WATERLOO METRO QUARTER OVER STATION DEVELOPMENT

Environmental Impact Statement
Appendix S - DDA Assessment

SSD-10439 Central Precinct

Detailed State Significant Development
Development Application

Prepared for **Waterloo Developer Pty Ltd**

30 September 2020

Reference	Description
Applicable SSD Applications	SSD-10439 Central Precinct
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1. Glossary and abbreviations

Reference	Description
ACHAR	Aboriginal Cultural Heritage Assessment Report
ADG	Apartment Design Guide
AHD	Australian height datum
AQIA	Air Quality Impact Assessment
BC Act	Biodiversity Conservation Act 2016
BCA	Building Code of Australia
BC Reg	Biodiversity Conservation Regulation 2017
BDAR	Biodiversity Development Assessment Report
CEEC	critically endangered ecological community
CIV	capital investment value
CMP	Construction Management Plan
Concept DA	A concept DA is a staged application often referred to as a 'Stage 1' DA. The subject application constitutes a detailed subsequent stage application to an approved concept DA (SSD 9393) lodged under section 4.22 of the EP&A Act.
Council	City of Sydney Council
CPTED	Crime Prevention Through Environmental Design
CSSI approval	critical State significant infrastructure approval
CTMP	Construction Traffic Management Plan
DA	development application
DPIE	NSW Department of Planning, Industry and Environment
DRP	Design Review Panel
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
EPA Regulation	Environmental Planning and Assessment Regulation 2000
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999

Reference	Description
ESD	ecologically sustainable design
GANSW	NSW Government Architect's Office
GFA	gross floor area
HIA	Heritage Impact Assessment
IAP	Interchange Access Plan
LGA	Local Government Area
NCC	National Construction Code
OSD	over station development
PIR	Preferred Infrastructure Report
POM	Plan of Management
PSI	Preliminary Site Investigation
RMS	Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SEPP 55	State Environmental Planning Policy No 55—Remediation of Land
SEPP 65	State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2009
SREP Sydney Harbour	State Regional Environmental Plan (Sydney Harbour Catchment) 2005
SSD	State significant development
SSD DA	State significant development application
SLEP	Sydney Local Environmental Plan 2012
Transport for NSW	Transport for New South Wales
TIA	Traffic Impact Assessment
The proposal	The proposed development which is the subject of the detailed SSD DA

Reference	Description
The site	The site which is the subject of the detailed SSD DA
VIA	Visual Impact Assessment
WMQ	Waterloo Metro Quarter
WMP	Waste Management Plan
WSUD	water sensitive urban design

2. Executive summary

This planning report has been prepared by Morris Goding Access Consulting to accompany a detailed State significant development (SSD) development application (DA) for the Central Precinct over station development (OSD) at the Waterloo Metro Quarter site.

This report has been prepared to address the relevant conditions of the concept SSD DA (SSD 9393) and the Secretary's Environmental Assessment Requirements (SEARs) issued for the detailed SSD DA SSD 10439.

This report concludes that the proposed Central Precinct OSD is suitable and warrants approval subject to the implementation of the following mitigation measures.

- An appropriate quantum of adaptable units (15% of total apartments) has been proposed. The adaptable units will be design in accordance with AS4299.

- The design shows a reduction of adaptable unit car bays in line with the proposed ratio of general car bays and apartments. The reduction of adaptable unit car bays is a reasonable proposition given the immediate proximity of the railway station, and precedence with regards to the reduction of adaptable unit car bays at other Councils as well as Department Planning requirements applied to residential projects at Barangaroo and Darling Square.

- Condition B8 of the Consent Development Application Consent allows a maximum number of 170 car spaces to be provided within the development for residential accommodation, including residents spaces and residential car share spaces but excluding visitor and service vehicle spaces.
  The Central Precinct is afforded 67 car spaces for residents and 2 car share spaces.
  As a proportion of the total residential cars permissible, this equates to 40%.
  Accordingly, it is warranted that 40% of the adaptable apartments be provided with an accessible car space. Based on current figures, this equates to 9 of the 23 apartments being provided with an adaptable car space.

Following the implementation of the above mitigation measures, the remaining impacts are appropriate.

3. Introduction

This report has been prepared to accompany a detailed State significant development (SSD) development application (DA) for the Central Precinct over station development (OSD) at the Waterloo Metro Quarter site. The detailed SSD DA is consistent with the concept approval (SSD 9393) granted for the maximum building envelope on the site, as proposed to be modified.

The Minister for Planning, or their delegate, is the consent authority for the SSD DA and this application is lodged with the NSW Department of Planning, Industry and Environment (DPIE) for assessment.

The detailed SSD DA seeks development consent for the design, construction and operation of:

- 24–storey residential building (Building 2) comprising approximately 126 market residential and 24 affordable housing apartments, to be delivered as a mixture of one-bedroom, two-bedroom and three-bedroom apartments
- ground level retail tenancies, community hub, precinct retail amenities and basement carpark entry
- level 1 and level 2 community facilities (as defined in the SLEP) intended to be operated as a childcare centre
- landscaping and private and communal open space at roof top levels to support the residential accommodation
- new public open space including the delivery of the Church Square, including vehicle access to the basement car park via a shared way from Cope Street, expanded footpaths and public domain upgrades on Botany Road
- external licensed seating areas
- signage zone locations
- utilities and service provision
- stratum subdivision (staged).

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 9 April 2020 and issued for the detailed SSD DA. Specifically, this report has been prepared to respond to the SEARs requirements summarised below.

Item	Description of requirement	Section reference (this report)
	Plans and Documents - Access/DDA Impact Statement	

Table 1 - SEARs requirements

This report has also been prepared in response to the following conditions of consent issued for the concept SSD DA (SSD 9393) for the OSD as summarised in the table below.

Item	Description of requirement	Section reference (this report)
	N/A	

Table 2 - Conditions of Concept Approval

4. The site

The site is located within the City of Sydney Local Government Area (LGA). The site is situated about 3.3 kilometres south of Sydney CBD and eight kilometres northeast of Sydney International Airport within the suburb of Waterloo.

The Waterloo Metro Quarter site comprises land to the west of Cope Street, east of Botany Road, south of Raglan Street and north of Wellington Street (refer to Figure 1). The heritage-listed Waterloo Congregational Church at 103–105 Botany Road is within this street block but does not form a part of the Waterloo Metro Quarter site boundaries.

The Waterloo Metro Quarter site is a rectangular shaped allotment with an overall site area of approximately 1.287 hectares.

The Waterloo Metro Quarter site comprises the following allotments and legal description at the date of this report. Following consolidation by Sydney Metro (the Principal) the land will be set out in deposited plan DP1257150.

- 1368 Raglan Street (Lot 4 DP 215751)
- 59 Botany Road (Lot 5 DP 215751)
- 65 Botany Road (Lot 1 DP 814205)
- 67 Botany Road (Lot 1 DP 228641)
- 124-128 Cope Street (Lot 2 DP 228641)
- 69-83 Botany Road (Lot 1, DP 1084919)
- 130-134 Cope Street (Lot 12 DP 399757)
- 136-144 Cope Street (Lots A-E DP 108312)
- 85 Botany Road (Lot 1 DP 27454)
- 87 Botany Road (Lot 2 DP 27454)
- 89-91 Botany Road (Lot 1 DP 996765)
- 93-101 Botany Road (Lot 1 DP 433969 and Lot 1 DP 738891)
- 119 Botany Road (Lot 1 DP 205942 and Lot 1 DP 436831)
- 156-160 Cope Street (Lot 31 DP 805384)
- 107-117A Botany Road (Lot 32 DP 805384 and Lot A DP 408116)
- 170-174 Cope Street (Lot 2 DP 205942).

The detailed SSD DA applies to the Central Precinct (the site) of the Waterloo Metro Quarter site. The site has an area of approximately 2,460sqm. The subject site comprises the following allotments and legal description at the date of this report.

- 130–134 Cope Street (Lot 12 DP 399757) (Part)
- 136–144 Cope Street (Lots A-E DP 108312) (Part)
- 85 Botany Road (Lot 1 DP 27454)
- 87 Botany Road (Lot 2 DP 27454)
- 89–91 Botany Road (Lot 1 DP 996765)

- 93–101 Botany Road (Lot 1 DP 433969 and Lot 1 DP 738891) (Part).

The boundaries of the overall site are identified at Figure 1, and the subject site of the detailed SSD DA is identified at Figures 2 and 3. The site is reasonably flat with a slight fall to the south.

The site previously included three to five storey commercial, light industrial and shop top housing buildings. All previous structures except for an office building at the corner of Botany Road and Wellington Street have been demolished to facilitate construction of the new Sydney Metro Waterloo station. As such the existing site is predominately vacant and being used as a construction site. Construction of the Sydney metro is currently underway on site in accordance with critical State significant infrastructure approval (CSSI 7400).

Figure 1 - Aerial image of the site
Source: Urbis

The area surrounding the site consists of commercial premises to the north, light industrial and mixed-use development to the south, residential development to the east and predominantly commercial and light industry uses to the west.

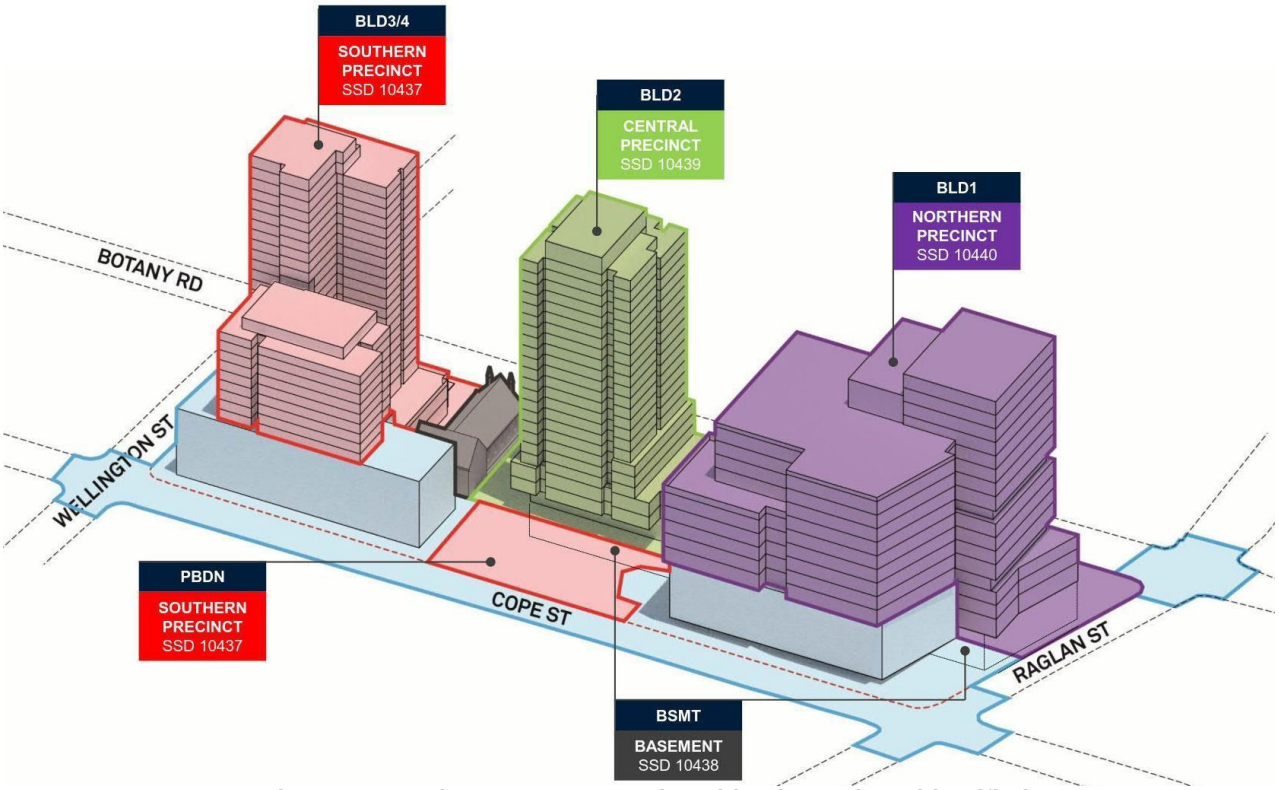

Figure 2 - Waterloo Metro Quarter site, with sub-precincts identified
Source: HASSELL

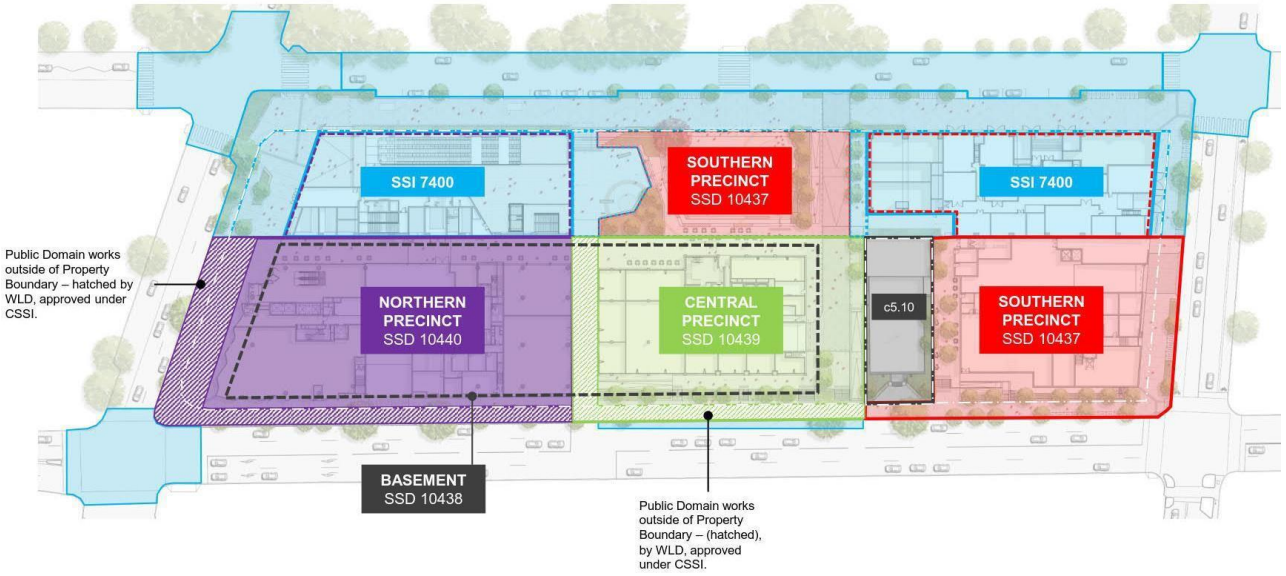

Figure 3 - Waterloo Metro Quarter site, with sub-precincts identified
Source: Waterloo Developer Pty Ltd

5. Background

5.1 About Sydney Metro

Sydney Metro is Australia's biggest public transport project. Services started in May 2019 in the city's North West with a train every four minutes in the peak. A new standalone railway, this 21st century network will revolutionise the way Sydney travels.

There are four core components:

5.1.1 Sydney Metro North West

This project is now complete and passenger services commenced in May 2019 between Rouse Hill and Chatswood, with a metro train every four minutes in the peak. The project was delivered on time and $1 billion under budget.

5.1.2 Sydney Metro City & Southwest

Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of Metro Northwest at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the ultimate capacity to run a metro train every two minutes each way through the centre of Sydney.

Sydney Metro City & Southwest will deliver new metro stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Waterloo and new underground metro platforms at Central Station. In addition, it will upgrade and convert all 11 stations between Sydenham and Bankstown to metro standards.

5.1.3 Sydney Metro West

Sydney Metro West is a new underground railway connecting Greater Parramatta and the Sydney CBD. This once-in-a-century infrastructure investment will transform Sydney for generations to come, doubling rail capacity between these two areas, linking new communities to rail services and supporting employment growth and housing supply between the two CBDs.

The locations of seven proposed metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and The Bays.

The NSW Government is assessing an optional station at Pyrmont and further planning is underway to determine the location of a new metro station in the Sydney CBD.

5.1.4 Sydney Metro Greater West

Metro rail will also service Greater Western Sydney and the new Western Sydney International (Nancy Bird Walton) Airport. The new railway line will become the transport spine for the Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service.

The Australian and NSW governments are equal partners in the delivery of this new railway.

The Sydney Metro project is illustrated below.

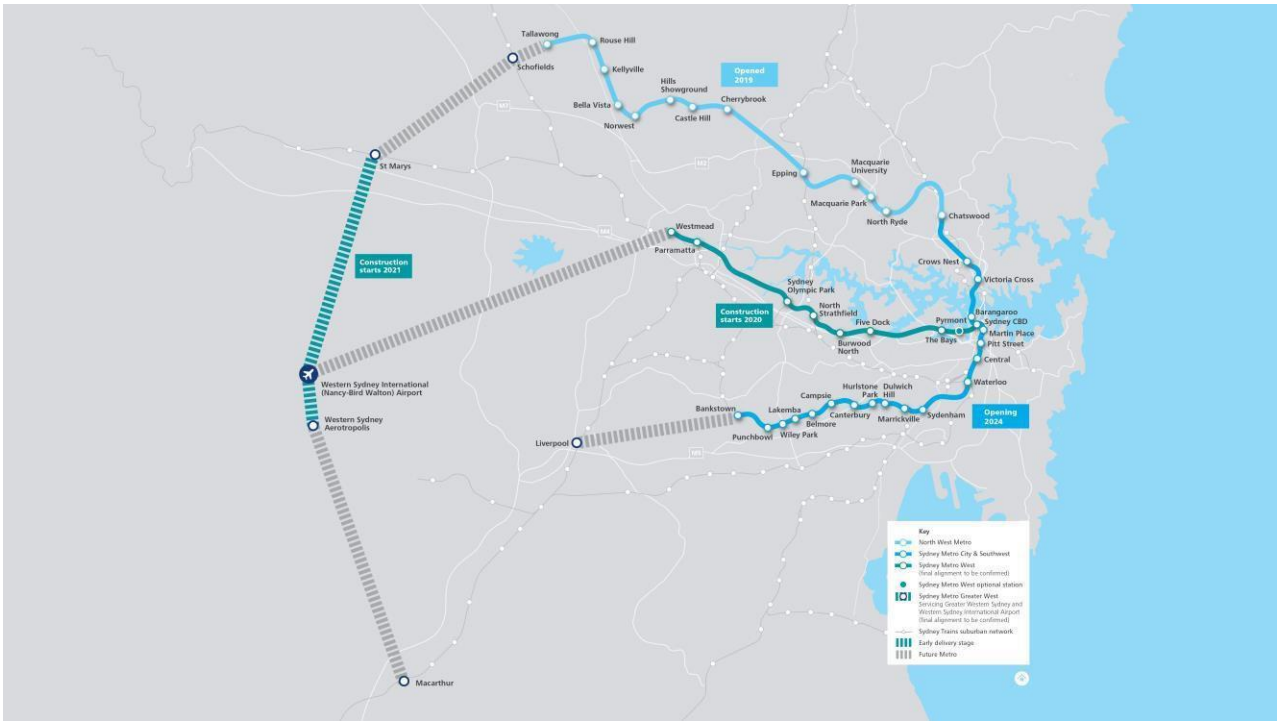

Figure 4 - Sydney Metro alignment map
Source: Sydney Metro

5.2 Sydney Metro CSSI Approval (SSI 7400)

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham project as a critical State significant infrastructure (CSSI) project (reference SSI 7400) (CSSI approval). The terms of the CSSI approval includes all works required to construct the Sydney Metro Waterloo Station. The CSSI approval also includes the construction of below and above ground works within the metro station structure for appropriate integration with the OSD.

With regards to CSSI related works, any changes to the 'metro station box' envelope and public domain will be pursued in satisfaction of the CSSI conditions of approval and do not form part of the scope of the concept SSD DA or detailed SSD DA for the OSD.

Except to the extent described in the EIS or Preferred Infrastructure Report (PIR) submitted with the CSSI application, any OSD buildings and uses do not form part of the CSSI approval and will be subject to the relevant assessment pathway prescribed by the EP&A Act.

The delineation between the approved Sydney Metro works, generally described as within the two 'metro station boxes' and surrounding public domain works, and the OSD elements are illustrated in Figure 5.

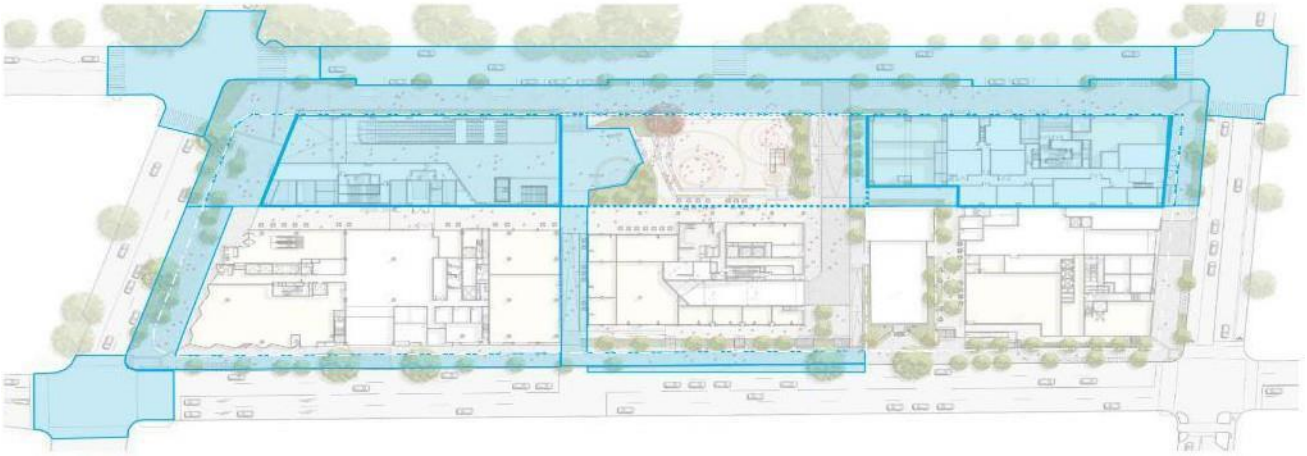

Figure 5 - CSSI Approval scope of works
Source: WL Developer Pty Ltd

5.3 Concept Approval (SSD 9393)

As per the requirements of clause 7.20 of the *Sydney Local Environmental Plan 2012* (SLEP), as the OSD exceeds a height of 25 metres above ground level (among other triggers), development consent is first required to be issued in a concept DA (formerly known as Stage 1 DA).

Development consent was granted on 10 December 2019 for the concept SSD DA (SSD 9393) for the Waterloo Metro Quarter OSD including:

- a maximum building envelope for podium, mid-rise and tower buildings
- a maximum gross floor area of 68,750sqm, excluding station floor space
- conceptual land use for non-residential and residential floor space
- minimum 12,000sqm of non-residential gross floor area including a minimum of 2,000sqm of community facilities
- minimum 5% residential gross floor area as affordable housing dwellings
- 70 social housing dwellings
- basement car parking, motorcycle parking, bicycle parking, and service vehicle spaces.

The detailed SSD DA seeks development consent for the OSD located within the Central Precinct of the site, consistent with the parameters of this concept approval. Separate SSD DAs have been prepared and will be submitted for the proposed across the Waterloo Metro Quarter site.

A concurrent amending concept SSD DA has been prepared and submitted to the DPIE which proposed to make modifications to the approved building envelopes at the northern precinct and central building. This amending concept SSD DA does not impact the proposed development within the southern precinct.

6. Proposed development

6.1 Waterloo Metro Quarter Development

The Waterloo Metro Quarter OSD comprises four separate buildings, a basement carpark and public domain works adjacent to the Waterloo Metro station.

Separate SSD DAs will be submitted concurrently for the design, construction and operation of each building in the precinct;

- Southern precinct SSD-10437,
- Basement Car Park SSD-10438,
- Central precinct SSD-10439, and
- Northern precinct-SSD-10440.

An overview of the Development is included below for context. This detailed SSD DA seeks development consent for the design, construction and operation of the Central Precinct:

6.1.1 Southern Precinct

The Southern Precinct comprises:

- 25-storey residential building (Building 3) comprising student accommodation, to be delivered as a mixture of studio and twin apartments with approximate capacity of 474 students
- 9 storey residential building (Building 4) above the southern station box to accommodate 70 social housing dwellings
- ground level retail tenancies including Makerspace and gymnasium lobby, and loading facilities
- level 1 and level 2 gymnasium and student accommodation communal facilities
- landscaping and private and communal open space at podium and roof top levels to support the residential accommodation
- new public open space including the delivery of the Cope Street Plaza, including vehicle access to the site via a shared way from Cope Street, expanded footpaths on Botany and Wellington Streets and public domain upgrades
- signage zone locations
- utilities and service provision
- stratum subdivision (staged).

6.1.2 Basement Car Park

The Basement Car Park comprises:

- 2-storey shared basement car park and associated excavation comprising
- Ground level structure
- Carparking for the Commercial Building 1, Residential Building 2, social housing Building 4, Waterloo Congregational Church and Sydney Metro
- Service vehicle bays

commercial end of trip and bicycle storage
facilities Retail end of trip and bicycle storage
facilities residential storage facilities
shared plant and services.

6.1.3 Central Precinct

The Central Precinct comprises:

- 24-storey residential building (Building 2) comprising approximately 126 market residential and 24 affordable housing apartments, to be delivered as a mixture of 1 bedroom, 2 bedroom and 3 bedroom apartments
- Ground level retail tenancies, community hub, precinct retail amenities and basement car park entry
- level 1 and level 2 community facilities (as defined in the SLEP) intended to be operated as a childcare centre
- landscaping and private and communal open space at roof top levels to support the residential accommodation
- new public open space including the delivery of the Church Square, including vehicle access to the basement via a shared way from Cope Street, expanded footpaths and public domain upgrades on Botany Road
- external licensed seating
- areas signage zone locations
- utilities and service
- provision stratum

subdivision (staged).

6.1.4 Northern Precinct

The Northern Precinct comprises:

- 17-storey commercial building (Building 1) comprising Commercial floor space, with an approximate capacity of 4000 workers
- ground level retail tenancies, loading dock facilities serving the northern and central precinct including Waterloo metro station
- landscaping and private open space at podium and roof top levels to support the commercial tenants
- new public open space including the delivery of the Raglan Street Plaza, Raglan Walk and expanded footpaths on Raglan Street and Botany Road and public domain upgrades
- external licensed seating
- areas signage zone locations
- utilities and service provision
- stratum subdivision (staged).

7. Methodology

7.1 General

The assessment methodology considers operational modes and user groups in relation to the WMQ Central Precinct Project.

The assessment attempts to deliver equality, independence and functionality to people with disabilities inclusive of:

- People with sensory impairment
- People with mobility impairments
- People with dexterity impairments

The assessment seeks to provide compliance with the DDA. In doing so, it attempts to eliminate, as far as possible, discrimination against persons on the ground of disability.

The Disability Discrimination Act 1992 (DDA) is a legislative law that protects the rights of all people. The Act makes disability discrimination unlawful and promotes equal rights, equal opportunity and equal access for people with disabilities. The Australian Human Right Commission is the governing body who control and enforce DDA compliance.

Since the 1st May 2011, the Commonwealth's Disability (Access to Premises – Buildings) Standards 2010 (DDA Premises Standards) apply to all new building works and to affected parts of existing buildings.

The DDA Premises Standards' requirements (DDA Access Code) are mirrored in the access provisions of the BCA. New building work and affected parts must comply with the DDA Premises Standards and AS1428.1-2009.

By utilising AS 1428 suite of Standards, the overall aim is to provide continuous accessible paths of travel to connect the proposed development to and through public domain areas and between associated accessible buildings in accordance with the DDA Access Code.

7.2 Universal Design

MGAC supports the use and consideration of universal design (UD) principles into the design to maximise access for all people. We will assist the design team to incorporate UD principles where possible within the project, while still meeting mandatory compliance requirements.

Universal design principles consider the needs of a broad range of people including older people, families with children and pushing prams, people from other cultures and language groups, visitors in transit and people with disability. By considering the diversity of users, the design will embed access into and within it, so that benefits can be maximised, without adding on specialized 'accessible' features that can be costly, visually unappealing and may perpetuate exclusion and potential stigma.

The seven key Universal design principles to consider in the on-going design include:

- Principle 1: Equitable Use

- Principle 2: Flexibility in Use
- Principle 3: Simple and Intuitive Use
- Principle 4: Perceptible Information
- Principle 5: Tolerance for Error
- Principle 6: Low Physical Effort
- Principle 7: Size and Space for Approach and use

7.3 Standards & Regulations

The statutory and regulatory guidelines that will be encompassed in the design to ensure effective, appropriate and safe use by all people including those with disabilities will be in accordance with:

- Federal Disability Discrimination Act (DDA);
- Disability (Access to Premises – Buildings) Standards 2010;
- Building Code of Australia (BCA) Part D3, F2, E3;
- AS 1428.1:2009 - (General Requirement of Access);
- AS 1428.4.1:2009 - (Tactile Ground Surface Indicators);
- AS 2890.6:2009 - (Parking for People with Disabilities);
- AS 1735.12:1999 - (Lift Facilities for Persons with Disabilities);

Please note that there are also additional advisory standards (not currently referenced by BCA or DDA Premises Standards) as well as other relevant guidelines that will be considered, as relevant to promote equity and dignity in line with over-arching DDA principles and aspirational objectives. These include:

- Universal Design Principles;
- Human Rights Commission (HEREOC)
- Advisory Note February 2013 on streetscape, public, outdoor areas, fixtures, fittings and furniture;
- AS1428.2:1992 Enhanced and Additional requirements;
- AS1428.4.1 Draft Way-finding Standard;
- AS3745:2010 – Planning for Emergencies in Facilities (to assist with design strategies for provision for escape for people with disability that may require assistance)

8. Assessment and findings

8.1 External Linkages

The BCA and DDA Premises Standards contain requirements for site approaches for the use of persons with disabilities. These requirements can be summarised as follows:

- It will be necessary to provide an accessible path of travel from main pedestrian entry points at the site allotment boundary to all building entrances compliant with AS1428.1:2009.
- An accessible path of travel between buildings (or parts of buildings) that are connected by a pedestrian linkage, within the site allotment boundary, compliant with AS1428.1:2009 is also required.
- An accessible path of travel to building entrances (required to be accessible) from associated accessible car-parking bays, compliant with AS1428.1:2009 is required.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.2 Entrances

The BCA and DDA Premises Standards contain requirements for building entry for the use of persons with disabilities. These requirements can be summarised as follows:

- Access is required through at least 50% of entrances, including the principal pedestrian entrance/s to all buildings or parts of buildings (ie. when they have a separate function and/or use eg. external retail tenancy). Note it is preferred that all entrances are accessible.
- A non-accessible entry cannot be located more than 50m distance from an accessible entry (for buildings greater than 500m2).
- All accessible doors to have 850mm min. clear width opening and suitable door circulation area, compliant with AS1428.1:2009. Note: Manual doors require lightweight door forces to be operable by people with disabilities (20N max.). We recommend that main entrances include automated sliding doors to be used where possible. Revolving doors are not accessible, if maintained an alternate accessible door is required adjacent.
- An accessible path of travel eg. ramp or lift needs to be provided adjacent (or in reasonable proximity) to any stair access. Note: providing choice of access route directly adjacent so that people can start and finish in the same location/travel similar route promotes inclusion and UD principles.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements.

On the basis of the current level of detail all access requirements at the East and South end main entries appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.3 Emergency Egress

BCA 2016 Part D2.17 has requirements for all fire-isolated egress stairs from areas required to be accessible (not communication stairs) to include at least one continuous handrail designed to be compliant with AS1428.1 Clause 12. Provision of an off-set tread at the base of stair flights or an extended mid-landing that will allow a 300mm extension clear of egress route is considered appropriate for achieving a consistent height handrail (without vertical or raked sections). Such an off-set tread configuration has been shown at the majority of stairs and would appear to be possible elsewhere, subject to further detail design.

Where fire-isolated egress stairs will also be used for communication stair purposes between levels, they should be designed to meet AS1428.1:2009. Confirmation is required on the likely use of certain stairs for this purpose.

There is currently no mandatory requirement within BCA or DDA Premises Standards for provision of independent accessible egress for people with a disability in accordance AS1428.1 and this remains an important DDA issue. Consideration of an accessible egress strategy with emergency evacuation plan will be needed as a minimum starting point.

Consideration of waiting spaces within fire-stairs should be strongly considered for people with mobility impairment. The current configuration of stairs suggests the spatial requirements would not be incorporated without layout amendments, but if provided with future design development these would generally require:

- 850mm min. clear width egress door and 510mm min. external door circulation area, compliant with AS1428.1:2009;
- Wheelchair space (800mm W x 1300mm L min. dimensions) within fire-isolated stair, outside of the required egress path, that can be accessed on a continuous path of travel.
- Alternative evacuation means eg. emergency passenger lift/s could be provided instead of/or only in addition to ‘waiting spaces’ in line with ABCB Handbook and/or consideration of stair evacuation devices (with appropriate storage and staff training) within fire stairs.

8.4 Circulation Areas

The BCA and DDA Premises Standards contain requirements for circulation areas for the use of persons with disabilities. These requirements can be summarised as follows:

- Wheelchair passing bays (1800mm width x 2000 length) are also required when a direct line of sight is not available and are to be provided at 20m max. intervals along access-ways.
- Turning spaces (at least 1540mm W x 2070mm L) are required within 2m of every corridor end and at 20m.max intervals along all access-ways. This is needed for wheelchairs to make a 180 degree turn, compliant with AS1428.1:2009.
- All common-use doors (ie. not excluded under Part D3.4) to have 850mm min. clear width opening (each active door leaf) and suitable door circulation area, compliant with AS1428.1:2009.
- All common-use corridors and accessible paths of travel to be at least 1000mm min. width when travelling in linear direction Note: Increased clear width paths of travel required for doorway circulation, turning areas etc.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.5 Passenger Lifts

The BCA and DDA Premises Standards contain requirements for passenger lifts and circulation areas for the use of persons with disabilities. These requirements can be summarised as follows:

- Passenger lifts to have min. internal size at floor of 1400mm width x 1600mm depth, compliant with BCA/DDA Access Code Part E3.6 and AS1735.12.
- All lift lobbies and main corridors on each level to have 1800mm min. clear width to allow two wheelchairs ability to space pass each other.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.6 Stairs & Ramps

The BCA and DDA Premises Standards contain requirements for stairs and ramps for the use of persons with disabilities. These requirements can be summarised as follows:

- Ramps are to have maximum 1:14 gradient with landings at no more than 9 metre intervals
- Ramps are to have handrails on both sides with minimum 1 metre clearance in accordance with AS1428.1
- Landings are to have 1200mm length with 1500mm length at 90 degree turns
- Stairs are to have handrails on both sides in accordance with AS1428.1
- Stairs and ramps are to be offset to ensure no encroachment of handrail extensions into from transverse path of travel at top and bottom of stair/ramp

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.7 Adaptable Unit Provision

The concept of adaptable housing is to design units with provisions in place from the outset (pre-adaption) so they can be easily adapted to meet changing needs of residents in the future (post-adaption) in accordance with AS4299.

The following requirements are to be satisfied in the provision of adaptable units

- A total of 15% adaptable units are required based on Council DCP.
- The adaptable units are to be designed in accordance with AS4299 Class C

Assessment

A total of 15% of dwellings will be proposed adaptable throughout the development which will satisfy Council DCP.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.8 Adaptable Unit Design

The following requirements are to be satisfied in the provision of adaptable unit design at pre-adaptation stage.

- The entry door of the unit achieves 850mm clear width opening (920 door leaf). Latch side clearance of 530mm needs to be achieved at pre adaptation, externally and internally of the door in accordance with AS4299.
- The kitchen needs 1550mm circulation space outside of the kitchen work spaces
- The bathroom needs to be of an adequate size to achieve an AS1428.1 compliant bathroom of shower, WC and basin with required circulation spaces. Capped off service can be provided for the relocation of basin at post adaptation. The shower recess will require review during design development.
- The living area needs to be large enough to achieve a circulation space of 2250mm min diameter after furniture placement, compliant with AS4299.
- The bedroom needs to achieve 1 metre either side of queen size bed and 1550 x 2070mm at the base of bed or similar configuration
- The laundry area requires 1500mm in front of laundry appliances in accordance with AS4299.
- All doors need to achieve 850mm clear opening width from the outset and easily achievable latch side clearances at post adaptation, compliant with AS1428.1:2009.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.9 Silver Livable Unit Provision

The following requirements are to be satisfied in the provision of visitable units

- A total of 20% units are required to satisfy SEPP 65 (including referenced Apartment Design Guide) requirements to incorporate Liveable Housing Guidelines Silver Level Universal design features.
- Note the 15% adaptable units can be counted in the 20% calculation if the apartment also meets the following requirements.

Assessment

20% of units have been provisioned as Livable Units

8.10 Silver Livable Unit Design

The following requirements are to be satisfied in the design of these units

- The entry door into the units are to be detailed to achieve suitable clear width of at least 820mm during detailed design development stage to be compliant with Silver Level rating requirements in accordance with Livable Housing Design Guideline 2015:

- From the unit entry, there needs to be appropriate 1m clearances throughout the unit to allow suitable accessible paths of travel within accordance with Silver Level rating requirements in accordance with Livable Housing Design Guideline 2015.

- All internal doorways into bathroom, bedroom and out to balcony are required to achieve at least 820mm clear open widths in accordance with Silver Level rating requirements in accordance with Livable Housing Design Guideline 2015. This can be achieved during detailed design development.

- The silver levels units require bathrooms that can accommodate the required 900mm wide by 1200mm long clear visitable toilet circulation space in front of the leading edge of the pan compliant with Silver Level rating requirements in accordance with Livable Housing Design Guideline 2015.

- The walls surrounding the shower and toilet pan require sufficient reinforcements for the provision of grab rails in the future when required.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance. Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.11 Sanitary Facilities

The BCA and DDA Premises Standards contain requirements for sanitary facilities suitable for the use of persons with disabilities. These requirements can be summarised as follows:

- For Class 5, 6, 7a, 9b: Provide at least 1 unisex accessible toilet, adjacent to every bank of toilets (where provided) on each storey, compliant with AS1428.1 under BCA/DDA Access Code part F2.4. If more than 1 toilet bank provided on each level, accessible toilet is required at 50% min. of toilet banks at each level.

- For Class 9b: If common-use change facilities provided (ie. both toilets and showers) a separate combined accessible WC/shower adjacent to male and female change rooms is required, compliant with AS1428.1 under BCA/DDA Access Code Part F2.4.

- An even number of left hand (LH) and right hand (RH) transfer WC pans (accessible toilets) is required within the building. Alternating LH/RH layouts on each subsequent level is the most appropriate and inclusive approach.

- Accessible WC requires 2300mm x 1900mm around the pan with the basin to sit outside this area in accordance with AS1428.1.
- An ambulant cubicle is required within every standard toilet bank adjacent to an accessible toilet under DDA Access Code Part F2.4 compliant with AS1428.1:2009.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.12 Common Areas

The BCA and DDA Premises Standards contain requirements for common use areas suitable for the use of persons with disabilities. These requirements can be summarised as follows:

- For class 2 and class 3 buildings, access is required to a unique common use facility such as swimming pool, sauna, common laundry, entertainment rooms.
- For swimming pools, a means of access is required into the pool in accordance with DDA Premises Standards
- Accessibility is required to common use courtyards within buildings
- Mailboxes and garbage rooms within residential buildings require appropriate accessibility.
- Wheelchair access is required to any external and outdoor terrace areas including roof terraces compliant with AS1428.1.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

9. Mitigation measures

The design development shall keep to the assessment parameters as detailed in section 9.

The following issues and measures will form the design at DA stage and be carried through into the design development stage.

- An appropriate quantum of adaptable units (15% of total apartments) has been proposed. The adaptable units will be design in accordance with AS4299.

- The design shows a reduction of adaptable unit car bays in line with the proposed ratio of general car bays and apartments. The reduction of adaptable unit car bays is a reasonable proposition given the immediate proximity of the railway station, and precedence with regards to the reduction of adaptable unit car bays at other Councils as well as Department Planning requirements with residential projects at Barangaroo and Darling Square.

- Condition B8 of the Consent Development Application Consent allows a maximum number of 170 car spaces to be provided within the development for residential accommodation, including residents spaces and residential car share spaces but excluding visitor and service vehicle spaces.
The Central Precinct is afforded 67 car spaces for residents and 2 car share spaces.
As a proportion of the total residential cars permissible, this equates to 40%.
Accordingly, it is warranted that 40% of the adaptable apartments be provided with an accessible car space. Based on current figures, this equates to 9 of the 23 apartments being provided with an adaptable car space.

10. Conclusion

MGAC has assessed the proposed scheme for Waterloo Metro Quarter Development Building 2. The proposed drawings indicate that accessibility requirements, pertaining to external site linkages, building access, common area access and sanitary facilities can be readily achieved. It is advised that MGAC will work with the project team as the scheme progresses to ensure appropriate outcomes are achieved in building design and external domain design.

ARCHITECTURE DRAWING LIST					
	SHEET NUMBER	SHEET NAME	REVISION	REVISION DESCRIPTION	DATE
WMQ-BLD2-HAS-AR-DRG-	DA001	COVER SHEET	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA002	SITE PLAN	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA010	GROUND FLOOR PLAN	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA011	LEVEL 01 PLAN	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA012	LEVEL 02 PLAN	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA013	LEVEL 03 PLAN - AFFORDABLE	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA014	LEVEL 04 PLAN - AFFORDABLE	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA015	LEVEL 05 PLAN - AFFORDABLE	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA016	LEVEL 06 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA017	LEVEL 07 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA018	LEVEL 08 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA019	LEVEL 09 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA020	LEVEL 10 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA021	LEVEL 11 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA022	LEVEL 12 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA023	LEVEL 13 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA024	LEVEL 14 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA025	LEVEL 15 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA026	LEVEL 16 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA027	LEVEL 17 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA028	LEVEL 18 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA029	LEVEL 19 PLAN - LOW BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA030	LEVEL 20 PLAN - MID BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA031	LEVEL 21 PLAN - MID BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA032	LEVEL 22 PLAN - HIGH BTS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA033	LEVEL 23 PLANT ROOM	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA034	LEVEL 23 MEZZANINE PLANT ROOM	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA035	LEVEL 24 ROOF	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA101	AFFORDABLE 1 BED ADAPTABLE APARTMENT	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA102	BTS TYPICAL 2 BED ADAPTABLE APARTMENT	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA103	BTS HIGH 3 BED ADAPTABLE APARTMENT	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA201	SECTION AA	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA202	SECTION BB	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA301	ELEVATION - NORTH	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA302	ELEVATION - SOUTH	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA303	ELEVATION - EAST	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA304	ELEVATION - WEST	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA401	AREA PLANS - GFA	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA402	AREA PLANS - GFA	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA501	CROSS VENTILATION	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA502	SOLAR ACCESS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA503	DAYLIGHT ANALYSIS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA601	SCHEDULE	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA701	SHADOW DIAGRAMS	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA801	MATERIAL BOARD	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA901	PHOTOMONTAGE 01	1	Development Application	29/07/20
WMQ-BLD2-HAS-AR-DRG-	DA902	PHOTOMONTAGE 02	1	Development Application	29/07/20