Sydney Metro City & Southwest:
Waterloo Over Station Development

Accessibility and DDA impact assessment report

Applicable to:	Sydney Metro City & Southwest
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1.0 Introduction

1.1 Purpose of this report

This report accompanies a concept State Significant Development Application (concept SSD Application) submitted to the Department of Planning and Environment (DPE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The concept SSD Application is made under Section 4.22 of the EP&A Act.

This report should be read in conjunction with the Nominated State Significant Precinct (SSP) Study – Waterloo, submitted to the Minister for Planning (the Minister) in July 2018. That study proposes new planning controls to facilitate the development proposed.

Sydney Metro is seeking to secure concept approval for over station development (OSD) above and adjacent to Waterloo Station comprising a podium and three taller buildings which include commercial, residential, and community land uses. The concept SSD Application seeks consent for a building envelope and use for residential, retail, commercial, entertainment, community and recreational purposes, maximum building height, maximum gross floor area (GFA), pedestrian and vehicular access, circulation arrangements and associated car parking and the strategies and design parameters for the future detailed design of development.

Sydney Metro proposes to procure the construction of the OSD as part of an integrated station development package, which would result in the combined delivery of the station, OSD and public domain improvements. The station and its public domain elements form part of a separate planning approval for Critical State Significant Infrastructure (CSSI) approved by DPE on 9 January 2017.

As the development is within a rail corridor, is associated with railway infrastructure and is for “commercial premises or residential accommodation” with a Capital Investment Value of more than $30 million, the project is identified as State Significant Development (SSD) pursuant to Schedule 1, 19(2)(a) of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

This report has been prepared to outline the accessibility considerations and specifically respond to the Secretary’s Environmental Assessment Requirements (SEARs) issued for the concept SSD Application on 29th June 2018 which states that the Environmental Impact Statement (EIS) –must include an Access / DDA Impact Statement.

1.2 Overview of the Sydney Metro in its context

Sydney Metro is Australia's biggest public transport project. A new standalone metro railway system, this 21st century network will deliver 31 metro stations and 66km of new metro rail for Australia's biggest city — revolutionising the way Sydney travels. Services start in the first half of 2019 on Australia's first fully-automated railway.

Sydney Metro was identified in *Sydney's Rail Future*, as an integral component of the *NSW Long Term Transport Master Plan*, a plan to transform and modernise Sydney's rail network so it can grow with the city's population and meet the future needs of customers. In early 2018, *the Future Transport Strategy 2056* was released as an update to *the NSW Long Term Transport Master Plan* and *Sydney's Rail Future*. Sydney Metro City & Southwest is identified as a committed initiative in the *Future Transport Strategy 2056*.

Sydney Metro is comprised of three projects:

Sydney Metro Northwest — formerly the 36km North West Rail Link. This $8.3 billion project is now under construction and will open in the first half of 2019 with a metro train every four minutes in the peak.

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

Sydney Metro West – a new underground railway connecting the Parramatta and Sydney central business districts. This once-in-a-century infrastructure investment will double the rail capacity of the Parramatta to Sydney CBD corridor and will establish future capacity for Sydney's fast growing west. Sydney Metro West will serve five key precincts at Westmead, Parramatta, Sydney Olympic Park, The Bays and the Sydney CBD. The project will also provide an interchange with the T1 Northern Line to allow faster connections for customers from the Central Coast and Sydney's north to Parramatta and the Sydney CBD.

Sydney's new metro, together with signalling and infrastructure upgrades across the existing Sydney suburban rail network, will increase the capacity of train services entering the Sydney CBD – from about 120 an hour currently to up to 200 services beyond 2024. That's an increase of up to 60 per cent capacity across the network to meet demand.

Figure 1: Sydney Metro alignment map

Sydney Metro City & Southwest includes the construction and operation of a new metro rail line from Chatswood, under Sydney Harbour through Sydney's CBD to Sydenham and on to Bankstown through the conversion of the existing line to metro standards.

The project also involves the delivery of seven (7) new metro stations, including at Waterloo. Once completed, Sydney Metro will have the ultimate capacity for a train every two minutes through the CBD in each direction - a level of service never seen before in Sydney.

On 9 January 2017, the Minister approved the Sydney Metro City & Southwest - Chatswood to Sydenham application lodged by TfNSW as a CSSI project (reference SSI 15_7400).

The CSSI Approval includes all physical work required to construct the CSSI, including the demolition of existing buildings and structures on each site. Importantly, the CSSI Approval also includes provision for the construction of below and above ground structures and other components of future OSD (including building infrastructure and space for future lift cores, plant rooms, access, parking and building services, as relevant to each site). The rationale for this delivery approach, as identified within the CSSI application is to enable the OSDs to be more efficiently built and appropriately integrated into the metro station structures.

The EIS for the Chatswood to Sydenham alignment of the City & Southwest project identified that the OSD would be subject to a separate assessment process.

Since the CSSI Approval was issued, Sydney Metro has lodged four modification applications to amend the CSSI Approval as outlined below:

- Modification 1 - Victoria Cross and Artarmon Substation which involves relocation of the Victoria Cross northern services building from 194-196A Miller Street to 50 McLaren Street together with inclusion of a new station entrance at this location referred to as Victoria Cross North. The modification also involves the relocation of the substation at Artarmon from Butchers Lane to 98 – 104 Reserve Road. This modification application was approved on 18 October 2017.
- Modification 2 - Central Walk which involves additional works at Central Railway Station including construction of a new eastern concourse, a new eastern entry, and upgrades to suburban platforms. This modification application was approved on 21 December 2017.
- Modification 3 - Martin Place Station which involves changes to the Sydney Metro Martin Place Station to align with the Unsolicited Proposal by Macquarie Group Limited (Macquarie) for the development of the station precinct. The proposed modification involves a larger reconfigured station layout, provision of a new unpaid concourse link and retention of the existing MLC pedestrian link and works to connect into the Sydney Metro Martin Place Station. It is noted that if the Macquarie proposal does not proceed, the original station design remains approved. This modification application was approved on 22 March 2018.
- Modification 4 - Sydenham Station and Sydney Metro Trains Facility South which incorporated Sydenham Station and precinct works, the Sydney Metro Trains Facility South, works to Sydney Water's Sydenham Pit and Drainage Pumping Station and ancillary infrastructure and track and signalling works into the approved project. This modification application was approved on 13 December 2017.

The CSSI Approval as modified allows for all works to deliver Sydney Metro between Chatswood and Sydenham Stations and also includes upgrade of Sydenham Station.

The remainder of Stage 2 of the City & Southwest alignment (Sydenham to Bankstown) proposes the conversion of the existing heavy rail line from west of Sydenham Station to Bankstown to metro standards. This part of the project, referred to as the Sydenham to Bankstown upgrade, is the subject of a separate CSSI Application (Application No. SSI 17_8256) for which an EIS was exhibited between September and November 2017. A Response to Submissions and Preferred Infrastructure Report was submitted to DPE in June 2018 for further exhibition and assessment. This application is subject to assessment and determination by DPE, taking into consideration a further Response to Submissions Report which was submitted to DPE in September 2018.

1.3 Nominated State Significant Precinct - Waterloo

Following the decision to locate a metro station in Waterloo, the Minister determined that parts of Waterloo are of State planning significance which should be investigated for urban

renewal through the SSP process. SSP study requirements for such investigations were issued by the Minister on 19 May 2017.

Investigation of the Precinct is being undertaken by UrbanGrowth NSW Development Corporation (UrbanGrowth NSW), in partnership with Sydney Metro and the Land and Housing Corporation (LAHC). The outcome of the SSP process will be new planning controls that will enable future development applications for renewal of the Precinct.

The Precinct includes two separate but contiguous and inter-related parts:

- The Waterloo Metro Quarter (the Metro Quarter)
- The Waterloo Estate (the Estate)

A separate SSP Study for the Metro Quarter was lodged in July 2018 in advance of the SSP Study for the Estate to provide a planning framework for the construction of OSD within the Metro Quarter. The staged submission of the Metro Quarter SSP Study also facilitates the proposed development to be delivered concurrently with the metro station, as an integrated station development.

As this concept SSD Application relies upon the planning framework proposed in the Metro Quarter SSP Study, it is anticipated that the SSP Study and the Environmental Impact Statement (EIS) for the SSD Application will be exhibited concurrently.

1.4 Planning relationship between Waterloo Station and the OSD

While Waterloo Station and the OSD will form an integrated station development, the planning pathways defined under the EP&A Act require separate approval for each component of the development. In this regard, the approved station works (CSSI Approval) are subject to the provisions of Part 5.1 of the EP&A Act (now referred to as Division 5.2) and the OSD component is subject to the provisions of Part 4 of the EP&A Act.

For clarity, the approved station works under the CSSI Approval included the construction of below and above ground structures necessary for delivering the station and also enabling construction of the integrated OSD. This includes but is not limited to:

- demolition of existing development
- excavation
- integrated station and OSD structure (including concourse and platforms)
- lobbies
- retail spaces within the station building
- public domain improvements associated with the station
- access arrangements including vertical transport such as escalators and lifts
- space provisioning and service elements necessary to enable the future development of the OSD, such as lift cores, plant rooms, access, parking, retail, utilities connections and building services.

The vertical extent of the approved station works above ground level is defined by the 'transfer level' level (which for Waterloo is defined by approximately RL 33.1 over the northern station box and RL 35.1 over the southern station box), above which would sit the OSD. An example of this delineation is illustrated in **Figure 2**.

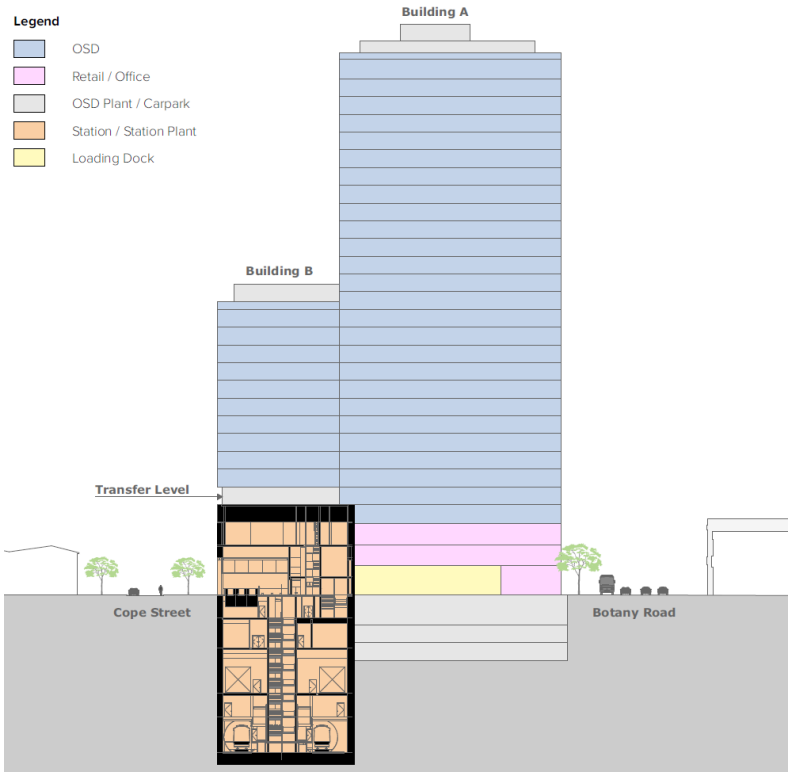

Figure 2: Delineation between the Metro station and OSD

It is noted that the structural and service requirements and space provisioning to support OSD vary from station to station. For example, based on the current level of design, Waterloo Station is not expected to provide for OSD lobbies, end of trip facilities and plant rooms. However, the detailed design may be amended to incorporate these elements as part of the integrated station development.

The CSSI Approval also establishes the general concept for the ground plane of Waterloo Station including access strategies for commuters, pedestrians and workers. In this regard, the main pedestrian access to the station would be via an entry located at the corner of Raglan and Cope Streets. The station design has continued to be developed having regard to its integration with the Metro Quarter OSD, and as a result, a second entrance to the station is to be provided from a proposed public plaza adjacent to Cope Street. Retail uses (approved under the CSSI Approval) would be located on the ground floor of the station development along the Cope Street frontage of the site.

Since the issue of the CSSI Approval, Sydney Metro has undertaken design work to determine the technical requirements for the structural integration of the OSD with the station. This level of design work, together with the planning and design undertaken for the

remainder of the Metro Quarter has informed the concept proposal for the OSD. It is noted that ongoing design development of the works to be delivered under the CSSI Approval would continue with a view to developing an Interchange Access Plan (IAP) and Station Design Precinct Plan (SDPP) for Waterloo Station to satisfy Conditions E92 and E101 of the CSSI Approval. The detailed design for the Metro Quarter would continue to evolve having regard to the IAP and SDPP.

Public domain improvement works immediately adjacent to Waterloo Station would be delivered as part of the CSSI Approval to support pedestrian movements between transport modes (including to new and relocated bus stops, bike parking on Cope Street, and taxi and kiss-and-ride bays on Cope Street), while other public domain works within the Metro Quarter are proposed as part of the OSD. Final details of public domain works for the OSD will be provided with the detailed SSD Application(s) following finalisation of the SDPP and IAP for the CSSI Approval.

1.5 The site

1.5.1 Location

The site is located within the City of Sydney Local Government Area (LGA).

The Metro Quarter comprises land to the west of Cope Street, east of Botany Road, south of Raglan Street and north of Wellington Street. The heritage listed Waterloo Congregational Church located at 103–105 Botany Road is within this block but is not part of the site.

The site has an approximate area of 1.287 hectares (refer to Figure 3).

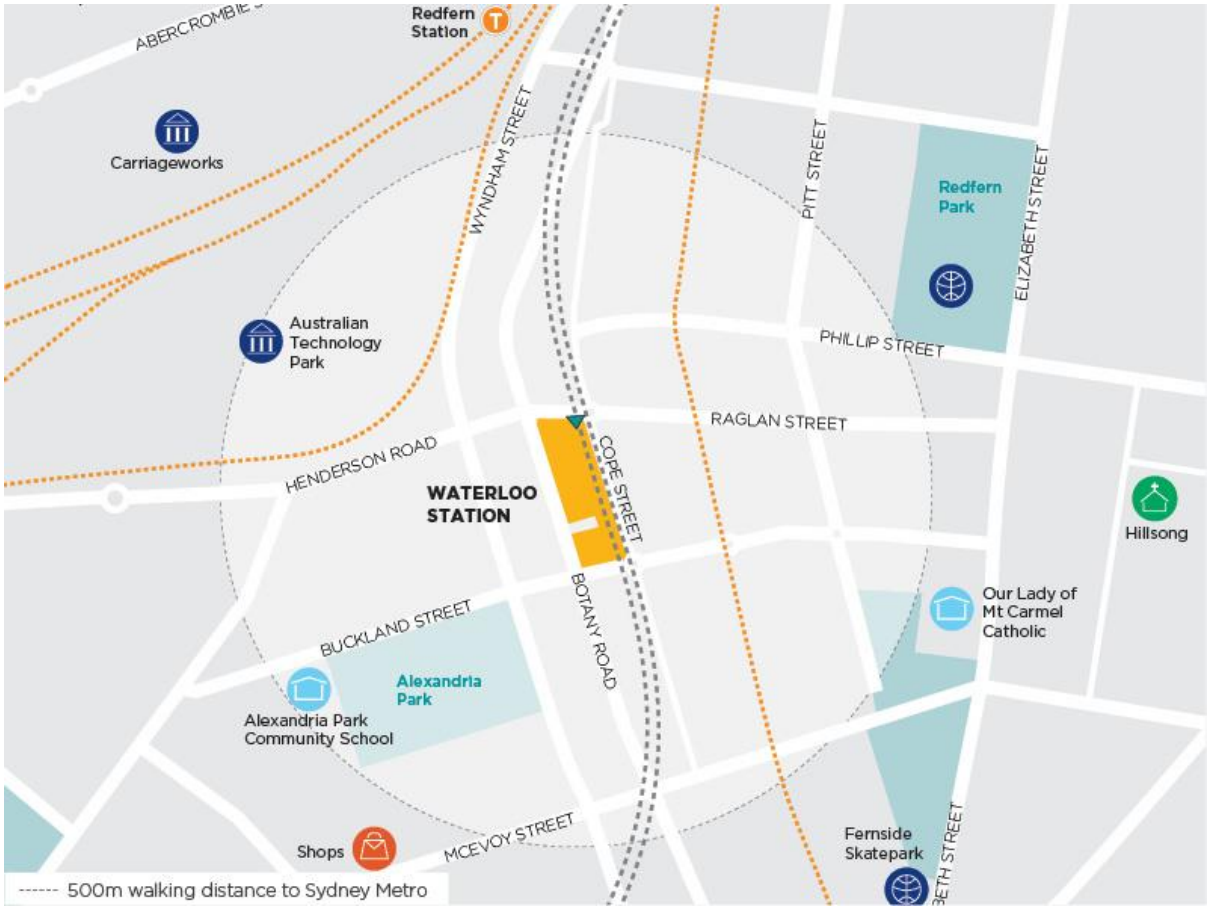

Figure **3:** Waterloo Station location plan

1.5.2 Site context

The Metro Quarter is located in Redfern Street Village (see Figure 4) in the City of Sydney LGA approximately 3.3 kilometres south of Sydney CBD, 1 kilometres north of Green Square and less than 1 kilometres south of Redfern Station.

Directly east is the Waterloo Estate, which is owned by the NSW Government and is under the management of NSW LAHC. The Waterloo Estate comprises 2,012 social housing dwellings and a small number of private dwellings in medium and high density forms, ranging from single storey attached dwellings to apartment buildings of up to thirty storeys.

The Metro Quarter is less than 1 kilometre south-east of the Australian Technology Park (ATP), a technology micro-cluster that currently contains around 3,000 – 3,500 workers with a range of businesses in technology and creative industries; and a start-up/business incubator hub. It is set to grow into a business park that will soon accommodate new premises currently under construction (i.e. Commonwealth Bank Australia (CBA) has committed to two major office towers).

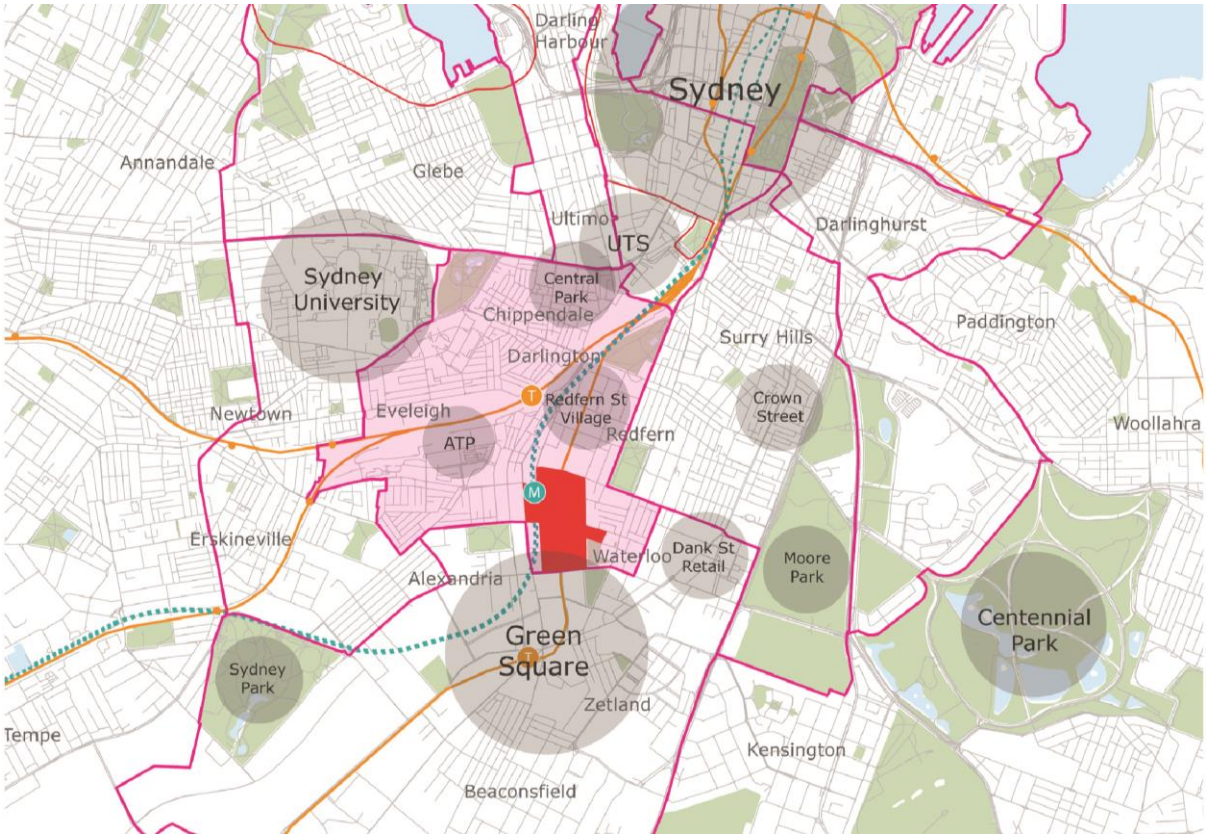

Figure 4 Location and site plan of the Waterloo State Significant Precinct (in red) and Redfern Street Village (in pink)

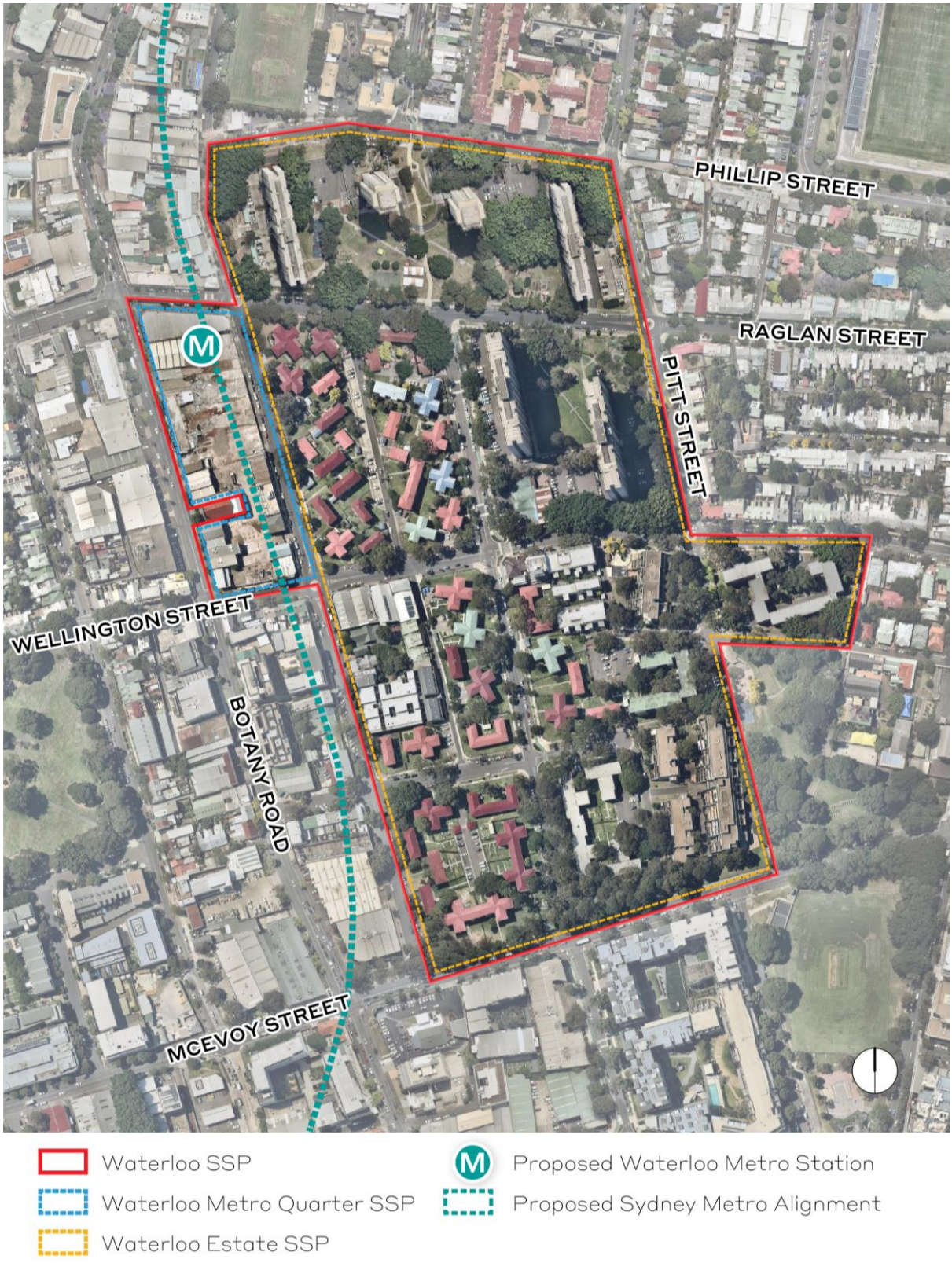

Figure 5 Nominate State Significant Precinct - Waterloo

The site comprises the following properties:

- 136B Raglan Street — Lot 4 DP 215751
- 59 Botany Road — Lot 5 DP 215751
- 65 Botany Road — Lot 1 DP814205
- 67 Botany Road — Lot 1 DP228641
- 124-128 Cope Street — Lot 2 DP228641
- 69-83 Botany Road — SP75492
- 130-134 Cope Street — Lot 12 DP399757
- 136-144 Cope Street — Lots A-E DP108312
- 85 Botany Road — Lot 1 DP27454
- 87 Botany Road — Lot 2 DP27454
- 89-91 Botany Road — Lot 1 DP996765
- 93-101 Botany Road — Lot 1 DP433969 & Lot 1 DP738891
- 156-160 Cope Street — Lot 31 DP805384
- 107-117A Botany Road — Lot 32 DP805384 & Lot A DP408116
- 119-121 Botany Road — Lot 1 DP205942 & Lot 1 DP436831
- 170-174 Cope Street — Lot 2 DP205942

The buildings and structures on the site are now demolished in accordance with the CSSI Approval with the exception of one building which is being used to support construction.

1.6 Overview of the proposed development

This concept SSD Application follows the submission of a SSP Study which supports a proposal to amend existing controls to facilitate the proposed development. The concept SSD Application will in turn comprises the first stage of seeking SSD development consent for the Waterloo OSD project. It will be followed by a future detailed SSD Application(s) for the design and construction of the OSD built form.

This concept SSD Application seeks approval for the planning and development framework and strategies to inform the future detailed design of the OSD. It specifically seeks approval for:

- maximum building envelopes, including maximum building heights, street-wall heights and ground and upper level setbacks
- a maximum gross floor area (GFA) of 68,750 square metres, comprising:
  - Approximately 56,200 square metres GFA of residential accommodation, with potential to deliver approximately 700 dwellings, comprising a mix of housing including 5-10 percent affordable housing and 70 social housing dwellings

  - approximately 3,905 square metres GFA of retail premises and entertainment facilities
  - approximately 8,645 square metres GFA for business and commercial premises and community, health service and recreational facilities (indoor), including at least 2,000 square metres of floor space for community uses

- a three storey podium and a free standing building located within a public plaza, accommodating non-residential land uses
- residential uses above podium level in various building forms including three taller buildings of 23, 25 and 29 storeys Relative Level (RL) 96.9, 104.2 and 116.9 metres AHD respectively)
- use of OSD space provisioning within the footprint of the CSSI Approval
- public domain works, including open spaces, through-site links, footpaths, provision for cycle facilities and enhanced pedestrian crossings and roads
- car parking for up to 427 vehicles
- cycle parking to support residential and non-residential land uses and visitors to the Metro Quarter. Approval is also being sought for space within the future basement for a bike hub which would also support future bike parking for Waterloo Station loading, vehicular and pedestrian access arrangements
- strategies for utilities and services provision
- strategies for managing stormwater and drainage
- a strategy for the achievement of ecologically sustainable development
- a public art strategy
- provision for future signage zones
- a design excellence framework
- the future subdivision of parts of the OSD footprint (if required).

It is noted that the Sydney Metro comprises GFA of approximately 8,415 square metres on the site, approved under CSSI Approval. The total GFA for the integrated station development, including the station GFA is approximately 77,165 square metres, which is equivalent to an FSR of approximately 6:1.

Key parameters of the Concept proposal based on the current level of design development are indicated at Figure 5 and Figure 6.

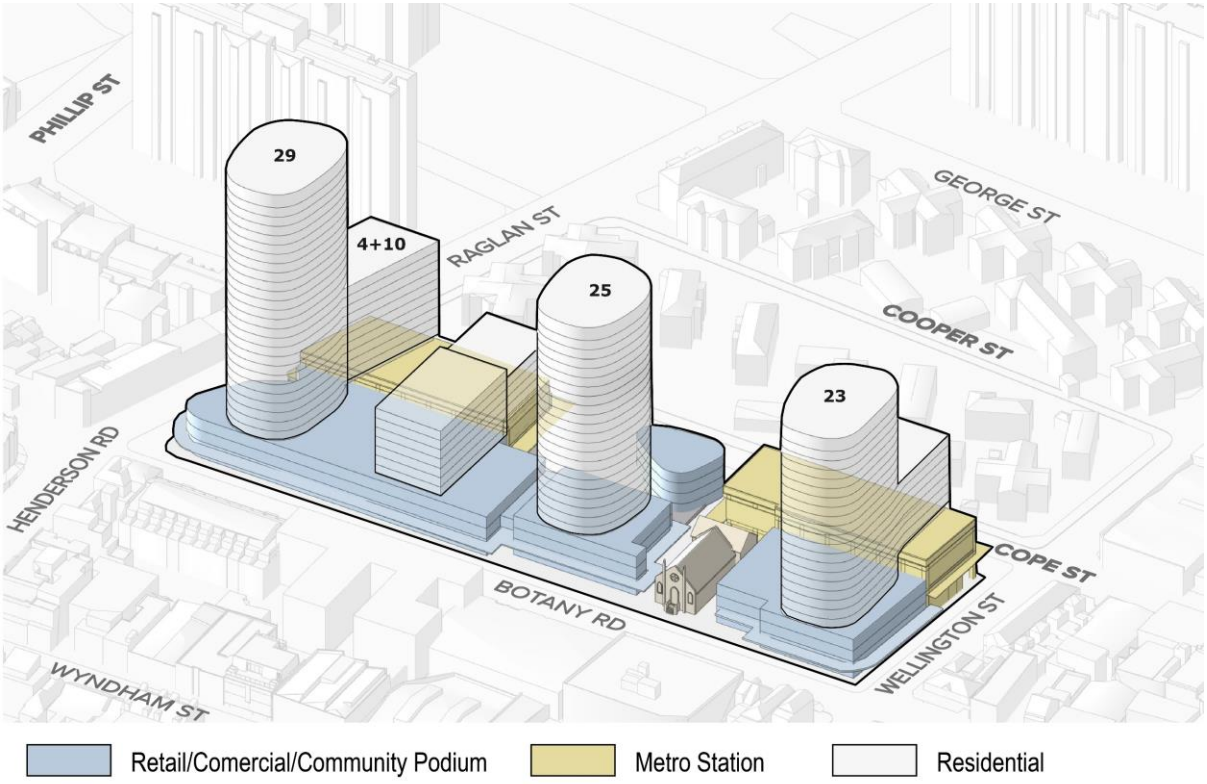

Figure 5 Proposed massing, viewed from the west

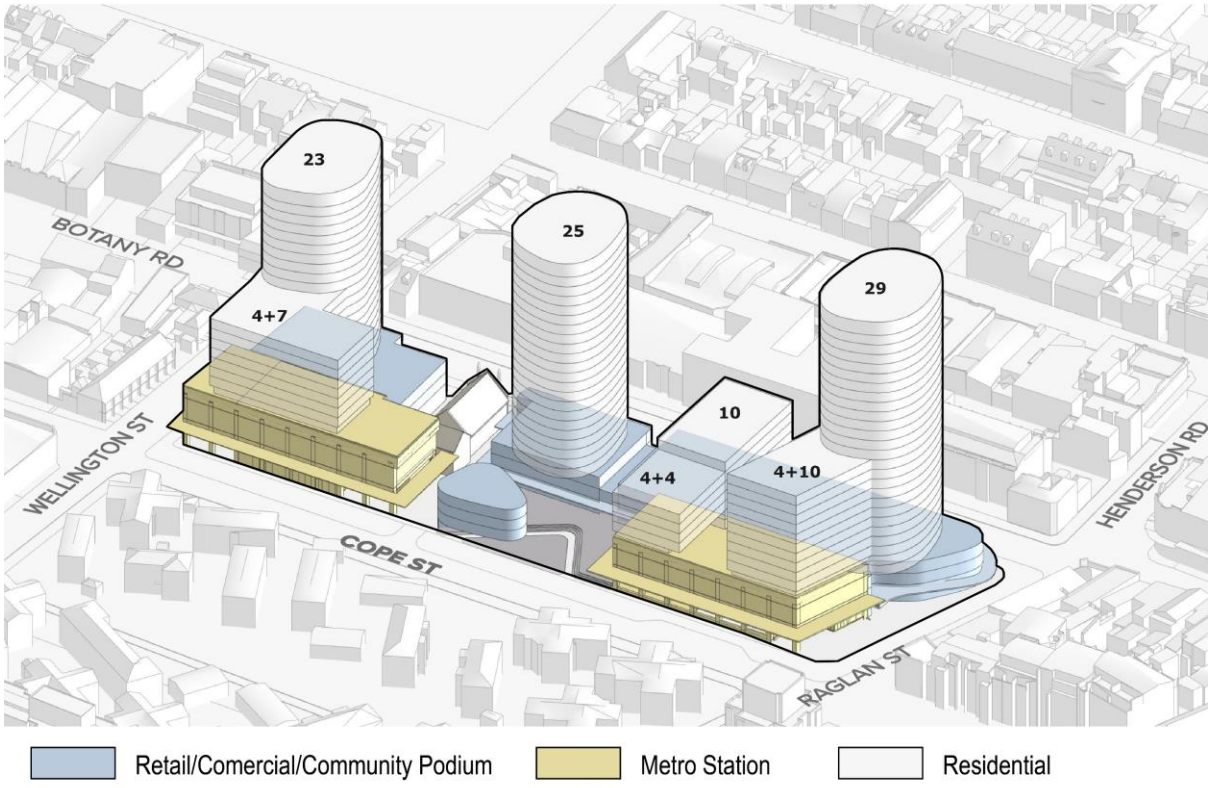

Figure 6 Proposed massing, viewed from the east

The proposal is a significant opportunity to contribute to the urban renewal process for the Waterloo SSP. The objective to deliver the Metro Quarter project as soon as reasonably possible after completion of the metro works (earmarked to open 2024) would ensure buildings within the Metro Quarter are occupied to support maximum patronage of the proposed metro station.

The Metro Quarter would contain a mix of uses including residential, commercial, retail, community facilities and services and cultural opportunities sufficient for daily life to be provided for within the wider neighbourhood and to support the activation of the precinct. This would help make Waterloo one of the most connected and attractive inner-city places to live, work and visit.

1.7 Staging and framework for managing environmental impacts

Sydney Metro proposes to procure the delivery of the Waterloo integrated station development in one single package, which would entail the following works:

- station structure fit-out, including mechanical and electrical
- OSD structure fit-out, including mechanical and electrical.

Separate delivery packages are also proposed by Sydney Metro to deliver the excavation of the station boxes/shafts ahead of the integrated station development delivery package, and linewide systems (e.g. track, power, ventilation) and operational readiness works prior to the Sydney Metro City & Southwest metro system being able to operate.

For the purposes of considering construction related impacts, three possible staging scenarios have been identified for delivery of the integrated station development:

1. Scenario 1 – the station and OSD are constructed concurrently by constructing the transfer slab first and then building in both directions. Both the station and OSD would be completed in 2024.
2. Scenario 2 – the station is constructed first and ready for operation in 2024. OSD construction may still be incomplete or soon ready to commence after station construction is completed. This means that some or all OSD construction is likely to still be underway upon opening of the station in 2024.
3. Scenario 3 – the station is constructed first and ready for operation in 2024. The OSD is built at a later stage, with timing yet to be determined. This creates two distinct construction periods for the station and OSD.

The final staging for the delivery of the OSD would be resolved as part of the detailed SSD Application(s).

For the purposes of providing a high level assessment of the potential environmental impacts associated with construction, the following have been considered:

- Impacts directly associated with the OSD, the subject of this SSD Application
- Cumulative impacts of the construction of the OSD at the same time as the station works (subject of the CSSI Approval).

Given the integration of the delivery of the Sydney Metro City & Southwest metro station with an OSD development, Sydney Metro proposes the framework detailed in **Figure7** to manage the design and environmental impacts, in relation to the Accessibility Assessment Report consistent with the framework adopted for the CSSI Approval.

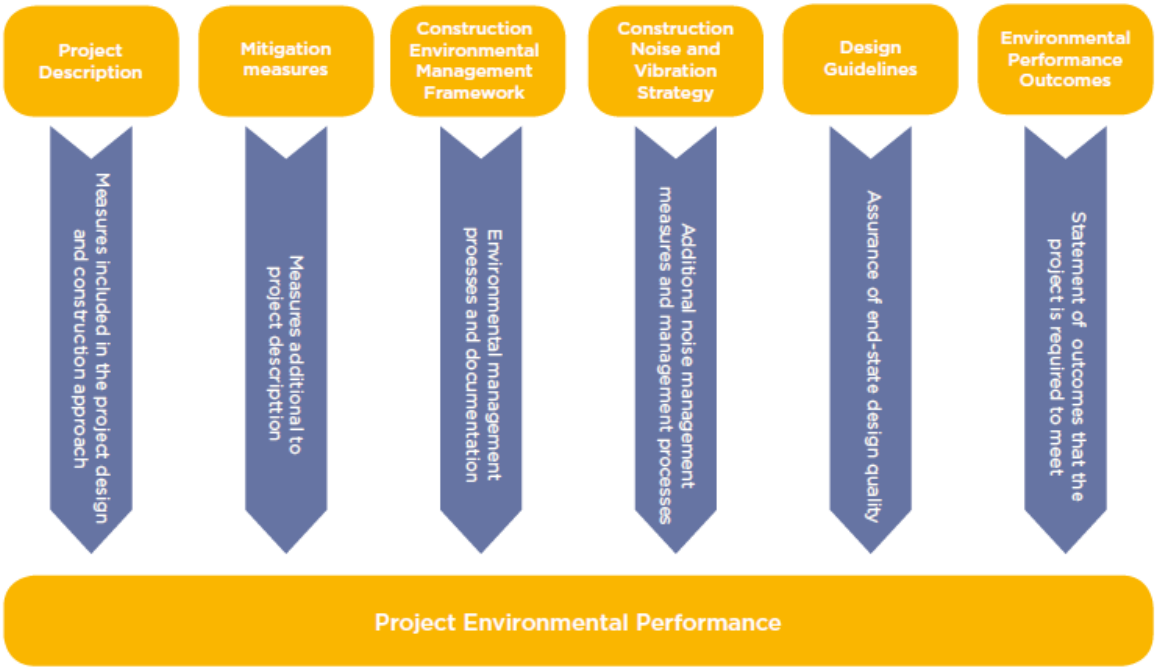

Figure7 Project approach to environmental mitigation and management

This approach would be implemented until such time as completion of the station works (i.e. works under the CSSI Approval) is achieved. Beyond that point, standard construction environmental management practices would be implemented by the OSD developer in accordance with relevant guidelines and any conditions of approval.

2.0 Scope of assessment

This review addresses the access provisions and considerations for the proposed development, Metro Quarter- Urban Design & Public Domain Study. It outlines the requirements for access by people with a disability or who are elderly.

As residents, staff and visitors, and is reviewed for capability to comply with the *Building Code of Australia 2016* (BCA); Australian Standards on Access and Mobility and the *Disability (Access to Premises – Buildings) Standards 2010*.

The purpose of the report is to address the SEARs and to establish the vision, planning and development framework for which the future detailed development application will be assessed.

The key issue in the provision of appropriate access for all persons to the new development is the provision of a continuous accessible path of travel:

- from points of arrival to and linking to the principal building entrance located throughout the allotment;
- from accessible / adaptable resident and visitor parking to the principal building entrances
- continuous accessible paths of travel and circulation spaces for internal paths of travel to unit entries on accessible levels of the development
- to and within adaptable apartments
- Amenity – demonstrate consistency with the requirements of *State Environmental Planning Policy No 65 – Design Quality of Residential Apartment Development* (SEPP 65) and the Apartment Design Guide (ADG)

We have reviewed the concept SSD Application, to assess the potential for compliance with the relevant codes, standards and legislation for accessibility. The preliminary designs have been assessed so that in ongoing design, equitable and dignified access for people with disabilities can be provided. In carrying out an accessibility assessment, the main objective is to ensure access is provided through the provision of accessible facilities and continuous paths of travel to and within all appropriate areas of the development.

The assessment of the design is an assessment of the indicative design only (for example, one design scenario for the site) in order to demonstrate that relevant standards can be met regarding environmental impacts, quality of design, functional and operation requirements for a residential development of the scale anticipated by the concept.

In accordance with the principles of the *Disability Discrimination Act 1992* (DDA) we recommend adopting best practice in the design of the proposed new work.

2.1 Proposed Building Types

The Metro Quarter will contain a mix of uses including residential, commercial retail, community facilities and services and cultural opportunities sufficient for daily life to be provided for within the wider neighborhood and to support the activation of the precinct.

The subject development contains a multitude of buildings with mixed uses, and whilst predominately residential on the upper levels, the ground floor and podium levels will range in use from professional suites, to retail spaces and areas for public assembly. From a BCA classification perspective, we believe the subject development will consist of the following building types –

- Class 2 – Residential apartments
- Class 5 – Professional Suites
- Class 6 – retail spaces
- Class 7a – carpark
- Class 9b – assembly buildings.

With respect to the building classification, other than the Class 2 residential apartments, access will be required to be provided both to and within these building both from the allotment boundaries via the internal linkages.

With respect to the Class 2 buildings, access will be required to and within all common areas and not less than 20 percent of the apartments will need to meet the requirements contained within the *Livable Housing Australia Guidelines* for Silver status. This is to ensure compliance with SEPP 65 requirements and the ADG.

The City of Sydney Development Control Plan (DCP) requirements for adaptable housing may be considered as a guide in the ongoing design.

3.0 Context for Planning & Design

3.1 Legislation & Standards – Overview

The following legislation, standards, guidelines and other documents are of relevance to the concept proposal:

- *Commonwealth Disability Discrimination Act (1992)*
- *Disability (Access to Premises - Buildings) Standards 2010*
- *Australian Human Rights Commission Advisory Notes on Access to Premises 2013*
- *Building Code of Australia (2016)* Parts D3, E3.6 and F2.4.
- Australian Standard *AS1428.1 (2009) Design for access and mobility* Part 1 (including

Amendment No. 1): General requirements for access-New building work

- *AS2890.6 (2009) Car Parking Spaces and Access for People with Disabilities*
- *AS1735.12 (1999) Lifts, escalators and moving walks* Part 12: Facilities for persons with disabilities *AS1428.4 (1992) Design for access and mobility.* Part 4: Tactile ground surface indicators for the orientation of people with vision impairment
- *AS1428.4* (2009) (Incorporating Amendment No 1): Design for access and mobility Part 4.1: Means to assist the orientation of people with vision impairment -tactile ground surface indicators
- *City of Sydney Access DCP (2004)* (Referenced as a Guide only)
- *AS4299 1995 Adaptable Housing*
- *State Environmental Planning Policy No 65—Design Quality of Residential Apartment*
- Development under the *Environmental Planning and Assessment Act 1979;* July 2015
- *Livable Housing Design Guidelines*

3.2 Disability Discrimination Act

The objectives of Section 23 of the DDA focus on the provision of equitable, independent and dignified access to services and facilities for people with mobility, sensory and cognitive disabilities.

The DDA covers existing premises, including heritage buildings, those under construction and future premises. It extends beyond the building itself to include outdoor spaces and within, to address furniture, fittings and practices.

3.3 Disability (Access to Premises – Buildings) Standards

Disability (Access to Premises - Buildings) Standards (Premises Standards) 2010 which commenced on 01 May 2011, has been incorporated into the BCA to ensure that access provisions for people with disabilities more fully meet the intent of the DDA. Meeting the Premises Standards ensures fulfilment of obligations under the Disability Discrimination Act in relation to physical access within the buildings. Schedule 1 of the Premises Standards contains the Access Code for Buildings and is equivalent to the BCA provisions for access.

3.4 Building Code of Australia

The BCA applies to new buildings. In this report the level of accessibility throughout the new development is generally measured against the Deemed–to–Satisfy Provisions of the BCA, in particular Parts D3, E3.6 and F2.4. Compliance with *AS1428.1 Design for Access and Mobility Part 1: General requirements for access – New building work (2009)* is required to satisfy the BCA with respect to physical access provisions to and within buildings.

The BCA includes the following parts relevant to accessibility requirements to meet the deemed to satisfy provisions to satisfy the performance requirements DP1, DP4, DP6, DP8 and DP9:

- Table D3.1 which outlines the Class of building required to be accessible that must comply with *AS1428.1*(2009)
- D3.2 access to buildings which outlines requirements for accessways, doors and entrances
- D3.3 the parts of buildings required to be accessible and meet the requirements of
- *AS1428.1* (2009)
- D3.4 exemptions
- D3.5 accessible car parking requirements
- D3.6 signage requirements for identification of accessible facilities, services and features
- D3.7 hearing augmentation requirements
- D3.8 tactile ground surface indicators
- D3.9 wheelchair spaces in Class 9b Buildings
- D3.11 ramps
- D3.12 glazing on an accessway
- Specification D3.6: Braille and tactile signs
- E3.6: requirements for passenger lifts in accessible buildings.
- F2.4: requirements for unisex accessible sanitary facilities, accessible showers and cubicles for people with ambulant disabilities designed to meet the requirements of
- *AS1428.1* (2009).

3.5 AS1428 – Standards for Access & Mobility

The Australian Standards design for access and mobility are a suite of standards relating to the inclusion of features in the built environment that improve access and mobility for people with a disability.

AS1428.1 (2009) sets out minimum requirements for design of buildings and facilities, while *AS1428.2* includes enhanced and additional requirements that are not covered in *AS1428.1*, such as street furniture and reach ranges.

AS1428.4.1 (2009) Design for access and mobility Part 4.1: Means to assist the orientation of people with vision impairment primarily details the requirements for the application of tactile ground surface indicators (TGSI).

3.6 Adaptable Housing

Adaptable dwellings incorporate design and construction elements that can be readily modified to cater for an occupant with access and mobility restrictions, such as a person with a disability or an older person.

Adaptable housing enables accessibility to be easily accommodated not only for people who use a wheelchair, but for people with reduced mobility as a result of age or temporary illness. Adaptable housing also provides more space for residents to be assisted by carers. *AS4299 Adaptable Housing* provides design requirements for adaptable dwellings.

While not applicable to this SSD, the City of Sydney Access DCP 2004 is referenced here as a guide for consideration in ongoing design. To meet Part 5.3 of the City of Sydney DCP, 15 percent of all dwellings must be designed in accordance with the *Australian Adaptable Housing Standard (AS4299-1995),* to be capable of adaptation for people with a disability or elderly residents.

Where a residential development provides adaptable housing units in accordance with the DCP, one accessible car parking space shall be provided for every adaptable unit. This is in addition to any accessible parking required by Section 4.2.9 of the DCP. In order to reduce car dependency in the Central Sydney CBD, the City of Sydney, in some exceptional circumstances, will grant an exemption for the provision of car parking.

3.7 SEPP 65 & Livable Housing

SEPP 65 - Design Quality of Residential Apartment Development states that: (2) Development consent must not be granted if, in the opinion of the consent authority, the development or modification does not demonstrate that adequate regard has been given to:

- the design quality principles, and
- the objectives specified in the *Apartment Design Guide* for the relevant design criteria.

Objective 4Q-1 of the *Apartment Design Guide* states that: Universal design features are included in apartment design to promote flexible housing for all community members.
Design guidance: Developments achieve a benchmark of 20 percent of the total apartments incorporating the *Livable Housing Guideline's* silver level universal design features for dwelling access, dwelling entrance, internal doors and corridors, toilet, shower and reinforcement of bathroom and toilet walls.

This provision will be required to be addressed in any future detailed SSD Application.

4.0 Design Review

4.1 Documentation

The approved new metro station will deliver high pedestrian flows throughout the site and across the greater precinct. The station boxes and interchange requirements sit under the existing CSSI Approval. Following the key pedestrian ingress and egress patterns along Raglan Street and Cope Street, of critical importance in achieving an integrated design solution for the Metro Quarter is the circulation between the key intermodal connections on the site.

As a gateway to Waterloo and the surrounding neighborhoods of Redfern, Alexandria and Eveleigh, the Metro Quarter is the first stage in delivering a new urban village for Waterloo. The new metro station will deliver high pedestrian flows throughout the site and across the greater precinct. The public domain will establish a new community heart creating a place that is activated, vibrant, pedestrian and cycle focused.

The high pedestrian population, community focus and layered movements throughout the site has driven a pedestrian prioritized approach to the public domain.

This assessment is based on discussion with the design team and review of the following documentation prepared by Turner/ Turf, issued to Design Confidence (access consultants) on the 10 October 2018 via email correspondence:

- Integrated design drawings - Waterloo Mixed use Development (over station development) general arrangement plans MP 000-000 – MP 900-003; Architectural drawing list. It is noted that the plans, schedules and illustrations represent the broad status of the development and indicative design that are to be the basis of the concept SSD application. It is also noted that the schedules reflect the latest building stack and apartment mix for demand estimation, and will require revision for the submission in order to meet Council mix requirements.

4.2 Car Parking & Link to Principal Pedestrian Entrance

Car parking spaces are to be proposed in the development. If adopted as a guide, to meet the City of Sydney Access DCP, accessible car spaces may be required to be allocated to the adaptable units. Accessible parking spaces must include dimensions and a layout to meet the requirements of *AS2890.6 (2009).* This includes overhead clearance from the carpark entrance to the spaces of minimum 2.2 metre and overhead clearance over the accessible car parking spaces of minimum 2.5 metre.

4.3 Vertical Links

Lifts

Passenger lifts with dimensions proposed are to meet the Access to Premises Standards and the BCA part E3.6 and *AS1735.12* are proposed to link all OSD levels of the development. To comply with BCA E3.6 the lifts must include features in accordance with *AS1735.12*.

Emergency Egress

To meet BCA D2.17 fire isolated stairway handrails are required to be continuous and comply with Clause 12 of *AS1428.1* including an offset riser so that the height of the handrail is consistent throughout the stairway and landing; and handrail endings are to be in accordance with *AS1428.1* figure 26(B). Fire isolated stairway handrails are recommended to meet *AS1428.1* clause 11 and are to include handrails on both sides of the stairs.

To meet the intent of the DDA, refuges are recommended to be provided in the stair entry landings of a central fire isolated stairway for a wheelchair user or a person with ambulant mobility equipment and an accompanying person, with a recommended unobstructed space of 1,300mm x 800mm outside of the egress route.

Places of refuge which are fire rated, areas such as the areas adjacent the entry landings of fire stairs or within fire rated residential units where people who are unable to negotiate stairs can wait for assisted evacuation, are considered a possible way of making an appropriate provision for emergency egress for people with disability.

5.0 Conclusion

Having reviewed the listed architectural documentation, at this stage of the planning and design, the access provisions for people with physical and sensory disabilities can comply with the performance requirements of BCA (2016) sections D3, E3.6 and F2.4; AS1428.1, AS1428.4.1, AS2890.6, AS4299, AS1735.12, SEPP 65 Livable Housing Guidelines Silver Level and the City of Sydney Access DCP.

The provision of access for people with a disability in the concept proposal, whether it is of residential or commercial use, can provide continuous accessible paths of travel and the equitable provision of accessible facilities to provide inclusive design to meet the anticipated requirements of staff and visitors.

Consequently, the proposed drawings and ongoing inclusion of the recommendations can meet the objectives of the DDA through its intention to provide non-discriminatory access and the equitable and dignified use of all appropriate areas of the new development.

I certify that I am an appropriately qualified and competent person practicing in the relevant area of work. I have recognized relevant experience in the area of work being reviewed. My company is holding appropriate current insurance policies.

Luke Sheehy | Principal | BCA Consultant

Qualifications: Graduate Diploma of Building Surveying
Diploma of Environmental Health & Building Surveying

Affiliations: Association of Accredited Certifiers