PHILIP CHUN
Building Compliance

APPENDIX P - BUILDING CODE OF AUSTRALIA 2019 REPORT FOR STATE SIGNIFICANT DEVELOPMENT, DEVELOPMENT APPLICATION (SSD DA)

PITT STREET NORTH OVER STATION DEVELOPMENT

Report prepared for:	Pitt Street Developer North Pty Ltd
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Contents

DOCUMENT ACCEPTANCE

	Name	Signed	Date
Verified by	Peter Murphy		19/06/2020

REVISION HISTORY

Revision No.	Prepared by	Description	Date
R01	Peter Murphy	BCA Capability Statement for review and comment	07/02/2020
R02	Peter Murphy	Revised BCA Capability Statement based on updated documentation	06/03/2020
Revision A	Peter Murphy	Updated BCA Capability Statement for submission	01/04/2020
Revision B	Peter Murphy	Issue for Landowner's Consent	11/05/2020
Revision C	Peter Murphy	Issue for DPIE	19/06/2020

1.0 Introduction and Documentation

This report has been prepared to accompany a detailed State Significant Development (SSD) development application (DA) for a commercial mixed-use Over Station Development (OSD) above the new Sydney Metro Pitt Street North Station. The detailed SSD DA is consistent with the Concept Approval (SSD 17_8875) 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 (NSW DPIE) for assessment.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 25 October 2019.

The detailed SSD DA seeks development consent for:

- Construction of new commercial tower of approximately 38 storeys
- The tower includes maximum GFA, excluding floor space approved in the CSSI.
- Integration with the approved CSSI proposal including though not limited to:
  - Structures, mechanical and electronic systems, and services; and
  - Vertical transfers.
- Use of spaces within the CSSI 'metro box' building envelope for the purposes of:
  - Retail tenancies;
  - Commercial lobby and commercial amenities;
  - Car parking spaces within the podium for the purposes of the commercial premises; and
  - Loading and services access.
- Utilities and services provision.
- Stratum subdivision (staged).

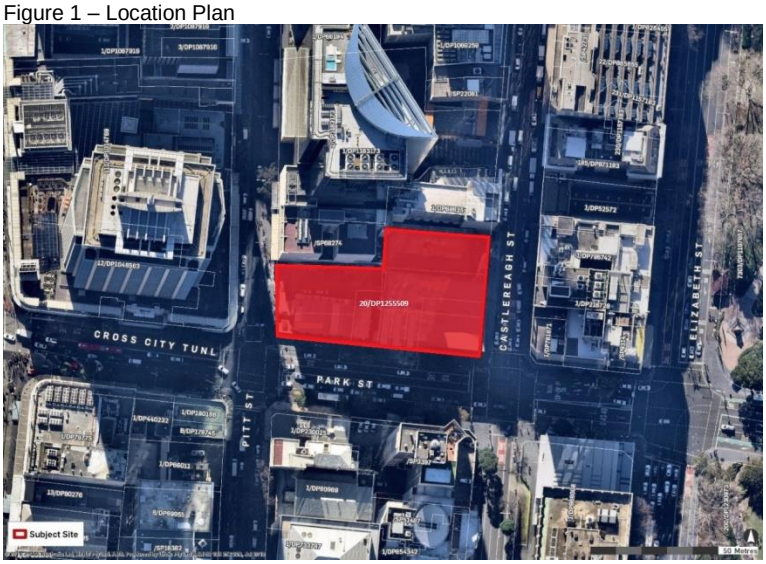
The Site

The site is located within the Sydney CBD. It has three separate street frontages, Pitt Street to the west, Park Street to the south and Castlereagh Street to the east. The area surrounding the site consists of predominantly commercial high-density buildings and some residential buildings, with finer grain and heritage buildings dispersed throughout.

The site has an approximate area of 3,150.1sqm and is legally described as follows:

- 252 Pitt Street (Lot 20 in DP1255509)

Figure 1 – Location Plan



Source: Urbis

Sydney Metro Description

Sydney Metro is Australia's biggest public transport program. A new standalone railway, this 21st century network will revolutionise the way Sydney travels.

There are four core components:

1. **Sydney Metro Northwest (formerly the 36km North West Rail Link)**

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.

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.
In 2024, customers will benefit from a new fully-air conditioned Sydney Metro train every four minutes in the peak in each direction with lifts, level platforms and platform screen doors for safety, accessibility and increased security.

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.

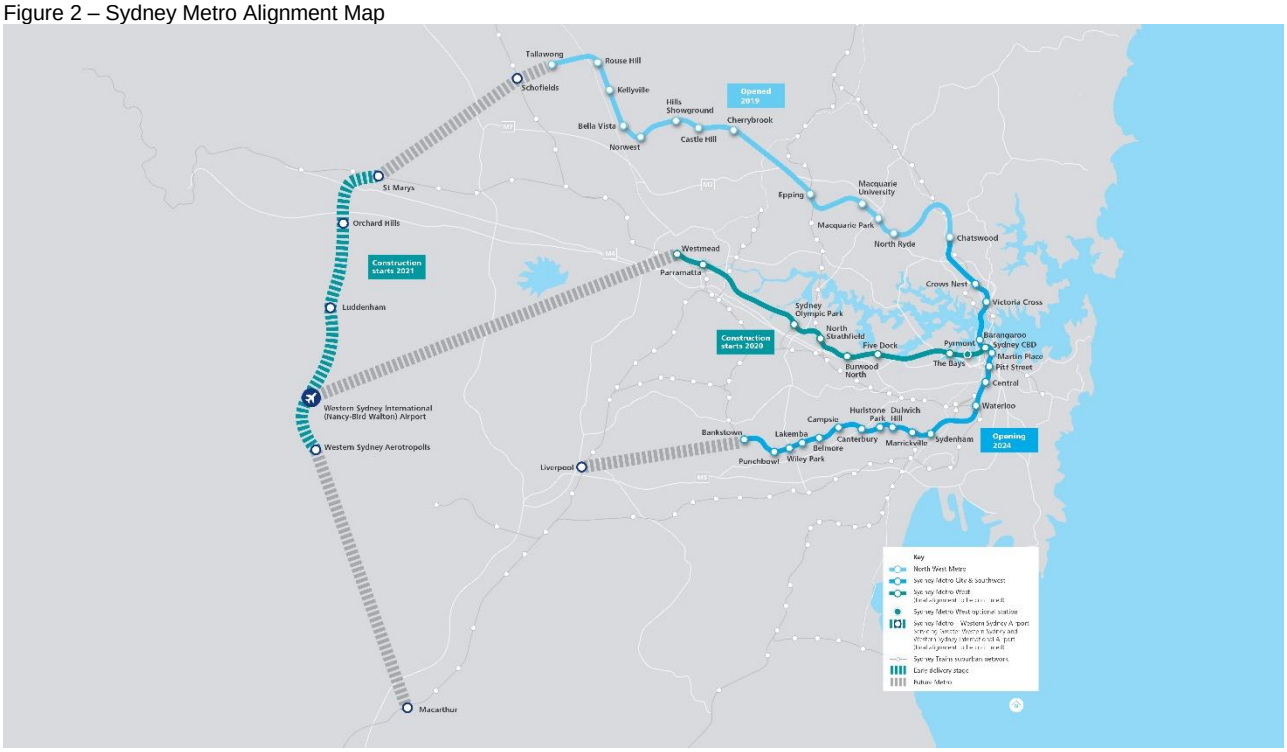
The NSW Government is assessing an optional station at Pyrmont and further planning is underway to determine the location of a new metro station in the Sydney CBD.

4. **Sydney Metro – Western Sydney Airport**

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 in the figure below.

Figure 2 – Sydney Metro Alignment Map

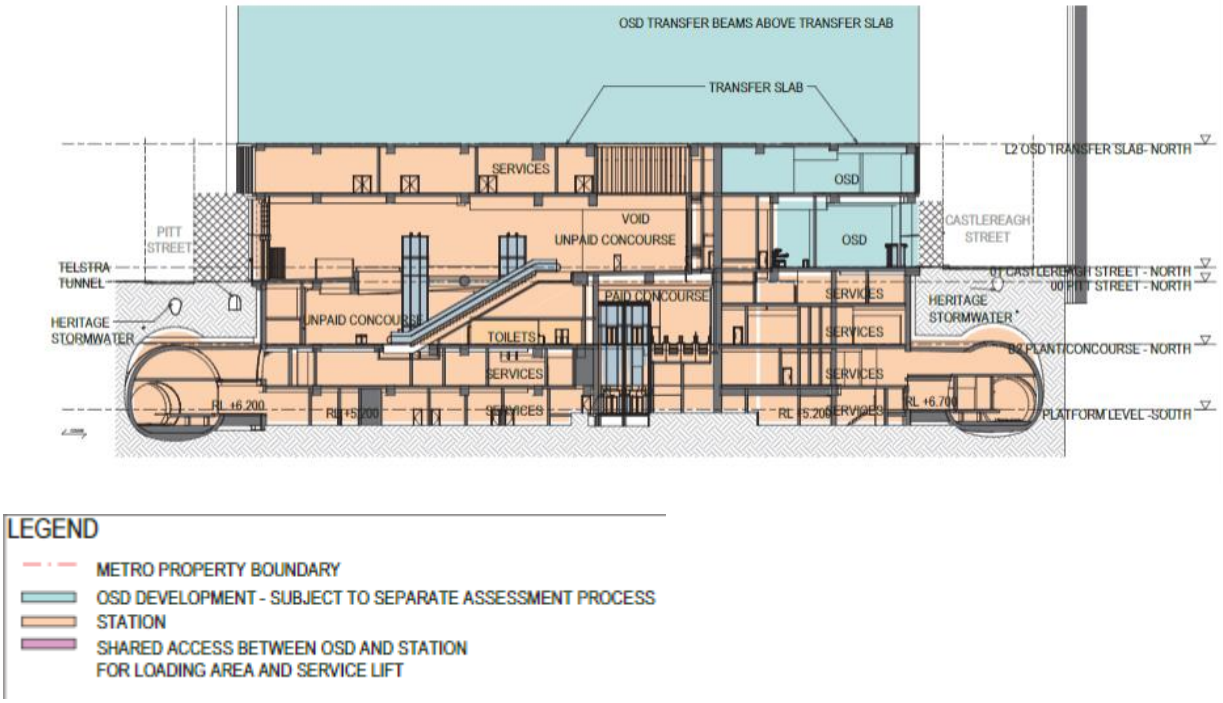


Source: Sydney Metro

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham project as a Critical State Significant Infrastructure project (reference SSI 15_7400) (CSSI Approval). The terms of the CSSI Approval includes all works required to construct the Sydney Metro Pitt Street Station, including the demolition of existing buildings and structures on both sites (north and south). The CSSI Approval also includes construction of below and above ground works within the metro station structure for appropriate integration with over station developments.

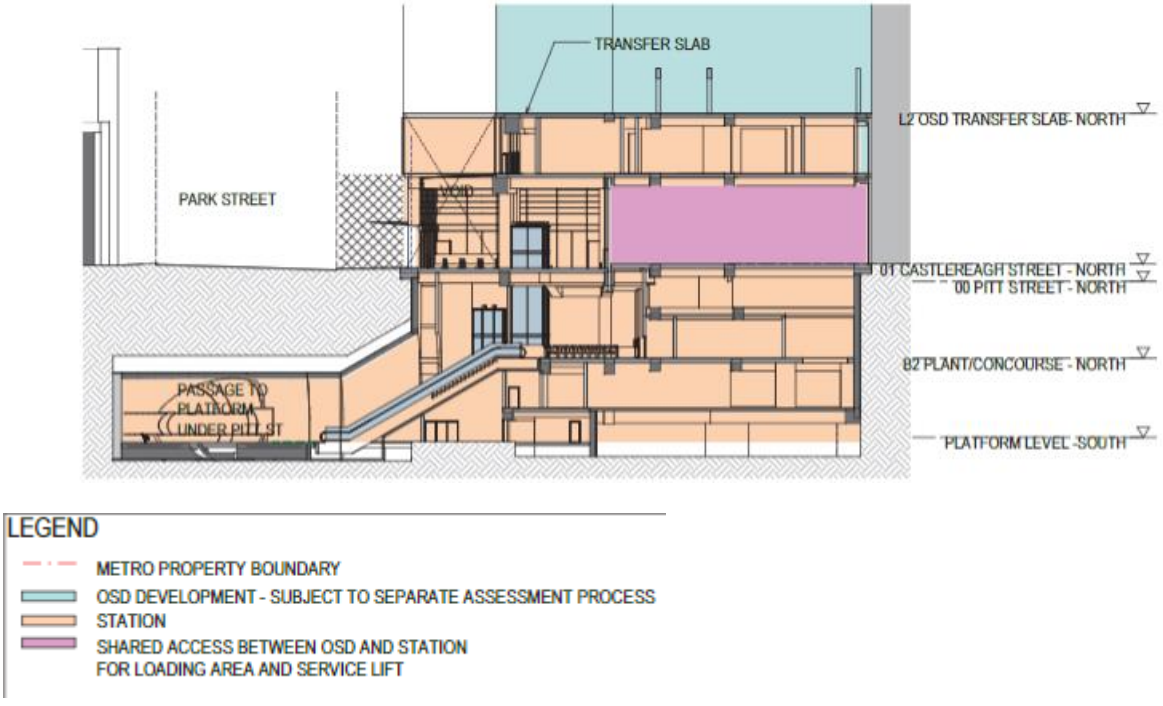
The CSSI Approval included Indicative Interface Drawings for the below and above ground works at Pitt Street North Metro Station site. The delineation between the approved Sydney Metro works, generally described as within the “metro box”, and the Over Station Development (OSD) elements are illustrated below. The delineation line between the CSSI Approved works and the OSD envelope is generally described below or above the transfer slab level respectively.

Figure 3 – Pitt Street Station – North (East-West Section)



Source: CSSI Preferred Infrastructure Report (TfNSW)

Figure 4 – Pitt Street Station – North (North-South Section)



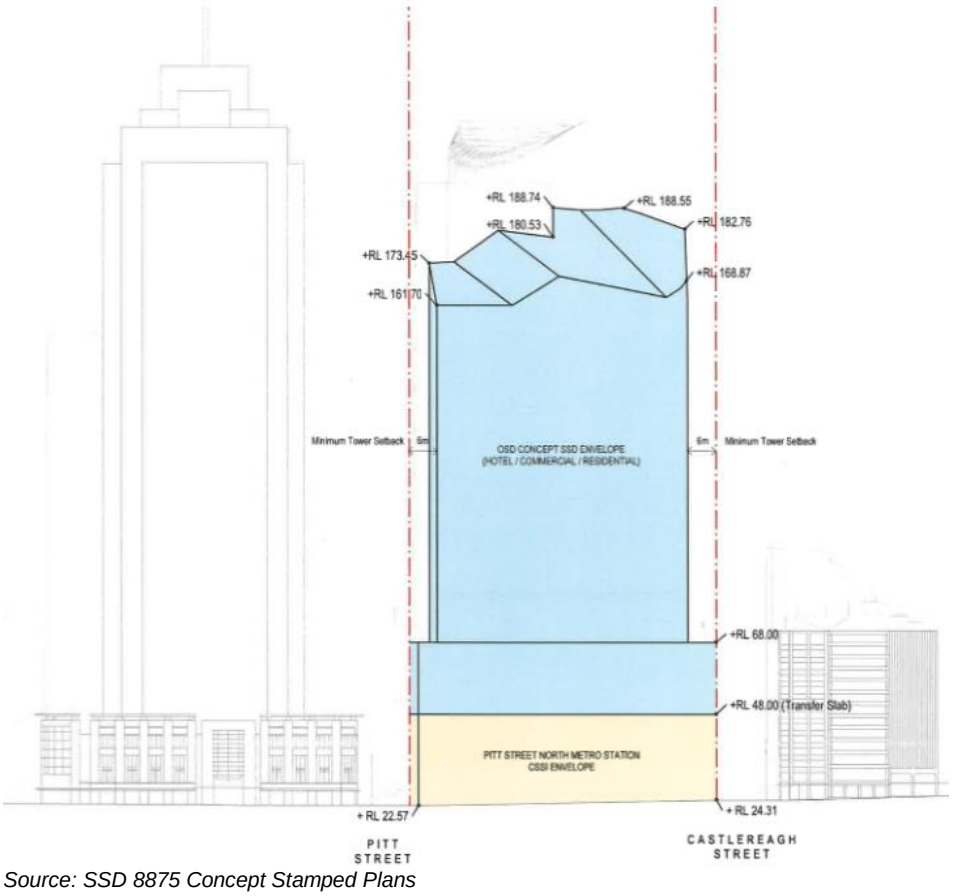
Source: CSSI Preferred Infrastructure Report (TfNSW)

The Preferred Infrastructure Report (PIR) noted that the integration of the OSD elements and the metro station elements would be subject to the design resolution process, noting that the detailed design of the "metro box" may vary from the concept design assessed within the planning approval.
As such in summary:

- The CSSI Approval provides consent for the construction of all structures within the approved "metro box" envelope for Pitt Street North.
- The CSSI Approval provides consent for the fit out and use of all areas within the approved "metro box" envelope that relate to the ongoing use and operation of the Sydney Metro.
- The CSSI Approval provides consent for the embellishment of the public domain, and the architectural design of the "metro box" envelope as it relates to the approved Sydney Metro and the approved Pitt Street North Station Design & Precinct Plan.
- Separate development consent however is required to be issued by the NSW DPIE for the use and fit-out of space within the "metro box" envelope for areas related to the OSD, and notably the construction and use of the OSD itself.

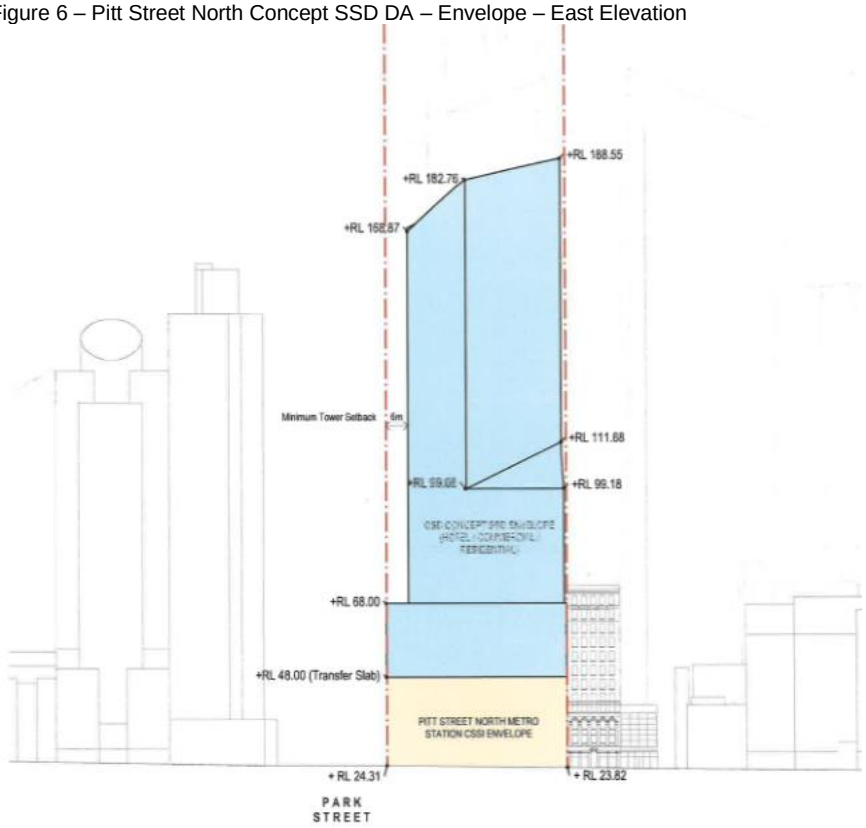
As per the requirements of clause 7.20 of the *Sydney Local Environmental Plan 2012*, as the OSD exceeds a height of 55 metres above ground level (among other triggers), development consent is first required to be issued in a Concept (formerly known as Stage 1) DA. This is described below.

Figure 5 – Pitt Street North Concept SSD DA – Envelope – South Elevation



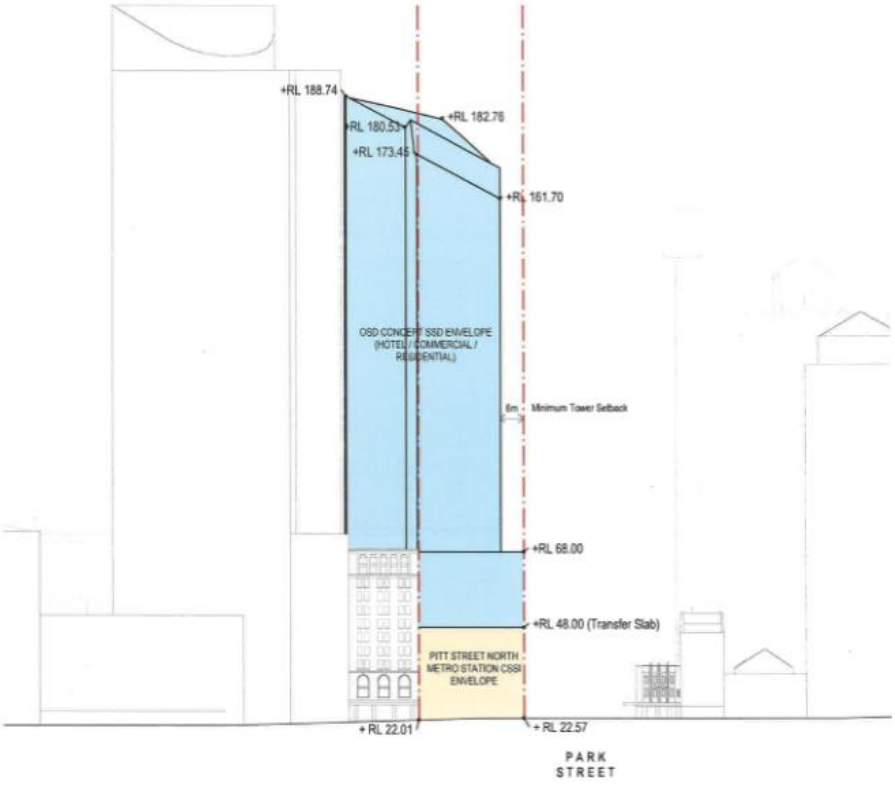
Source: SSD 8875 Concept Stamped Plans

Figure 6 – Pitt Street North Concept SSD DA – Envelope – East Elevation



Source: SSD 8875 Concept Stamped Plans

Figure 7 – Pitt Street North Concept SSD DA – Envelope – West Elevation



Source: SSD 8875 Concept Stamped Plans

We have made every attempt to cover the main issues under Parts B, C, D, E, F, G, H and J of the Building Code of Australia. Any reference to BCA throughout this report infers BCA 2019.

This report does not assess the impact of the Disability Discrimination Act (DDA) which is outside the scope of the BCA nor does it include compliance with Part D3 of the BCA. Refer to Philip Chun Access Consulting report numbered SMCSWSPS-PCH-OSN-PL-REP-000002 to address Part D3, DDA and any relevant conditions as they relate to accessibility.

This report is for the exclusive use of the client and cannot be used for any other purpose without prior permission from Philip Chun & Associates Pty Ltd. The report is valid only in its entire form. "Philip Chun and Associates accepts no responsibility for any loss suffered as a result of any reliance upon such assessment or report other than as being accurate at the date the documentation was reviewed for the purposes of the assessment or report."

Documentation available:
The preliminary SSDA drawings are those issued by Foster + Partners:

Drawing No. (Revision)	Titled	Dated
SMCSWSPS-FOS-OSN-AT-DWG-900000 03	COVER SHEET	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-910013 03	SITE ROOF PLAN	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-910014 03	GENERAL ARRANGEMENT PLAN - PUBLIC DOMAIN	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930013 03	GENERAL ARRANGEMENT PLAN - GROUND LEVEL	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930014 03	GENERAL ARRANGEMENT PLAN - GROUND FLOOR MEZZANINE LEVEL	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930113 03	GENERAL ARRANGEMENT PLAN - LEVEL 01	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930213 03	GENERAL ARRANGEMENT PLAN - LEVEL 02	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930313 03	GENERAL ARRANGEMENT PLAN - LEVEL 03	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930413 03	GENERAL ARRANGEMENT PLAN - LEVEL 04	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930513 03	GENERAL ARRANGEMENT PLAN - LEVEL 05	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930613 02	GENERAL ARRANGEMENT PLAN - LEVEL 06	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930713 02	GENERAL ARRANGEMENT PLAN - LEVEL 07-08	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-930913 03	GENERAL ARRANGEMENT PLAN - LEVEL 09	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-931013 03	GENERAL ARRANGEMENT PLAN - LEVEL 10	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-931113 03	GENERAL ARRANGEMENT PLAN - LEVEL 11	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-931213 03	GENERAL ARRANGEMENT PLAN - LEVEL 12	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-931313 03	GENERAL ARRANGEMENT PLAN - LEVEL 13 - 20	20/03/2020
SMCSWSPS-FOS-OSN-AT-	GENERAL ARRANGEMENT PLAN - LEVEL 21	20/03/2020

Drawing No. (Revision)	Titled	Dated
DWG-932113 03		
SMCSWSPS-FOS-OSN-AT-DWG-932213 03	GENERAL ARRANGEMENT PLAN - LEVEL 22	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-932313 03	GENERAL ARRANGEMENT PLAN - LEVEL 23 - 33	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-933413 03	GENERAL ARRANGEMENT PLAN - LEVEL 34	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-933513 03	GENERAL ARRANGEMENT PLAN - LEVEL 35	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-933613 03	GENERAL ARRANGEMENT PLAN - LEVEL 36	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-933713 03	GENERAL ARRANGEMENT PLAN - LEVEL 37	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-933813 03	GENERAL ARRANGEMENT PLAN - LEVEL 38	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-934013 03	GENERAL ARRANGEMENT PLAN - ROOF LEVEL	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-939513 03	GENERAL ARRANGEMENT PLAN - BASEMENT 01 LEVEL	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-950001 03	GENERAL ARRANGEMENT SECTION - SECTION A-A	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-950010 03	GENERAL ARRANGEMENT SECTION - SECTION B-B	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-960001 03	GENERAL ARRANGEMENT ELEVATION - WEST ELEVATION - PITT STREET	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-960002 03	GENERAL ARRANGEMENT ELEVATION - SOUTH ELEVATION - PARK STREET	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-960003 03	GENERAL ARRANGEMENT ELEVATION - EAST ELEVATION - CASTLEREAGH STREET	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-960004 03	GENERAL ARRANGEMENT ELEVATION - NORTH ELEVATION	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-970001 03	GFA AND LAND USE PLANS - PODIUM 01	20/03/2020
SMCSWSPS-FOS-OSN-AT-DWG-970010 03	GFA AND LAND USE PLANS - TOWER 01	20/03/2020

2.0 Building Code of Australia 2019 Comments

Building Assessment / overview

Building Classification(s)	Basement 01 level	Substation – Class 8 OSD Plant – Class 5 Ancillary
	Ground level	Loading dock – Class 7b Retail Tenancies – Class 6 Entry lobby – Class 6 ancillary
	Ground Floor Mezzanine level	Fire pump room and plant – Class 5 Ancillary
	Level 1	End of Trip Facilities – Class 5 Ancillary OSD Plant – Class 5 Ancillary
	Level 2	Retail – Class 6 Car Stacker – Class 7a
	Level 3	Commercial lobby – Class 5 Car Stacker – Class 7a
	Level 4	Station plant – Class 9b Ancillary
	Level 5 - 8	Commercial Office – Class 5
	Level 9	OSD Plant – Class 5 Ancillary
	Level 10 - 34	Commercial Office – Class 5
	Level 35	Commercial Office – Class 5 OSD Plant – Class 5 Ancillary
	Level 36 - 37	OSD Plant – Class 5
Overall Levels Contained	40 – Level B1 to L37 Plant	
Rise in Storeys	38 – As calculated in accordance with C1.2 of the BCA	
Type of Construction	Type A Construction	
Effective Height (m)	141.8m	

2.1 Section B – Structure

1. **Structural Provisions** – The building will have a rise in storey of 38 and is therefore required to be of not less than Type A construction. The building needs to comply with the requirements BCA B1.2 & Specification B1.2.

   Structural engineer to design the building to withstand individual actions in accordance with the following Standards; AS1170.1, AS1170.2 and AS1170.4.

   The structural engineer will need to ensure the structural requirements of BCA clause B1.1, B1.2 B1.4 is considered in the design stage. The importance level of the building is to be determined in accordance with Table B1.2a of the BCA.

2.2 Section C – Fire Resistance / Compartmentation / Separation

1. **Type of Construction** – The building will have a rise in storey of 38 and is therefore required to be of not less than Type A construction. The building needs to comply with BCA Table 3 for Type A Construction (See appendix A). Structural engineer will need to confirm at CC stage the FRL's of the columns slabs and load bearing walls in accordance with Table 3 of Spec C1.1 i.e. -

   Class 5 / 7a – 120 mins
   Class 6 – 180 mins
   Class 7b / 8 – 240 mins
   Compliance readily achievable.

2. **Fire Compartmentation** – The fire compartmentation of the Class 6, 7 and 8 building components are required to meet C2.2 of the BCA which requires a maximum floor area of 5000m² and 30,000m³. The Class 5 building components are required to have maximum fire compartments of 8000m² and 48,000m³
   Compliance readily achievable.

3. **Lightweight construction** (C1.8) –
   (a) Lightweight construction must comply with Specification C1.8 if it is used in a wall system—
      (i) that is required to have an FRL; or
      (ii) for a lift shaft, stair shaft or service shaft or an external wall bounding a public corridor including a non fire-isolated passageway or non fire-isolated ramp, in a spectator stand, sports stadium, cinema or theatre, railway station, bus station or airport terminal.
   (b) If lightweight construction is used for the fire-resisting covering of a steel column or the like, and if—
      (i) the covering is not in continuous contact with the column, then the void must be filled solid, to a height of not less than 1.2 m above the floor to prevent indenting; and
      (ii) the column is liable to be damaged from the movement of vehicles, materials or equipment, then the covering must be protected by steel or other suitable material.
   Compliance readily achievable.

4. **Non-Combustible materials** (C1.9) –
   (a) In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible:
      (i) **External walls** and **common walls**, including all components incorporated in them including the facade covering, framing and insulation.
      (ii) The flooring and floor framing of lift pits.
      (iii) Non-loadbearing internal walls where they are required to be fire-resisting.
   (b) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction in—
      (i) a building required to be of Type A construction; and
      (ii) a building required to be of Type B construction, subject to C2.10, in—
         (A) a Class 2, 3 or 9 building; and
         (B) a Class 5, 6, 7 or 8 building if the shaft connects more than 2 storeys.
   (c) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1.
   (d) The requirements of (a) and (b) do not apply to the following:
      (i) Gaskets.
      (ii) Caulking.
      (iii) Sealants.
      (iv) Termite management systems.
      (v) Glass, including laminated glass.
      (vi) Thermal breaks associated with glazing systems.
      (vii) Damp-proof courses.
   (e) The following materials may be used wherever a non-combustible material is required:
      (i) Plasterboard.

(ii) Perforated gypsum lath with a normal paper finish.
(iii) Fibrous-plaster sheet.
(iv) Fibre-reinforced cement sheeting.
(v) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0.
(vi) Sarking-type materials that do not exceed 1 mm in thickness and have a Flammability Index not greater than 5.
(vii) Bonded laminated materials where—
(A) each lamina, including any core, is non-combustible; and
(B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
(C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

Compliance readily achievable.

5. **Fire Hazard Properties** (C1.10) – All new surface finishes, assemblies and linings are to comply with BCA Clause C1.10 (Specification C1.10) with regard to Fire Hazard Properties.
Compliance readily achievable.

6. **Ancillary Elements** (C1.14) **–** An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following;
   - An ancillary element that is non-combustible.
   - A gutter, downpipe or other plumbing fixture or fitting.
   - A flashing.
   - A grate or grille not more than 2m² in area associated with building service.
   - An electrical switch, socket-outlet, cover plate or the like.
   - A light fitting.
   - A required sign etc.

   Compliance readily achievable.

7. **Spandrels** (C2.6) – not applicable to a sprinkler protected building.

8. **Separation of classifications in the same storey** (C2.8) – If a building has parts of different classifications located alongside one another in the same storey—
   (a) each building element in that storey must have the higher FRL prescribed in Specification C1.1 for that element for the classifications concerned; or
   (b) the parts must be separated in that storey by a fire wall having—
   (i) the higher FRL prescribed in Table 3 of Spec C1.1.
   Compliance readily achievable.

9. **Separation of classifications in different storeys** (C2.9) **–** The floor between the adjoining parts must have an FRL of not less than that prescribed in Specification C1.1 Table 3 Type A Construction for the classification of the lower storey.
Compliance readily achievable.

10. **Separation of lift shafts –** (C2.10) Any lift connecting more than 2 storeys, or more than 3 storeys if the building is sprinklered must be separated from the remainder of the building by enclosure in a shaft which, in a building required to be of Type A construction is to be separated from the rest of the building as per Table 3 of Spec C1.1.
Compliance readily achievable.

11. **Separation of equipment** (C2.12) **–** Essential / emergency equipment including lift motor rooms, switch rooms, emergency generators, central smoke control plant, boilers or batteries are to be separated by fire rated construction with a fire resistance level as required by Specification C1.1 but not less than 120/120/120.
    Compliance readily achievable.

12. **Electricity supply system** (C2.13) **–** Where emergency equipment is required in a building, all switchboards in the electrical distribution system, which sustain the electricity supply to the emergency equipment, must provide full segregation by way of enclosed metal partitions designed to prevent the spread of any fault from non-emergency equipment switchgear to the emergency equipment switchgear.
    Compliance readily achievable.

13. **Protection of openings in external walls** (C3.2) – Any openings in an external wall required to have an FRL must be protected in accordance with BCA C3.4 and if used, wall-wetting sprinklers are to be externally fitted.
    Compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

14. **Doorways in fire walls** (C3.5) – to be fire rated with an FRL of not less than that required by Specification C1.1 for the fire wall except that each door must have an insulation level of at least 30mins.
    Compliance readily achievable.

15. **Openings in fire isolated exits** (C3.8) **–** Any doors opening into a fire isolated passageway, stair or ramp must be a fire door with an FRL of not less than -/60/30 that are self closing **or** an automatic closing door activated by smoke detector or other detector suitable in accordance with AS 1670 or any other required suitable fire alarm system, including a sprinkler system complying with Spec E1.5.
    Compliance readily achievable.

16. **Service penetrations in fire isolated exits** (C3.9) **–** All fire isolated exits must not be penetrated by any services other than – electrical wiring permitted by Clause D2.7 of the BCA, water pipes for fire services or ducting associated with a stair pressurization system.
    Compliance readily achievable.

17. **Openings in fire isolated lift shafts** (C3.10) **–** Entrance doorways in lift shafts required to be fire isolated must be constructed with an FRL of not less than -/60/- and must comply with AS1735.11, and to remain close when not in use.
    Compliance readily achievable.

18. **Openings in floors and ceilings for services** (C3.12) –
    (a) Where a service passes through—
        (i) a floor that is required to have an FRL with respect to integrity and insulation; or
        (ii) a ceiling required to have a resistance to the incipient spread of fire, the service must be installed in accordance with (b)
    (b) A service must be protected—
        (i) in a building of Type A construction, by a shaft complying with Specification C1.1; or
        (ii) in a building of Type B or C construction, by a shaft that will not reduce the fire performance of the building elements it penetrates; or
        (iii) in accordance with C3.15.
    (c) Where a service passes through a floor which is required to be protected by a fire-protective covering, the penetration must not reduce the fire performance of the covering.
    Compliance readily achievable.

19. **Openings in shafts** (C3.13) **–** In a building required to be of Type A construction, any opening in a wall providing access to ventilating, pipe, garbage or other services shafts must be protected by - an access panel having an FRL of not less than –/60/30 **or** a self-closing –/60/30 fire door or hopper. - ***Compliance readily achievable.***

20. **Openings for service installations** (C3.15) - Electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrations that are required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, must be fire sealed, fire rated or otherwise comply with listed standards.
Compliance readily achievable.

2.3 Section D – Access and Egress

1. **Access and Egress – Retail, Plant and Communal Areas (Class 5, Class 6 and Class 7a)**

- Not less than 2 exits must be provided to any below ground levels as well as any storey where a building has an effective height greater than 25m (D1.2)
  Compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

- The maximum distance of travel to an exit is 40m where two exits are available with a point of choice at 20m from the point of origin (D1.4)
  Compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

- The distance between alternative exits is not to exceed 60m (D1.5)
  Compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

- Paths of travel must not converge closer than 6m (D1.5)
  Compliance readily achievable.

- A doorway must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from a public corridor, public lobby or the like, a soul occupancy unit occupying the entire storey or a sanitary compartment or air lock (D1.7).
  Compliance readily achievable.

  Each fire-isolated stair must provide independent egress from each storey served and discharge directly by way of its own fire isolated passageway to a road or open space **OR** to a point in a storey or space within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/3 of its perimeter **OR** into a covered area that adjoins a road or open space, is open for at least 1/3 of its perimeter and has an unobstructed clear height throughout including the perimeter openings of not less that 3m and provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6m (D1.7).
  The current design details indicate compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

- Widths of exits and corridors must be sufficient to provide safe passage for occupant egress (D1.6)
  The current design details indicate compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

- An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it (D1.10).
  This is to be considered for the egress path through the loading dock area to prevent the exits from being blocked by vehicles. Compliance readily achievable

- Doors to swing in the direction of egress.
  The current design details indicate compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

- The construction and discharge of stairs, landings, thresholds, balustrades and handrails must meet the requirements of the BCA.
  Compliance readily achievable.

- A swinging door in a required exit or forming part of a required exit must not encroach (D2.20) – ***Compliance readily achievable.***

- All doors need to be provided with a free lever latch located at 900-1100mm high or be fitted with fail-safe device which automatically unlocks the door upon fire trip (D2.21).
  Compliance readily achievable.

- Signage should be provided to the fire doors leading to the fire-isolated exits. The signage should be in accordance with Clause D2.23 & D3.6 of the BCA and Clause 183 of the Environmental Planning and Assessment Act 2000.
  Compliance readily achievable.

2. **Access for people with disabilities** – Compliance with part D3 of the BCA including AS1428.1 is required for the development. It is expected that the development will comply with all relevant requirements through meeting either the Deemed to Satisfy provisions of the BCA and the relevant performance requirements through development of performance solutions if required. Refer to separate Philip Chun Accessibility report numbered SMCSWSPS-PCH-OSN-PL-REP-000002.

2.4 Section E – Services and Equipment

1. **Fire Hydrants (E1.3) –** The building must be served with fire hydrants complying with the requirements of BCA Clause E1.3 and AS 2419.1.
   Fire Services designers are proposing to utilise AS2419.1-2017 in lieu of the current BCA adopted AS 2419.1-2005. The current design details indicate compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

2. **Hydrant Booster –** To comply with AS 2419.1 except where a sprinkler system is installed throughout a building in accordance with AS 2118.1, AS 2118.4 or AS 2118.6 the fire hydrant booster protection requirements of clauses 7.3(c)(ii) and 7.3(d)(iii) of AS 2419.1 do not apply.
   The location of the OSD Booster assembly is not what would be considered within sight of the main entrance of the Over Station Development. Its location is adjacent to the Metro Station booster assembly as part of the Integrated Station Development. The location is being coordinated with Fire and Rescue NSW. The current design details indicate compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

3. **Pumprooms** – Pumprooms located within a building shall have—
   (a) a door opening to a road or open space, or a door opening to fire-isolated passage or stair which leads to a road or open space; and
   (b) except where the building is sprinkler protected in accordance with AS 2118.1, enclosing walls with an FRL not less than that prescribed by the BCA for a firewall for the particular building classification served by the fire hydrant system.
   The current design details indicate compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

4. **Fire Hose-reels (E1.4) –** The plant and retail areas of the building must be provided with hose-reel coverage complying with the requirements of BCA Clause E1.4 and AS 2441-2005. Hose-reels are to be located within 4m of an exit or an internal fire hydrant.
   Compliance readily achievable

5. **Sprinklers (E1.5) –** A Sprinkler system is required to be provided throughout the entire building as per BCA Clause E1.5 and AS2118.1 or AS2118.6 (if combined sprinkler and hydrant system). Sprinkler valve enclosure / room location to be confirmed in accordance with the requirements of Clause 6 of Specification E1.5 of the BCA.
   Compliance readily achievable.

6. **Extinguishers (E1.6) –** Fire extinguishers are required to be installed to the class 5 building parts in lieu of fire hose reels. Extinguishers are to be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS2444. Fire extinguishers must be provided to all locations which are deemed a potential risk to the occupants of the building, i.e. areas such as main switchboards.
   Compliance readily achievable.

7. **Fire Control Centre (E1.8) –** A fire control centre facility in accordance with Specification E1.8 is required to be installed in the building as the effective height is greater than 25m. A fire control centre must be so located in a building that egress from any part of its floor, to a public road or open space, does not involve changes in level which in aggregate exceed 300 mm (refer Clause 3 of Specification E1.8 of the BCA).
   The Fire Control Centre is proposed to be provided with a single access point and will not be located at what is considered the main entrance of the Over Station Development. Its location is adjacent to the Metro Station Fire Control Centre as part of the Integrated Station Development. The location is being coordinated with Fire and Rescue NSW. The current design details indicate compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

8. **Smoke Hazard Management (Part E2 of the BCA) -** The buildings mechanical services design is to meet the requirements of Part E2 of the BCA –
   The current design details indicate compliance will be achievable through a combination of deemed to satisfy provisions and performance based solution.

9. **Emergency Lift** – At least 1 emergency lift is required to be installed in a building having an effective height of more than 25m and where two or more lifts are provided serving all storeys of the building at least two emergency lifts are to be provided. The emergency lifts may be combined with the passenger lifts as the passenger lifts serve every storey. Emergency lifts must serve every level of the building including the basement levels and must be accessible for people with disabilities.
   Goods lift to serve as the emergency lift for the development. Compliance readily achievable.

   All lift cars must be provided with fire service controls in accordance with AS 1735.2. A stretcher facility must be provided to at least one emergency lift and must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level.
   Compliance readily achievable.

10. **Exit and emergency lighting –** Emergency lighting must be installed in every fire isolated stair or passageway and in every storey of a class 5, 6 and 7 building with a floor area greater than 300 square meters.
    Compliance readily achievable.

11. **Emergency Warning and Intercom Systems (EWIS)** – A EWIS is required to comply with AS1670.4-2018 as the effective height of the building exceeds 25m.
    Compliance readily achievable.

2.5 Section F – Health and Amenity

1. **Weatherproofing** (FP1.4) - A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause—
   (a) unhealthy or dangerous conditions, or loss of amenity for oc
   (b) undue dampness or deterioration of building elements.
   Weatherproofing performance solution to be developed for the building. Compliance readily achievable.

2. **Stormwater drainage** (F1.1) - Stormwater drainage must comply with AS/NZS 3500.3.
   Compliance readily achievable.

3. **Waterproofing of wet areas in buildings** (F1.7) – In a Class 5, 6 and 7 building, building elements in the bathroom or shower room, a slop hopper or sink compartment, a laundry or sanitary compartment must—
   (i) be water resistant or waterproof in accordance with Table F1.7; and
   (ii) comply with AS 3740,
   as if they were in a Class 2 or 3 building or a Class 4 part of a building.
   Compliance readily achievable.

4. **Sanitary Facilities** (F2.3) – Sanitary facilities must be provided throughout all areas of the building for both females and males in accordance with the requirements of Table F2.3 of the BCA. Employees and the public may share the same facilities in a Class 6 part of a building if the number of facilities provided is not less than the total number of facilities required for employees plus those required for the public.
   Adequate sanitary facilities have been provided throughout the floors of the development.
   Compliance readily achievable.

5. **Construction for sanitary facilities** (F2.5) **-** Doors to fully enclosed sanitary compartments are to open outwards, or slide or have 1.2 metres clear space between door and closet plan or be readily removable from the outside of the sanitary compartment**.**
   Compliance readily achievable.

6. **Room Sizes** (F3.1) – In a class 5, 6, 7 or 8 building the minimum ceiling height is to be 2.4m except in a corridor, passageway or the like which may be 2.1m. In addition the following minimum ceiling heights are to be observed for other areas of the development:
   (i) a bathroom, shower room, sanitary compartment, other than an accessible adult change facility, airlock, tea preparation room, pantry, store room, garage, car parking area, or the like — 2.1 m; and
   (ii) a commercial kitchen — 2.4 m; and
   (iii) above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like
   Compliance readily achievable.

7. **Light –** Artificial lighting must comply with Clause F4.4 of the BCA and AS/NZS 1680.0-2009.
   Compliance readily achievable.

8. **Mechanical ventilation –** Mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS/NZS 3666.1 must be provided where natural ventilation cannot be provided.
   Compliance readily achievable.

9. **Commercial kitchen Exhaust** (F4.12) – A commercial kitchen must be provided with a kitchen exhaust hood complying with AS1668.1 and 1668.2 where required by specifics of clause.
   Compliance readily achievable.

2.6 Section G - Ancillary Provisions

1. **Occupiable Outdoor Areas (G6)** – outdoor areas that are normally occupied such as balconies and Communal areas greater than 10m² will need to comply with Part G6 of the BCA. Items for consideration by the design team include:
   - All linings materials or assemblies in an outdoor occupiable area must comply with C1.10 of the BCA.
   - Must be provision made for egress from the outdoor occupiable area in accordance with Part D1 and D2 of the BCA.
   - Fire fighting equipment including portable fire extinguishers and/or fire hose reels and hydrant coverage will need to be provided to any outdoor occupiable area in accordance with Part E1 of the BCA.
   - Lighting to be provided to the outdoor occupiable area in accordance with Part F4 of the BCA.

   Compliance readily achievable.

2. **Window Cleaning NSW** (G1.101)
   a) A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level.
   b) A building satisfies (a) where—
      (i) the windows can be cleaned wholly from within the building; or
      (ii) provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act.

   Compliance readily achievable.

2.7 Section J – Energy Efficiency

1. **Energy Efficiency (Part J) –** This section is mandatory for Class 5 to 9 projects. The building is within Climate Zone 5 and will be required to comply with Parts J5 and J6**,**
   Energy Efficiency Consultant's report required including JV3 report if this is the preferred method of meeting compliance with Part J. Compliance readily achievable.

3.0 Performance solutions - Fire Safety Engineering and others

Where compliance with the deemed to satisfy provisions is not readily achievable, performance based assessment and performance solutions will need to be used to demonstrate compliance with the BCA. The report provides an arbitrary outline of performance solutions above and as the project will undergo considerable design development it is certain that other issues will arise that will affect ability to comply with the deemed to satisfy provisions of the Building Code of Australia.

This comes about due to the generic and prescriptive nature of the BCA with respect to the deemed to satisfy provisions and the inability for the document to be ultimately flexible for all building types and applications. This is the main reason the document allows performance based solutions, where meeting the performance requirements of the code, are deemed to also be in compliance with the BCA.

A summary of the performance solutions likely required for the development are provided in the table below. These may change once the design is further refined and service consultants design drawings are provided for our first review.

No.	Issue	DtS Clause	Description
1.	Separation between the OSD North Tower and Metro Station	BCA C2.7	The OSD North Tower will be separated from the Station building by a combination of vertical and horizontal fire and smoke rated construction in lieu of DtS vertical fire walls. The station and OSD Towers will be treated as separate buildings for the purposes of approvals.
2.	Protection of openings in external wall	BCA C3.2 and C3.4	Performance solution proposed to reduce the extent of drencher protection required for the glazing where exposed to the Norther property boundary
3.	Single exit serving some floors and total distance to reach an exit	BCA D1.2 and D1.4	The following floors will be served by a single exit: - Ground level retail Unit adjacent to shared egress corridor will only have access to a single exit in lieu of 2 as required in a building in excess of 25m in effective height. - Level 01 COMMS is served by a single exit with up to 29m to reach a single exit - Level 01 Goods lift lobby will be served by a single exit which will also be a rung type ladder in lieu of a fire isolated exit.
4.	Exit travel distances will exceed the requirements of the BCA	BCA D1.4 and D1.5	- Egress distances at level 2 retail are proposed to be 30m to a point of choice, 60m to a single exit and 100m between exits in lieu of DtS 20m, 40m and 60m respectively. - Egress distances in BOH and plant areas in levels ground mezzanine, 1, 2, 3 and 9 are proposed to be 30m to a point of choice, 60m to a single exit and 100m between exits in lieu of DtS 20m, 40m and 60m respectively. - Egress distances on level 3 and typical office floor levels 5-8 and 10-35 are proposed to be 30m to a point of choice, 60m to a single exit and 100m between exits in lieu of DtS 20m, 40m and 60m respectively.
5.	Egress width will be less than 1m clear	BCA D1.6	Due to site constraints the egress path adjacent to the sprinkler tank will be 950mm clear width in lieu of 1m.

6.	Fire stairs must provide independent egress to road or open space	BCA D1.7	The fire stairs serving the OSD development as well as the fire stairs serving the station will converge and share the same fire isolated passageway although considered separate buildings. The fire stairs serving the car stacker and fire sprinkler tank will not provide independent egress to a road or open space as it will discharge on level 3 into the building. The rung ladder serving as an alternate exit from the Level 01 Goods Lift Lobby will not provide direct egress to a road or open space. The OSD is technically considered a separate building therefore independent egress from the separate buildings is not achieved with occupants using Station egress stairs at level 02.
7.	Egress will involve use of ladders from plant areas greater than 200sqm.	BCA D1.7 and D1.16	The Level 36 and 37 plant will be in excess of 200sqm and will be served by a single fire isolated stair and ladder with the ladder discharging at level 35 in lieu of independent egress to a road or open space
8.	Some exits will swing against the direction of egress	BCA D2.20	It is noted that due to the design requirement of the Energy Supply Authority, exits serving the Basement 1 substation/ HV Control Room within the development will swing against the direction of egress. Basement Level 01 ground floor egress door will swing against the direction of egress. The doors providing entry to the fire isolated stair serving the car stacker will swing against the direction of egress.
9.	Fire Hydrant System	BCA E1.3 and AS2419.1	It is proposed to utilise AS2419.1-2017 in lieu of the current BCA adopted AS 2419.1-2005.
10.	The location of the pumproom	BCA E1.3 and AS2419. 1 Clause 6.11.2	The pumproom is proposed to be located on ground level mezzanine and will not be provided with direct access from a door opening to a fire-isolated stair or passageway or airlock.
11.	The location of the booster assembly	BCA E1.3 and AS2419.1 Clause 7.3	The OSD North booster assembly would not be located within sight of the main entrance of the OSD North Tower
12.	Car park stacker is proposed to be provided to the development	BCA E1.5, E1.10 and E2.3	A performance solution for the car stacker is proposed as recommended by the Australasian Fire and Emergency Service Authorities Council (AFAC) guideline 3007
13.	Location of Fire Control Room	BCA E1.8 and Specification E1.8	The Fire Control Room serving the OSD Tower will be designed to only have a single entrance from the street in lieu of two paths of access and is not located at what would be considered the main entrance of the building.
14.	Separation of fire systems	E1.3, E1.4, E1.5, E1.8, E2.2, E3.4, E4.9	OSD North is considered to be a separate building form the Station. This performance solution focuses on the fire services system and ancillary areas affected by the separation however various elements of fire services infrastructure will be

			shared on common floors.
15.	Smoke Exhaust System	BCA E2.2	A rationalised smoke control system is proposed to be provided to the OSD development. A zone smoke control system is not proposed to the station, retail and commercial lobby areas of the OSD enabling levels. The Basement Level 01 stair is not proposed to be pressurised although connected to a pressurised tower egress stair by way of door at ground floor.
16.	External roof/ walls Weatherproofing	BCA FP1.4	Weatherproofing performance solution to be developed for the project.

4.0 Conclusion on capability

We have assessed the drawings with respect to the Building Code of Australia 2019. In our opinion, Development Consent should not be withheld for concern that the works cannot meet a combination of the Deemed-to-Satisfy and Performance Requirements of the Building Code of Australia 2019**.** Areas of the design are still being developed and will be addressed prior to issue of a construction certificate following the requirements of the Environmental Planning and Assessment Act 1979 and Environmental Planning and Assessment Regulations 2000.

Appendix A – FRL Requirements

Table 3 - TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building — FRL: (in minutes)			
	Structural adequacy/Integrity/Insulation			
	2, 3 or 4 part	**5, 7a or 9**	**6**	**7b or 8**
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any *fire-source feature* to which it is exposed is—				
For *loadbearing* parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 60	120/ 90/ 90	180/180/120	240/240/180
3 m or more	90/ 60/ 30	120/ 60/ 30	180/120/ 90	240/180/ 90
For non-*loadbearing* parts—				
less than 1.5 m	–/ 90/ 90	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/ 60/ 60	–/ 90/ 90	–/180/120	–/240/180
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN not incorporated in an *external wall*—				
For *loadbearing* columns—				
	90/–/–	120/–/–	180/–/–	240/–/–
For non-*loadbearing* columns—				
	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS—				
Fire-resisting lift and stair *shafts*—				
Loadbearing	90/ 90/ 90	120/120/120	180/120/120	240/120/120
Non-*loadbearing*	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding *public corridors*, public lobbies and the like—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion—				
Loadbearing	90/ 90/ 90	120/ 90/ 90	180/120/120	240/120/120
Non-*loadbearing*	–/ 90/ 90	–/ 90/ 90	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES				
and COLUMNS—	90/–/–	120/–/–	180/–/–	240/–/–
FLOORS	90/ 90/ 90	120/120/120	180/180/180	240/240/240
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30	240/ 90/ 60