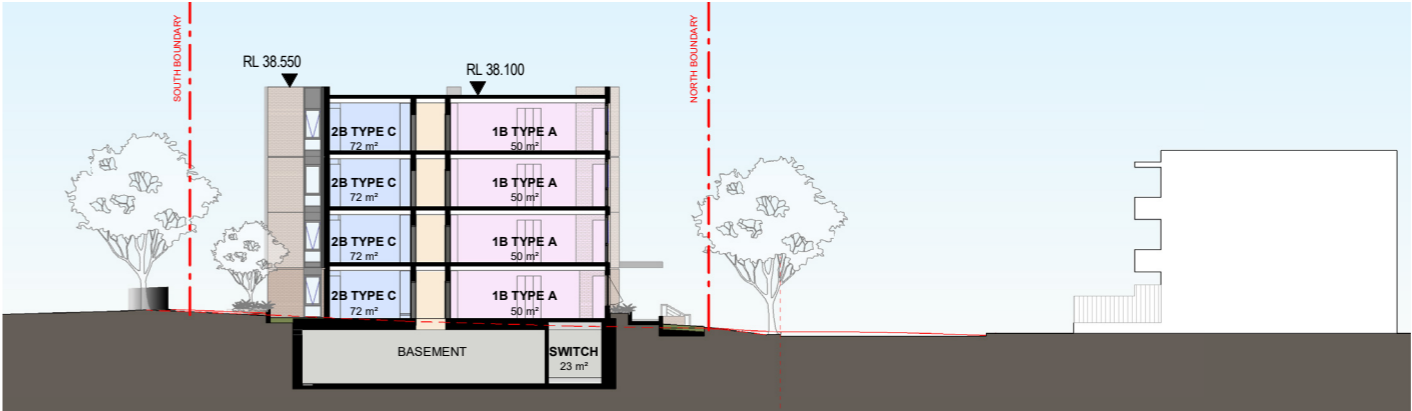
The development is situated on a residential street with high density housing with mixture of housing scales ranging from two to three storey immediate to the site. There are no local heritage items in the immediate vicinity, please refer to the Heritage Map from the Georges River Local Environmental Plan 2021 for reference.  
To the rear of the site there is the Philip Street Reserve which is publicly accessible.

Built Form and Setbacks

The built form has been designed to vary in relief along each elevation, breaking up the facade and responding to the surrounding scale of the residential development.  
Setbacks proposed align with the Georges River DCP 2021 requirements, and are sympathetic with the streetscape of the adjacent buildings.

Landscaping

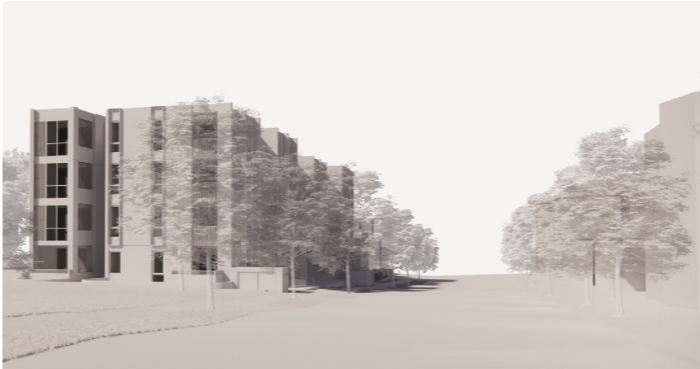
New landscaping proposes new trees and planting, enhancing the street frontage along Coleridge Street.



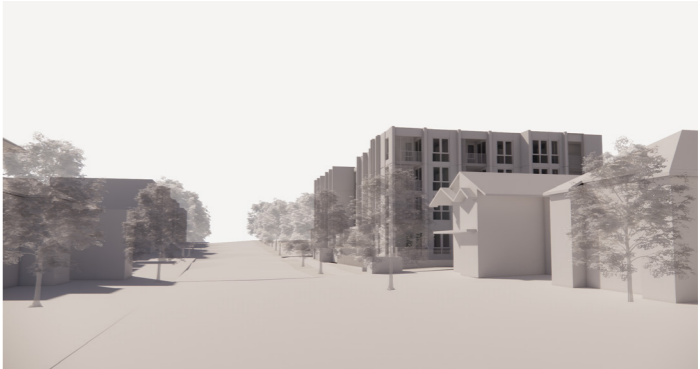
Streetscape Cross section through Coleridge Street



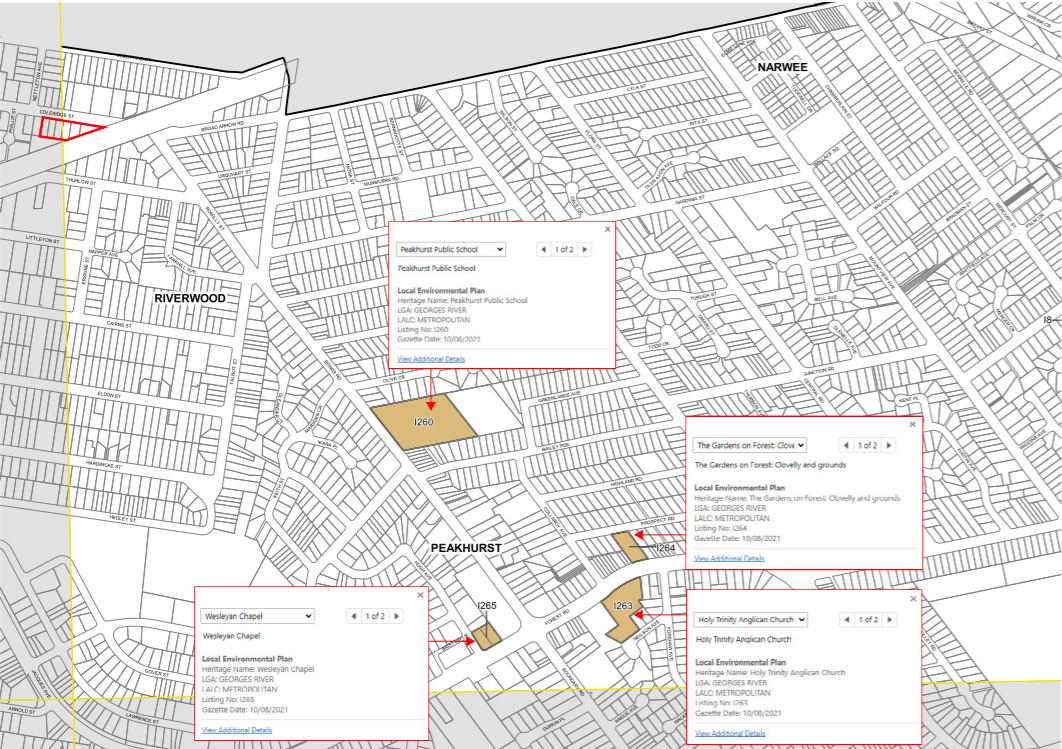
Streetscape Elevation along Coleridge Street, Refer to 21182-DA502[A] - STREETSCAPE ELEVATION



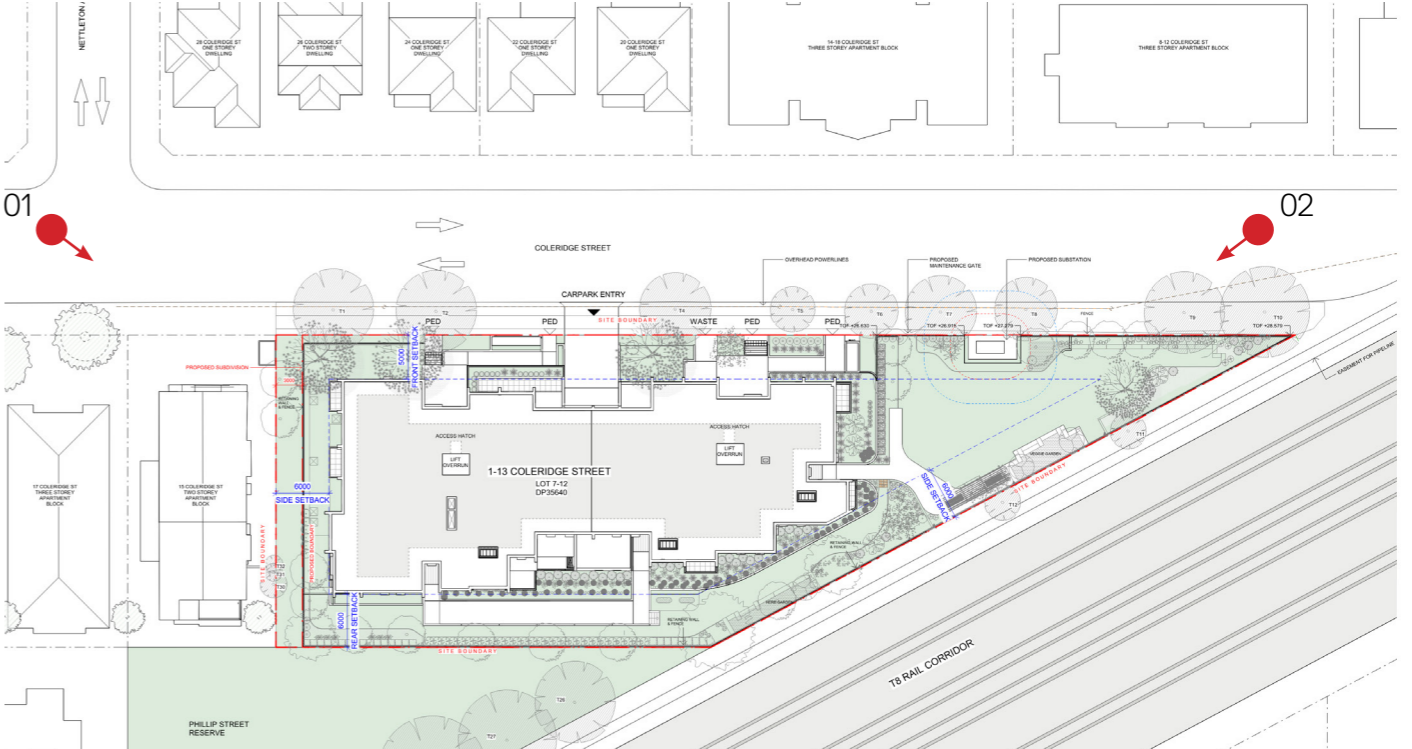
Proposed street view from the East of Coleridge St



Proposed view from the West of Coleridge Street



Heritage Map - Georges River Local Environmental Plan 2021



Proposed Site Plan - Refer to 21182-DA004[A] - SITE PLAN

# 1-13 COLERIDGE STREET, RIVERWOOD

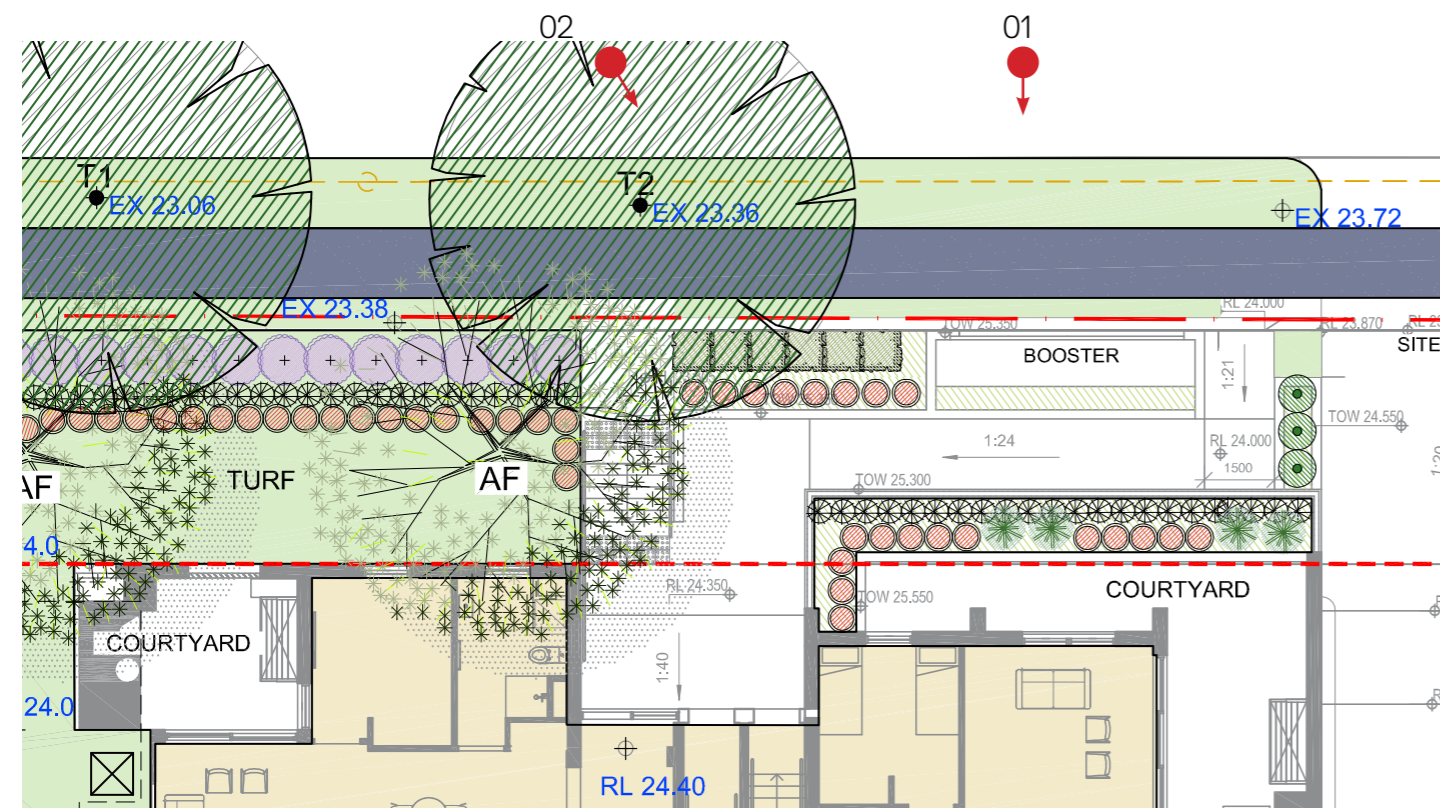
## VISUAL IMPACT STUDY - PRIVACY

### Privacy

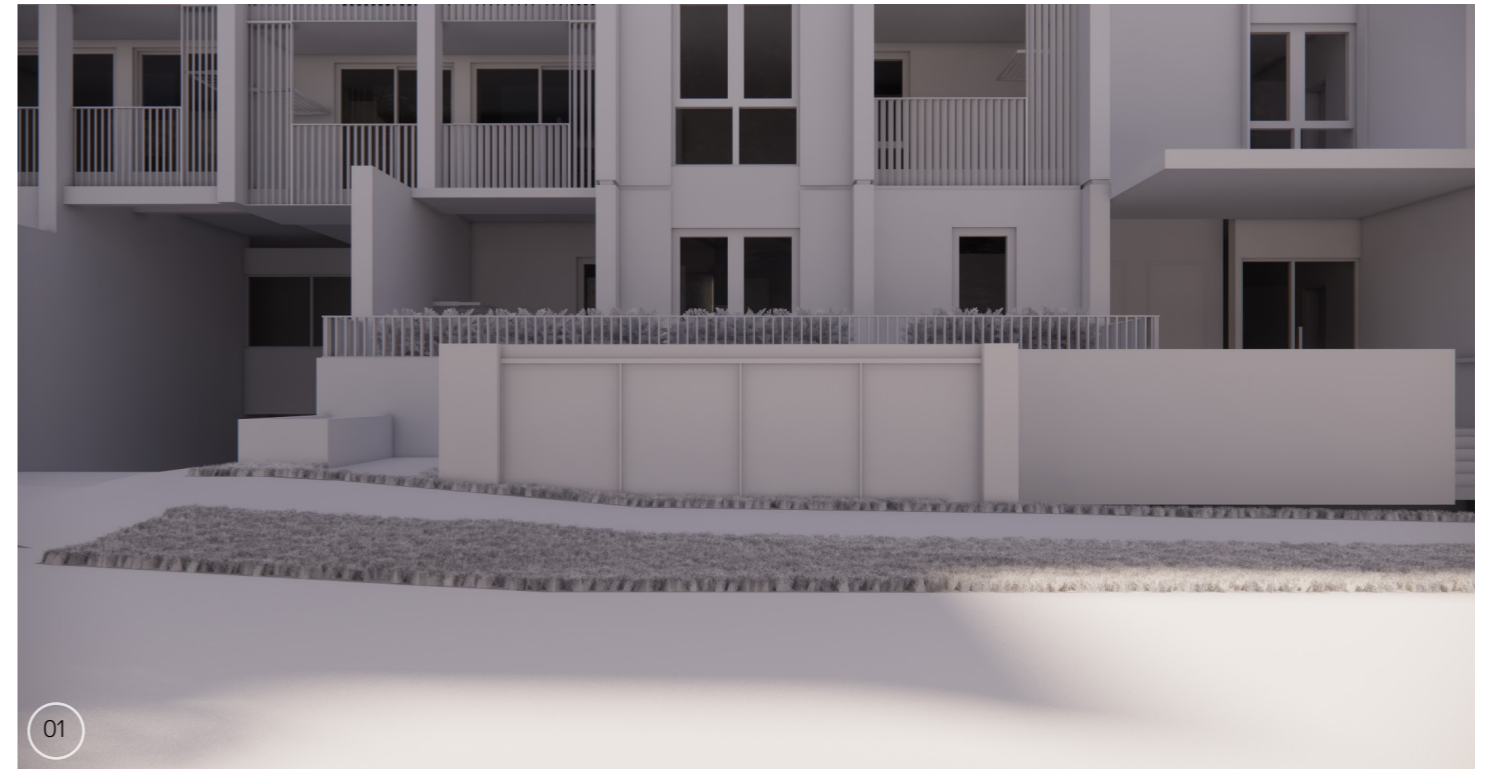
Privacy to the units has been considered through the use of angled louvres, balustrades, planting and carefully designed ground plane.

As the ground floor plane is set at a higher level to the street, privacy is maintained to alleviate direct views into the units.

The development has been designed to avoid direct parallel views to the development from the railway.



Proposed Landscape Plan - Refer to ULa\_LAHC\_Riverwood DA\_Rev H\_15.10.24\_



Proposed views from the street facing the development. Privacy is maintained at street level via planters and booster assembly along with the level change along the street

1-13 COLERIDGE STREET, RIVERWOOD

CRIME RISK ASSESSMENT

Street Number / Signage

The design ensures street identification numbers are clearly visible, facing the street and located at eye level and illuminated to ensure visibility at night. Refer to 21182-DA101[A] - GROUND FLOOR PLAN and 21182-DA500[A] - NORTH AND SOUTH ELEVATION for location. All directional signage and warning signs are to be clearly displayed and to relevant standards. All signage will be detailed further in the signage package.

Building Design

The development is to be constructed to NCC standards for class 2 and 7a construction to provide a solid construction for all floors, walls and ceilings. Climability has been considered throughout the development to avoid instances where this could occur. All materials proposed in the design of the building are of graffiti resistant material. If this were due to occur, a rapid removal policy for graffiti would be in place.

The orientation of the building facing the street at an elevated ground floor level allows for natural surveillance between the street footpath and neighbouring properties. The rear of the site faces the Philip Street Reserve and is to be suitably well lit. Ground floor courtyards are to be provided with fencing.

Fences, Gates and Access

The development is bounded by retaining wall and fencing to all sides. New fences provided around the perimeter of the development are to be lockable and are to be of aluminium material. One entry gate into the eastern side provides access to the substation. Refer to development application drawings; 21182-DA004[A] - SITE PLAN, 21182-DA101[A] - GROUND FLOOR PLAN for locations.

A roller shutter provides security into the car park basement with fob access. Refer to 21182-DA100[A] - BASEMENT PLAN for reference.

Electronic fob entry provide access to the two internal lobby entries at Ground Floor.

The bin store is provided internally with locked access. Refer to 21182-DA101[A] - GROUND FLOOR PLAN for locations.

Landscaping

The development will be visible from the street, whereby landscaping does not obscure entire visibility of the development. The landscaping has been designed to prevent concealment. Refer to ULa\_LAHC\_Riverwood DA\_Rev H\_15.10.24\_ for reference.

Security Lighting

All security lighting will be installed to alleviate any opportunities for vandalism.

All entry and exit points will be provided with adequate external lighting.

Powerboard and Letterbox

The letterbox location is located in close proximity to the building entry and provides safe accessible route from building entry and is of an adequate distance for the tenants to be able to access. Consideration has been made for Australia Post requirements which has meant the letterbox is located with level access from the street. All letterboxes will be key lockable and easily identifiable from the street. Refer to 21182-DA101[A] - GROUND FLOOR PLAN and 21182-DA500[A] - NORTH AND SOUTH ELEVATION for location. The powerboard will be provided in an internal lockable box.

Car Park / Storage in Basement

The basement car park is locked via roller shutter with access control fob security. Access is restricted to residents only. All storage units in the basement are to be lockable and to be protected by bollards.

Bicycle parking is located in secure areas in the basement. Refer to 21182-DA100[A] - BASEMENT PLAN for reference.

Balconies

The balconies have been designed with either vertical louvres and/or vertical post balustrades to avoid climbability. Refer to 21182-DA500[A] - NORTH AND SOUTH ELEVATION and 21182-DA501[A] - EAST AND WEST ELEVATION for locations. All sliding doors and windows adjacent to the balconies will be lockable to restrict unauthorised access. Motion activated lighting will be provided for balconies.

Doors and fire exits

All external and internal doors are to be lockable with security screens installed where required.

All fire doors are to be self closing.

Windows

All windows are to be lockable and all skylights are to be suitable secured.

Fire Safety

All fire safety requirements will be installed in accordance to the Australian Standards.

Construction Stage

At construction stage, the site will be provided with all adequate security measures as required.

Rooftop

The rooftop will not be accessible to residents and used for maintenance only. Appropriate mansafe system would be in place.

1-13 COLERIDGE STREET, RIVERWOOD

REFLECTIVITY

Building Orientation

To limit glare and reflectivity to the rail corridor, the building orientation has been designed in response to the solar studies to avoid a direct parallel elevation facing the rail corridor.

Materiality

The building is predominantly brick and metal cladding with glazing carefully located to avoid glare facing the railway. Metal cladding will be of a matte finish.

Glazing

Proposed glazing will have a reflectivity value of less than 20%. Windows have been designed to be provided with either a shading hood or are inset within a balcony space, thus limiting the amount of reflective material affecting the railway.

Louvred screening

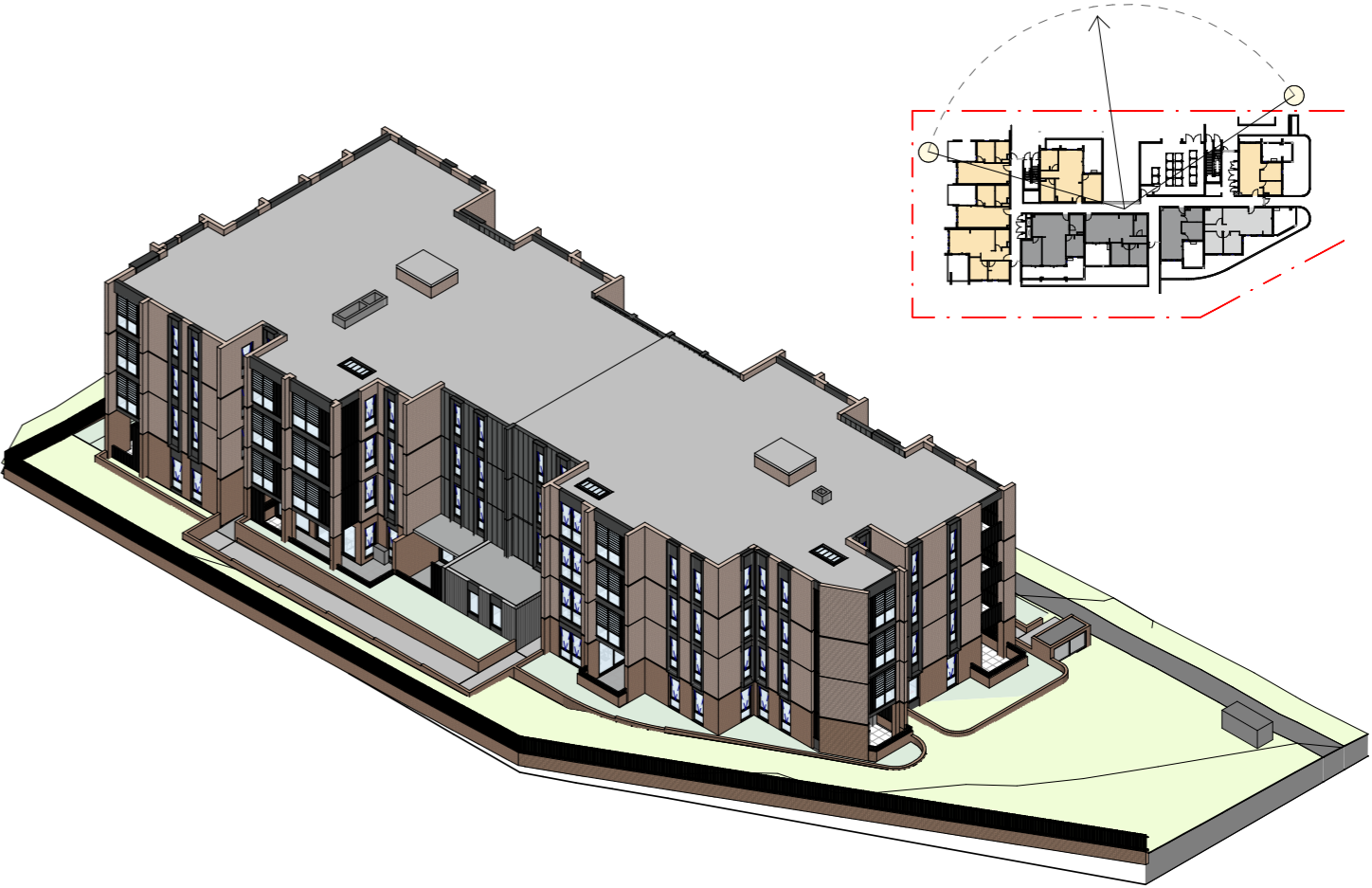
Louvred screening has been incorporated to the winter gardens. The building is of predominately brick material with particular attention to the rail corridor.

Landscaping

Landscaping to the rear of the site alongside the railway proposes dense planting and proposed trees. Please refer to Landscape Plan - ‘ULa\_LAHC\_Riverwood DA\_Rev H\_15.10.24’.

Lighting

Any proposed outdoor lighting will adhere to AS 4282-1997 Control of Obtrusive Effects of Outdoor Lighting.



3D View from South East Railway Corridor



Proposed East Elevation - Refer to 21182-DA501[A] - EAST AND WEST ELEVATION



Proposed South Elevation - Refer to 21182-DA500[A] - NORTH AND SOUTH ELEVATION

04  
ADG  
COMPLIANCE  
RESPONSE  
TABLE

1-13 COLERIDGE STREET, RIVERWOOD

ADG COMPLIANCE TABLE

OBJECTIVE	DESIGN GUIDANCE / CRITERIA	PROPOSED DEVELOPMENT	COMPLIANCE
PART3: SITING THE DEVELOPMENT			
3A SITE ANALYSIS			
Objective 3A-1 Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context.		<p>Refer Site Analysis Plan</p> <p>Site analysis establishes the characteristic of surrounding streets, orientations, solar access and noise, open space and public amenities including transport. The proposal responds to these opportunities and constraints for a coherent and integrated development.</p> <p>The buildings orientation maximises solar access to the proposed buildings and communal open space</p> <p>Site Setbacks:</p> <p>Primary Street frontage = 5m (GRDCP)</p> <p>Side and Rear boundary = 6m (ADG)</p> <p>Basement setback = 5m (CBDCP)</p>	YES
3B ORIENTATION			
Objective 3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development.	<p>Buildings along the street frontage define the street, by facing it and incorporating direct access from the street.</p> <p>Where the street frontage is to the east or west, rear buildings should be orientated to the north.</p> <p>Where the street frontage is to the north or south, overshadowing to the south should be minimised and buildings behind the street frontage should be orientated to the east and west.</p>	<p>The building is orientated to be parallel to the Coleridge Street and predominately orientated North.</p> <p>The building is designed to connect with the street edge and surrounding built context. There are two well defined main entrance from Coleridge Street.</p> <p>Adjoining properties have been considered and overshadowing is minimised</p>	YES
Objective 3B-2 Over-shadowing of neighbouring properties is minimised during mid-winter.	<p>Living areas, private open space and communal open space should receive solar access.</p> <p>Solar access to living rooms, balconies and private open spaces of neighbours should be considered.</p> <p>Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%.</p> <p>Overshadowing should be minimised to the south or downhill by increased upper level setbacks.</p> <p>A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings</p>	<p>Living areas, private open space and communal open space are orientated towards maximising solar access and meet the ADG requirements for solar access.</p> <p>The proposal considers the neighbouring properties within the area of transition. Results are reported in the Solar Access Report.</p>	YES

1-13 COLERIDGE STREET, RIVERWOOD

ADG COMPLIANCE TABLE

OBJECTIVE	DESIGN GUIDANCE / CRITERIA	PROPOSED DEVELOPMENT	COMPLIANCE
3C PUBLIC DOMAIN INTERFACE			
Objective 3C-1 Transition between private and public domain is achieved without compromising safety and security.	<p>Terraces, balconies and courtyard apartments should have direct street entry, where appropriate</p> <p>Changes in level between private terraces, front gardens and dwelling entries above the street level provide surveillance and improve visual privacy for ground level dwellings</p> <p>Upper level balconies and windows should overlook the public domain.</p> <p>Front fences and walls along street frontages should use visually permeable materials and treatments.</p> <p>Length of solid walls should be limited along street frontages.</p> <p>Opportunities should be provided for casual interaction between residents and the public domain.</p> <p>Opportunities for people to be concealed should be minimised.</p>	<p>The proposal has ground floor dwelling facing the street. All courtyards have planting and fencing for privacy.</p> <p>All upper level windows and balconies overlook the public domain where facing street edges. Passive surveillance is achieved.</p> <p>Raised level apartments and front fencing of varying visual permeability and landscaping allows courtyards to have a greater sense of privacy.</p> <p>Building entries are clearly defined and legible in the streetscape. The lobby has direct visual connection for residents and visitors to engage with the surrounding neighbourhood.</p> <p>The development has been designed with passive surveillance and additional security measures to avoid opportunity for concealment.</p>	YES
Objective 3C-2 Amenity of the public domain is retained and enhanced.	<p>Planting softens the edges of any raised terraces.</p> <p>Mail boxes should be located in lobbies.</p> <p>The visual prominence of underground car park vents should be minimised.</p> <p>Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view.</p> <p>Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels.</p> <p>Durable, graffiti resistant and easily cleanable materials should be used.</p> <p>On sloping sites protrusion of car parking above ground level should be minimised.</p>	<p>Landscape private open space at the ground plane along with communal planting provides a softening of the built form while improving the overall amenity of the surrounding public realm. Materials facing the public realm are robust, durable and easily cleanable.</p> <p>Mail box has been located adjacent to the building entry on Coleridge Street.</p> <p>Car park exhaust is vented through the roof. Only the basement entrance is visible from the street frontage</p> <p>Pump rooms and other services requirements are located in the basement. Waste storage area is located at ground level for accessibility and servicing by Council's waste contractors.</p> <p>All lobbies off street have equitable access.</p>	YES

3D COMMUNAL AND PUBLIC OPEN SPACE			
<p><b>Objective 3D-1</b></p> <p><i>An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.</i></p>	<p><b>Design Criteria:</b></p> <p><i>Communal open space has a minimum area equal to 25% of the site.</i></p> <p><i>Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter).</i></p> <p><b>Design Guidance:</b></p> <p><i>Communal open space should be consolidated into a well-designed, easily identified and usable area.</i></p> <p><i>Communal open space should have a minimum dimension of 3m.</i></p> <p><i>Communal open space should be co-located with deep soil areas.</i></p> <p><i>Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies</i></p>	<p>Communal open space is approx 33% (932sqm) of site area with direct access for residents from the Building.</p> <p>COS landscaping is provided however Homes NSW requirements discourage the design of COS for residents to gather due to acoustic and social issues. Generous landscaping amenity is provided. Refer to landscape design for detail. Adequate solar compliance achieved with 71% of the COS receiving 2 hours solar during mid winter time.</p> <p>The communal open space includes deep soil areas and can be directly accessed from all apartments.</p>	YES
<p><b>Objective 3D-2</b> <i>Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting.</i></p>		<p>The communal open space provided allows for access to hardstand and soft landscape areas.</p> <p>Common landscape areas provide space for residents to walk around and through whilst gathering is discouraged in accordance with Homes NSW design principles.</p>	YES
<p><b>Objective 3D-3</b> <i>Communal open space is designed to maximise safety.</i></p>		<p>Safety is maximised with the communal open space located with end apartments overlooking the space for high level visual surveillance combined with passive surveillance provided by pedestrian visual links.</p>	YES
<p><b>Objective 3D-4</b> <i>Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood.</i></p>		N/A	
3E DEEP SOIL ZONES			
<p><b>Objective 3E-1</b></p> <p><i>Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality.</i></p>	<p><i>Deep soil zones are to have minimum width of 6m and minimum of 7% of site area.</i></p>	<p>Deep soil zones comply with ADG requirements. 29% (814sqm) provided</p>	YES

1-13 COLERIDGE STREET, RIVERWOOD

ADG COMPLIANCE TABLE

3F VISUAL PRIVACY			
<p>Objective 3F-1 Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy.</p> <p>Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room.</p>	<p>Design Criteria:</p> <p>Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from habitable rooms and balconies to the side and rear boundaries are as follows:</p> <p>Up to 12m/4 storeys: 6m.</p> <p>Separation distances between buildings on the same site should combine required building separations depending on the type of room</p>	<p>Separation distances comply.</p> <p>Balustrades at lower levels are screened for additional privacy.</p>	YES
<p>Objective 3F-2 Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space.</p>		<p>Façade elements, a mixture of solid, glazed, screens and balustrades provide various levels of privacy depending on their relationship to the ground and adjacent street or buildings. Windows are positioned to increase privacy without compromising light and air and balance outlook.</p>	YES
3G PEDESTRIAN ACCESS AND ENTRIES			
<p>Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain.</p>		<p>The building entry and public access is directly from Coleridge Street.</p>	YES
<p>Objective 3G-2 Access, entries and pathways are accessible and easy to identify.</p>		<p>The building entry is clearly defined and is accessible to the lift lobby.</p>	YES
3H VEHICLE ACCESS			
<p>Objective 3H-1 Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.</p>		<p>Vehicle entry point to the basement is located on Coleridge Street.</p> <p>Waste collection is from the street and separated from residential traffic. The waste collection room is setback to provide separation from neighbouring sites.</p>	YES

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3J BICYCLE AND CAR PARKING			
Objective 3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	For development in the following locations:  on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or  on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre;  the minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less; and  the car parking needs for a development must be provided off street.	The site is closely located to Riverwood train station  Off street parking is provided. All spaces are minimum 2400x5400mm with required clearances supported by traffic and accessibility consultants.  19 car parking spaces have been provided including 5 accessible parking spaces.	YES
Objective 3J-2 Parking and facilities are provided for other modes of transport.		19 onsite secure bicycle parking is provided with direct to basement level.	YES
Objective 3J-3 Car park design and access is safe and secure.		Secured entry is provided to the basement carpark and is well lit. The lift lobby is well defined within the carpark.	YES
Objective 3J-4 Visual and environmental impacts of underground car parking are minimised.		The basement carpark is below ground and does not visually impact the surrounding environment. Landscape design also reduces any visual impacts of basement	YES
Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised.		N/A	
Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised.		N/A	

Part 4 – Designing the Building			
4A SOLAR AND DAYLIGHT ACCESS			
Objective 4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	Design Criteria:  Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid-winter.	The proposal achieves 71.4% (30 units) solar compliance for 2 hours between 9am and 3pm at mid-winter.	YES
	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter.	16.7% (7 units) of apartments receive no direct sun between 9am and 3pm	NO

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Objective 4A-2 Daylight access is maximised where sunlight is limited.	Glazing design and the addition of skylights ensure generous daylight to apartments and maximise sunlight to habitable rooms	YES
Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months.	The building is designed with balconies off living areas to minimise heat gain during warmer months. Window hoods are provided to exposed northern elevations to reduce direct solar gain. Relevant façade windows are carefully detailed to place to enhance privacy and shade to bedroom and without compromising views.	YES

4B-Natural Ventilation		
Objective 4B-1 All habitable rooms are naturally ventilated	Complies. All habitable rooms contain operable glazing.	YES
Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation	Complies. Where possible apartments allow for natural cross ventilation.	YES
Objective 4B-3  The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents	<p>Design Criteria:</p> <p>At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building.</p> <p>Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed.</p> <p>Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line.</p>	<p>The proposal complies with 61.9% (26 units) of apartments naturally cross ventilated when including the use of skylights.</p> <p>YES</p>
4C- CEILING HEIGHTS		
Objective 4C-1 Ceiling height achieves sufficient natural ventilation and daylight access	<p>Design Criteria:</p> <p>Measured from finished floor level to finished ceiling level, minimum ceiling heights are:</p> <p>Habitable: 2.7m.</p> <p>Non-habitable: 2.4m.</p>	Complies.
Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms	Complies	YES
Objective 4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building	Complies	YES

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4D- APARTMENT SIZE AND LAYOUT			
Objective 4D-1 The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity	<p><i>Design Criteria:</i></p> <p><i>Apartments are required to have the following minimum internal areas:</i></p> <p><i>Studio: 35m<sup>2</sup></i></p> <p><i>1 bed: 50m<sup>2</sup></i></p> <p><i>2 bed: 70m<sup>2</sup></i></p> <p><i>3 bed: 90m<sup>2</sup></i></p> <p><i>The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m<sup>2</sup> each.</i></p> <p><i>A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m<sup>2</sup> each.</i></p>	<p>Complies.</p> <p>Apartment areas are in excess of the minimum ADG standards, and are comply with accessible and Silver Living requirements</p>	YES
	<p><i>Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms.</i></p>	Complies.	YES
Objective 4D-2 Environmental performance of the apartment is maximised	<p><i>Design Criteria:</i></p> <p><i>Habitable room depths are limited to a maximum of 2.5 x the ceiling height.</i></p>	Ceiling Heights 2.7m with bulkheads.	YES
	<p><i>In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window.</i></p>	Complies.	YES
Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs	<p><i>Design Criteria:</i></p> <p><i>Master bedrooms have a minimum area of 10m<sup>2</sup> and other bedrooms 9m<sup>2</sup> (excluding wardrobe space).</i></p>	Complies.	YES
	<p><i>Bedrooms have a minimum dimension of 3m (excluding wardrobe space).</i></p>	Complies.	YES
	<p><i>Living rooms or combined living/dining rooms have a minimum width of:</i></p> <p><i>3.6m for studio and 1-bedroom apartments.</i></p> <p><i>4m for 2- and 3-bedroom apartments.</i></p>	Complies.	YES
	<p><i>The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts.</i></p>	Complies.	YES

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4E – PRIVATE OPEN SPACE AND BALCONIES			
<b>Objective 4E-1</b> <i>Apartments provide appropriately sized private open space and balconies to enhance residential amenity</i>	<b>Design Criteria:</b>  <i>All apartments are required to have primary balconies as follows:</i>  <b>Minimum area:</b> <i>Studio: 4m<sup>2</sup></i> <i>1 bed: 8m<sup>2</sup></i> <i>2 bed: 10m<sup>2</sup></i> <i>3 bed: 12m<sup>2</sup></i>  <b>Minimum depth:</b> <i>Studio: -</i> <i>1 bed: 2m</i> <i>2 bed: 2m</i> <i>3 bed: 2.4m</i>  <i>The minimum balcony depth to be counted as contributing to the balcony area is 1m.</i>	Complies.	YES
	<i>For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15sqm and a minimum depth of 3m.</i>	Complies.	YES
<b>Objective 4E-2</b> <i>Primary private open space and balconies are appropriately located to enhance livability for residents.</i>		Complies.	YES
<b>Objective 4E-3</b> <i>Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building.</i>		Balcony design is integral to the building articulation. With suitable balustrade and screening for privacy while retaining views to the adjacent open space and surrounding locality.	YES
<b>Objective 4E-4</b> <i>Private open space and balcony design maximises safety.</i>		<p>Complies. The balconies meet minimum safety provisions. Vertical balustrade design to prevent climbing</p> <p>The balcony and POS design contribute to the façade by providing articulation and set-backs. These are well integrated into the building footprint. POS are designed to soften the building edge and provide a landscaped buffer to street edge</p>	YES
4F- COMMON CIRCULATION AND SPACES			
<b>Objective 4F-1</b> <i>Common circulation spaces achieve good amenity and properly service the number of apartments</i>	<b>Design Criteria:</b>  <i>The maximum number of apartments off a circulation core on a single level is 8.</i>	Single lift provided per core servicing no greater than 7 apartments per floor.	YES
<b>Objective 4F-2</b> <i>Common circulation spaces promote safety and provide for social interaction between residents.</i>		<p>Resident floor lobbies have secured access from basement levels and the entry level. Floor to ceiling glazing provides a high level of transparency enhancing security and social interaction.</p> <p>Lobby entrances are clearly visible from the street and provide some opportunity for social interaction. All lobbies and circulation spaces are well lit and ventilated.</p>	YES

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4G- STORAGE			
Objective 4G-1 Adequate, well designed storage is provided in each apartment	<p><b>Design Criteria:</b></p> <p><i>In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:</i></p> <p>Studio: 4m<sup>3</sup> 1 bed: 6m<sup>3</sup> 2 bed: 8m<sup>3</sup> 3 bed: 10m<sup>3</sup></p> <p><i>At least 50% of the required storage is to be located within the apartment.</i></p>	<p>Complies.</p> <p>1 bed: 3m<sup>3</sup> internal storage + min. 3m<sup>3</sup> basement storage.</p> <p>2 bed: 4m<sup>3</sup> internal storage + ,im. 4m<sup>3</sup> basement storage.</p>	YES
Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments.		Required additional storage provided in basement.	YES
4H- ACOUSTIC PRIVACY			
Objective 4H-1 Noise transfer is minimised through the siting of buildings and building layout.		Minimum noise transfer has been considered, building orientated to have private and living areas away from adjacent dwellings.	YES
Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments.		Bedrooms where possible are located away from living space, and stacking of unit types maintain similar room type stacking to minimise noise impacts.	YES
4J- NOISE AND POLLUTION			
Objective 4J-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings.		Raised level of ground floor apartments facing primary roads and adequate landscaping and setbacks to mitigate exposure.	YES
Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.		All materials selected and construction to meet acoustic requirements as set out in acoustic report	YES
4K- APARTMENT MIX			
Objective 4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future.		The proposed development is affordable housing. The apartment mix includes a range of 1 and 2-bedroom apartments to cater for different house hold types.	YES
Objective 4K-2 The apartment mix is distributed to suitable locations within the building.		Apartments mix of 1 and 2 have been carefully considered to respond to enhancing amenity for residents within each apartment	YES
4L- GROUND FLOOR APARTMENTS			
Objective 4L-1 Street frontage activity is maximised where ground floor apartments are located.		Activity is achieved through front gardens, courtyards and the facade of the building. Per-meable fencing and landscaping is provided to allow for visible activity from street edge and passive surveillance. Entrances located along primary street frontage.	YES
Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents.		Secured entry to ground floor apartments is from internal secure corridors. External sliding-doors to have adequate security provision.	YES
4M- FACADES			
Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area.		<p>Building facades are visually separated by recessive elements in the form of building articulation and open balconies, emphasizing the verticality by introducing brick blade walls to the facade, break the facade into several blocks to reduce the building length visually.</p> <p>The ground floor contains active uses including the building entry, for visual interest, planting to soften the edge. The middle portion of the building is a recessive darker metal finish to reduce visual impact.</p>	YES

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Objective 4M-2 Building functions are expressed by the facade.	Articulation of balconies clearly articulate the domestic residential use of the building and individual apartments. Living rooms facing onto balconies have large sliding doors. Bedrooms and bathrooms have vertically proportioned glazing with narrower openings for privacy	YES
<b>4N- ROOF DESIGN</b>		
Objective 4N-1 Roof treatments are integrated into the building design and positively respond to the street.		
Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised.	N/A. No roof top amenity required for Homes NSW developments	YES
Objective 4N-3 Roof design incorporates sustainability features.	Solar panels provided are located on the roof as part of the proposal's sustainability features.	YES
<b>4O- LANDSCAPE DESIGN</b>		
Objective 4O-1 Landscape design is viable and sustainable.	Refer to landscape architects' drawings.	YES
Objective 4O-2 Landscape design contributes to the streetscape and amenity	Refer to landscape architects' drawings. Street trees are being maintained where possible	YES
<b>4P- PLANTING ON STRUCTURES</b>		
Objective 4P-1 Appropriate soil profiles are provided.	Complies. Refer to landscape architects' drawings.	YES
Objective 4P-2 Plant growth is optimised with appropriate selection and maintenance.	Complies. Refer to landscape architects' drawings.	YES
Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces.	Complies. Refer to landscape architects' drawings.	YES
<b>4Q- UNIVERSAL DESIGN</b>		
Objective 4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members.	Universal design requirements met Refer to Access consultant report .	YES
Objective 4Q-2 A variety of apartments with adaptable designs are provided.	Complies. Refer to Access consultant report.	YES
Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs.	Complies. Refer to Access consultant report.	YES
<b>4R- ADAPTIVE REUSE</b>		
Objective 4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place.	N/A	
Objective 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse.	N/A	
<b>4S- MIXED USE</b>		
Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement.	N/A	
Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity are maximised for residents.	N/A	
<b>4T- AWNINGS AND SIGNAGE</b>		
Objective 4T-1 Awnings are well located and complement and integrate with the building design.	Awnings above lobby entry are integrated with the facade detail of the building	YES
Objective 4T-2 Signage responds to the context and desired streetscape character.	Building identification signage will be located adjacent to the ground floor entry level. The ground floor signage is to be integrated in the landscape design and is prominent positioned with respect to Coleridge Street.	YES
<b>4U- ENERGY EFFICIENCY</b>		
Objective 4U-1 Development incorporates passive environmental design.	Passive environmental design features are provided in the building including trees adjacent to the building, landscaping and communal spaces surrounding the building.	YES
Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer.	The articulated building façade on building and articulated balconies to each apartment provide shading in summer while opening up to allow solar access in winter. Deep window reveals and screens have been provided outside of balconies to mitigate effects of the summer sun.	YES

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Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation.	Apartments in the building have broad frontages and multiple aspects to encourage natural ventilation in accordance with ADG requirements. Double sided lobbies provided to minimise the need for mechanical ventilation	YES
4V- WATER MANAGEMENT AND CONSERVATION		
Objective 4V-1 Potable water use is minimised.	Complies. Water saving devices are to be utilized through out the development including drought tolerant planting within landscape areas. Refer to Stormwater Management Report.	YES
Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters.	Complies. Refer to Stormwater management report.	YES
Objective 4V-3 Flood management systems are integrated into site design.	Complies. Refer to Stormwater management report.	YES
4W- WASTE MANAGEMENT		
Objective 4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents.	Waste management has on grade street access and is enclosed to minimise visual impact. Planting along its edge and adjacent trees reduces visual impact.	YES
Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling.	Complies. Refer to waste management report.	YES
4X- BUILDING MAINTENANCE		
Objective 4X-1 Building design detail provides protection from weathering.	Deep balconies provide protection to the building façades, and robust finishes have been selected for high-durability.	YES
Objective 4X-2 Systems and access enable ease of maintenance.	All plant has hatch access at roof level or door access in basement level.	YES
Objective 4X-3 Material selection reduces ongoing maintenance costs.	Resilient materials and high durability finishes have been selected to allow longevity of building integrity.	YES

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