



A Bureau Veritas Group Company

Regulatory Compliance Report

Compass 2 Warehouse & Distribution Centre
Lot 1 Eastern Creek Drive, Eastern Creek

Prepared for: Charter Hall
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1. Executive Summary

Development Overview

The proposed development is for construction of a warehouse and distribution centre at Lot 1, Eastern Creek Dr, Eastern Creek, NSW.

Compliance Summary

As Registered Certifiers relevant building surveyor we have reviewed the SSDA architectural design documents prepared by WatchThisSPACE (refer appendix A) for compliance with the current building assessment provisions, i.e., the Building Code of Australia 2019 Amendment 1 (BCA).

This report has been prepared to assess the project against the Building Code of Australia to enable issuance of construction approvals. Further assessment of the design will be undertaken as the design develops to ensure compliance is achieved prior to approval being issued.

Deviations from the Deemed-to-Satisfy Provisions

The assessment of the schematic design documentation has revealed that the following areas deviate from the deemed-to-satisfy provisions of the BCA. These items are to be addressed to ensure compliance is achieved, either through design amendment to achieve compliance with the deemed-to-satisfy provisions, or through a performance solution demonstrating compliance with the Performance Requirements of the BCA:

No.	Description	DTS Clause	Performance Requirements
Fire Safety Items			
1	<p>To permit the following in relation to perimeter vehicular access:</p> <ul style="list-style-type: none"> Perimeter vehicular access to the northern and eastern sides of Warehouse is impeded by bollards which are required to protect egress doors. A minimum 6m width is required all around the building. Perimeter access to the South Western corner of the site is more than 18m from the building 	C2.4	CP9
2	<p>Travel distances exceed the BCA requirements as per below:</p> <ul style="list-style-type: none"> 77m instead of the maximum 40m in the warehouse (when measuring to outside of the awnings) 35m instead of the maximum 20m in the main office first floor <p>The extended travel distances need to be addressed to comply with the requirements of the deemed to satisfy provisions noted above or be assessed as performance solutions by the Fire Safety Engineer using BCA Performance Requirements DP4 & EP2.2</p>	D1.4(c)(i)	DP4, EP2.2
3	<p>The distance between alternative exits is 145m instead of 60m BCA requirement (when measuring to outside of the awnings).</p> <p>A reviewed design or Performance solution required for further assessment.</p>	D1.5	DP4, EP2.2

No.	Description	DTS Clause	Performance Requirements
4	The exit doors of the Dock office ground floor open inward. According to CI D2.20(b), a swinging door in a required exit or forming part of a required exit must swing in the direction of egress. A reviewed design or Performance solution required for further assessment.	D2.20	DP2, EP2.2
5	The fire control centre is likely to double up as an entry airlock, in lieu of being used for the sole purpose of fire-fighting activities.	E1.8, Specification E1.8 Clause 2(c)	EP1.6
6	Where exit signs are proposed to be above 2.7m to avoid potential damage by forklifts in the warehousing areas, this will need to be documented as a performance solution by an accredited fire safety engineer. This would need to be assessed to BCA Performance Requirement EP4.2.		EP4.2
Accessibility Items			
7	Access to Dock office level 2 is not provided for people with disability.	D3.1	DP1
8	Accessible sanitary facility is not provided next to the banks of facilities on level 1 of the Dock office.	F2.4	DP1
Miscellaneous Items			
9	Weatherproofing of External Walls As there are no deemed to satisfy provisions relating to the weatherproofing of external walls, a performance solution is to be provided by the façade engineer/registered architect demonstrating that the external walls comply with the requirements of Performance Requirement FP1.4.	-	FP1.4

The feasibility and any additional requirements that will apply as a result of the performance solution will need to be confirmed by the professional preparing the performance solution. Any performance solution will need to be prepared by a suitably qualified/accredited professional.

Fire Safety Services

The following key fire safety services are required to meet the minimum DTS requirements.

1.	Sprinklers system throughout the building in accordance with AS 2118.1-2017.
2.	Fire hydrant system throughout the building in accordance with AS 2419.1-2005.
3.	Fire hose reels to the warehouse portions of the building in accordance with AS 2441.
4.	Automatic smoke detection and alarm system throughout in accordance with E2.2a/E2.2b.

Refer to part 7 of this report for further details regarding the required services.

Any fire engineered solution relating to category 2 items will need to be approved after consultation with the NSW Fire Brigade as part of the Construction Certificate process.

The application for Construction Certificate shall be assessed under the relevant provisions of the Environmental Planning & Assessment Act 1979 (As Amended) and the Environmental Planning & Assessment Regulation 2000.

2. Introduction

The proposed development comprises of construction of a warehouse and distribution centre including offices.

The site is located at Lot 1 Eastern Creek Drive Eastern Creek.

This report is based upon the review of the design documentation listed in Appendix A of this Report.

The report is intended as an overview of the relevant provisions of the Building Code of Australia for assistance only. Detailed drawings and associated review will still be required as the final design is developed.

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979. This Act requires that all new building works must be designed to comply with the BCA.

The version of the BCA applicable to the development, is version that in place at the time of the application to the Registered Certifier for the Construction Certificate. For the purposes of this Report, BCA 2019 Amendment 1 has been utilised as the version of the BCA applicable at the time of preparation this Report.

3. Compliance with the Building Code of Australia

The Building Code of Australia is a performance-based document, whereby compliance is achieved by complying with the Governing Requirements and the Performance Requirements.

Performance Requirements are satisfied by one of the following:

- 1) A Performance Solution
- 2) A Deemed-to-Satisfy Solution
- 3) A combination of (1) and (2)

4. Documentation of Performance Solutions

A Performance Solution must demonstrate compliance with all relevant Performance Requirements, or the solution must be at least equivalent to the Deemed-to-Satisfy provisions.

Compliance with the Performance Requirements is to be demonstrated through one or a combination of the following:

- a) Evidence of suitability in accordance with Part A5 of the BCA that shows the use of a material, product, plumbing and drainage product, form of construction or design meets the relevant Performance Requirements.
- b) A Verification Method including the following:
 - i. The Verification Methods provided in the NCC.
 - ii. Other Verification Methods, accepted by the appropriate authority that show compliance with the relevant Performance Requirements
- c) Expert Judgement
- d) Comparison with the Deemed-to-Satisfy Provisions

Where a Performance Solution is proposed as the method to achieve compliance, the following steps must be undertaken:

- a) Prepare a performance-based design brief in consultation with relevant stakeholders
- b) Carry out analysis, using one or more of the assessment methods nominated above, as proposed by the performance-based design brief.
- c) Evaluate results from (b) against the acceptance criteria in the performance-based design brief

- d) Prepare a final report that includes:
- i. All Performance Requirements and/or Deemed-to-Satisfy Provisions identified as applicable
 - ii. Identification of all assessment methods used
 - iii. Details of required steps above
 - iv. Confirmation that the Performance Requirement has been met; and
 - v. Details of conditions or limitations, if an exist, regarding the Performance Solution.

5. Preliminaries

5.1. Building Assessment Data

Summary of Construction Determination:

Part of Project	Warehouse
Classification	5, 7b
Number of Storeys	2
Rise In Storeys	2
Type of Construction	C
Effective Height (m)	<12m

Note: The effective height of the project includes all stories included in the rise in stories of the project.

Summary of the floor areas and relevant populations where applicable: -

Part of Project	BCA Classification	Approx. Floor Area (m ²)	Approximate Volume (m ³)	Assumed Population
Warehouse	7b	26,820	TBC	136
Main office (2 storeys)	5	1300	TBC	12
Dock office (2 storeys)	5	450	TBC	18
Total		28,043	TBC	166

Notes:

- The above populations have been inserted based on the information provided by the applicant.

6. Structure

6.1. Structural Provisions (BCA B1):

New structural works are to comply with the applicable requirements of BCA Part B1, including AS/NZS 1170.0-2002, AS/NZS 1170-1-2002, AS/NZS 1170.2-2011 and AS 1170.4-2007.

Depending on the importance level of the building as determined by AS/NZS 1170.0-2002, the non-structural elements of the building, including partitions (and non-structural fire walls), ceilings, services and racking/shelving may be required to comply with the seismic restraint requirements of AS 1170.4-2007. Where this is required, certification will be required confirming that the design of the seismic restraints comply with AS 1170.4-2007. This may be provided by a specialist seismic consultant or by the architect and services design engineers.

It is noted that BCA 2019 introduced a new Verification Method, BV2, which is a pathway available to verify compliance with BCA Performance Requirement BP1.1(a)(iii).

Glazing is to comply with AS1288-2006, and AS2047-2014.

Prior to the issue of the Building Approval structural certification is required to be provided by a Professional Engineer registered on the National Engineering Register.

7. Fire Protection

7.1. Fire Compartmentation (BCA C1.1)

The BCA stipulates three levels of fire-resistant construction, which is based upon the rise in storeys and classification of the building. Each of these types of construction has maximum floor area and volume limitations as per BCA Table C2.2.

Based upon the rise in storeys and use of the building, it is required to be constructed in accordance with the requirements of Type C Construction, in accordance with Table 5 of Specification C1.1 of the Building Code of Australia 2019 Amendment 1.

The maximum floor area and volume limitations of a fire compartment as nominated in the deemed to satisfy provisions are as follows:

Classification		Type of Construction		
		A	B	C
5, 9b or 9c aged care building	max floor area—	8 000 m ²	5 500 m ²	3 000 m ²
	max volume—	48 000 m ³	33 000 m ³	18 000 m ³
6, 7, 8 or 9a (except for patient care areas)	max floor area—	5 000 m ²	3 500 m ²	2 000 m ²
	max volume—	30 000 m ³	21 000 m ³	12 000 m ³

As the building exceeds the area / volume limitations of the BCA provisions, the building is then considered a large isolated building and the following provisions will apply:

- Automatic sprinkler protection to AS2118.1 and BCA Specification E1.5 throughout the development / smoke detection and alarm system in accordance with AS1670,
- Perimeter emergency vehicular access 6m wide located within 18m of the entire building perimeter in accordance with BCA Clause C2.4. A performance solution might be required to address this requirement as the current design does not meet the requirements.
- Smoke exhaust required throughout the development and proposed to be addressed via performance solution.
- Provision of a fire hydrant ring main.

Perimeter vehicular access to the northern and eastern sides of Warehouse impeded by bollards required to protect egress doors (refer to **Figure 1**). According to C2.4, the required vehicular access must have a minimum unobstructed width of 6 m. Please provide a new design or confirm if a Performance Solution approach will be taken for the project.

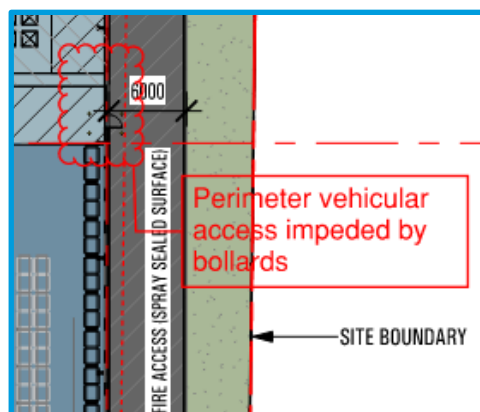


Figure 1 - Required width for vehicular access

Perimeter emergency vehicular access must be within 18m of the entire building perimeter in accordance with BCA CI C2.4. The access to the South Western corner of the site is more than 18m from the building (refer to **Figure 2**)

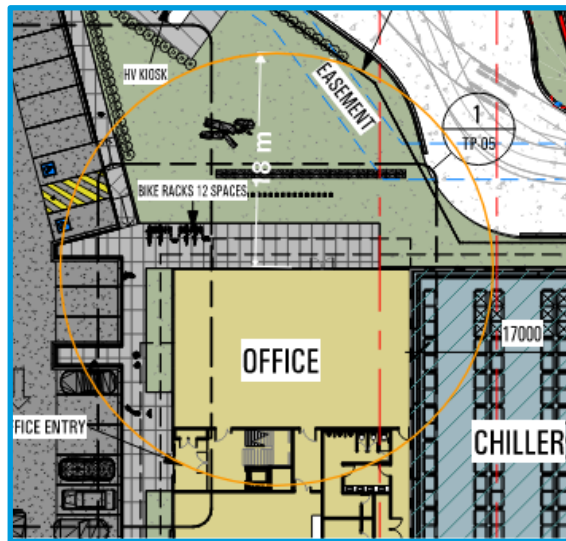


Figure 2 - Vehicular access to the building more than 18m

7.2. Fire Resistance (BCA C1.1)

The building should be constructed generally in accordance with the relevant provisions of Specification C1.1 of the BCA applicable to Type C Construction. Please refer to Appendix C which outlines the required fire rating to be achieved by the development.

7.3. Fire Hazard Properties (BCA C1.10 and BCA C1.9)

The fire hazard properties of fixed surface linings and mechanical ductwork will also need to be addressed within the detailed documentation phase pursuant to Specification C1.10 of the Building Code of Australia. The following requirements apply:

- a) Floor Coverings – Critical radiant Flux not less than 1.2 kW/m²
- b) Wall and Ceiling Linings – Material Group No. 1, 2 & 3 for walls, 1 & 2 for ceilings.
- c) Other Materials – Spread of Flame Index not exceeding 9 and Smoke Developed Index not exceeding 8.

Rigid and flexible air handling ductwork must comply with AS4254 Parts 1 & 2 2012.

Any Aluminium Composite Panels must be labelled in accordance with SA TS 5344.

Please provide fire hazard properties reports for any proposed signs and confirm their extent i.e. not spanning more than one storey.

7.4. Separation of equipment (C2.12)

Equipment listed below must be separated from the remainder of the building providing a FRL as required by Spec C1.1 but not less than 120/120/120 with a self-closing fire door with an FRL or not less than -/120/30.

- a) A battery system installed in that building that has total voltage of 12 volts or more and a storage capacity of 200kWh or more.

Please note that with regards to fire separation, the provisions and required FRL's that apply to the building also apply to an occupiable outdoor space associated with the building.

8. Access and Egress

8.1. Provision for Escape (BCA D1)

The egress provisions for the proposed building are provided by the following:

- External perimeter doorways
- Required non-fire isolated stairways
- External Doors

The egress provisions that apply to the building also apply to any occupiable outdoor areas.

Detailing issues that will need to be addressed as the design develops include:

- Door Hardware
- Exit Door Operation
- Stair Construction
- Handrail and Balustrade construction
- Details of the egress provisions to the Road.

8.2. Exit Travel Distances and distance between alternative exits (BCA D1.4 & D1.5)

The locations of the proposed exits would appear to indicate that the deemed to satisfy requirements in terms of travel distances, distances between alternative exits and egress widths would be satisfied.

The travel distances to exits should not exceed:

Class 5 & 7b

- no point on the floor must be more than 20m to a single exit or point of choice and where two exits are provided, a maximum of 40m to one of those exits; and
- exits shall be located to not be more than 60m apart and not closer than 9m

The above indicates that the deemed to satisfy requirements in terms of travel distances would be satisfied, except for the following areas:

- Travel distances in the warehouse exceed the maximum 40m distance requirement and distance between alternative exits exceeds the maximum 60m requirement of BCA when measuring to outside of the awnings (refer to **Figure 3**)

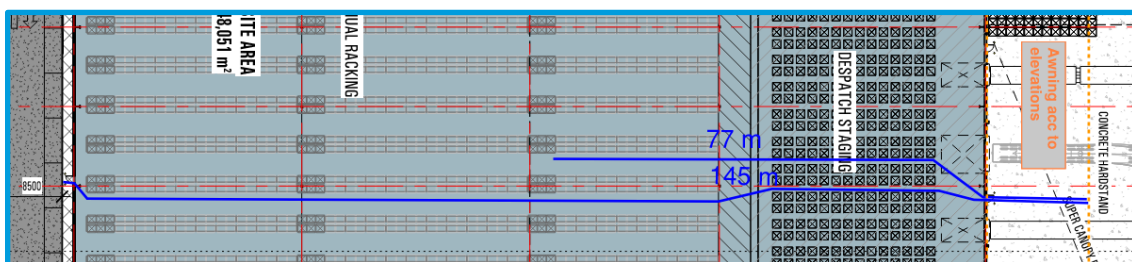


Figure 3 - Extended travel exit in the warehouse

- Travel distance in the main office first floor exceeds the maximum 20m distance requirement of BCA (refer to **Figure 4**)

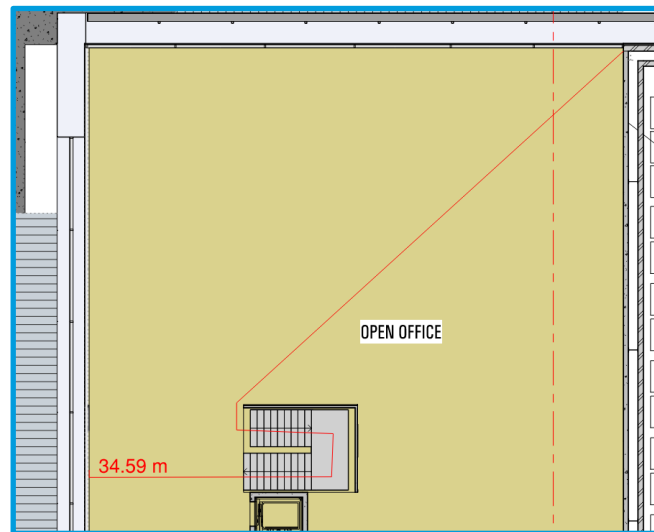


Figure 4 - Extended travel distance in main office first floor

The extended travel distances need to be addressed to comply with the requirements of the deemed to satisfy provisions noted above or be assessed as performance solutions by the Fire Safety Engineer using BCA Performance Requirements DP4 & EP2.2

8.3. Dimensions of Exits (BCA D1.6)

Minimum dimensions of 1000mm and 2000mm height to be provided within exits, with the paths of travel should provide a minimum width of 1000mm (note that all maintenance access, cat walks, etc may comply with AS1657-2018 in which case a 600mm clear width is required).

Doorways are permitted to contain a clear opening width of the required width of the exit minus 250mm, with a height of 1980mm as part of egress requirements. Access for persons with disabilities however requires a clear doorway opening width of 850mm (i.e. minimum 920 mm doors).

8.4. Doorways and doors (BCA D2.20)

The exit doors of the Dock office ground floor open inward (refer to **Figure 5**). According to CI D2.20(b), a swinging door in a required exit or forming part of a required exit must swing in the direction of egress.

A reviewed design or Performance solution required for further assessment.

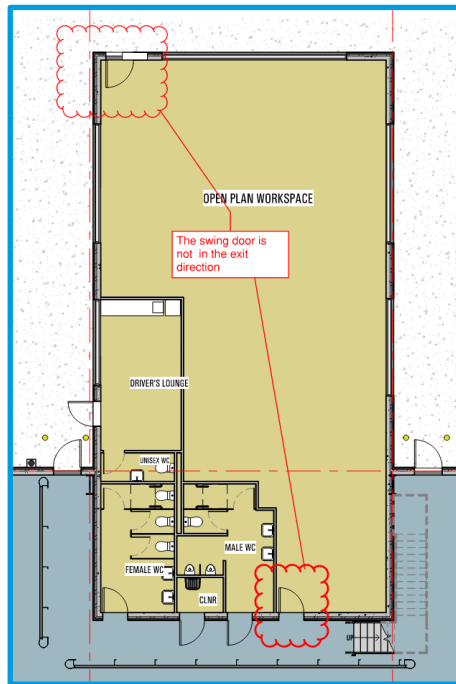


Figure 5 - Swing doors

8.5. Balustrades and Handrails (BCA D2.16 / BCA D2.17 / D2.24)

Generally

Balustrading to a minimum height of 1000mm with a maximum opening of 124mm in any direction should be provided adjacent to balconies, landings, corridors etc where located adjacent to a change in level exceeding 1000mm, or where it is possible to fall through an openable window located more than 4m above the surface beneath.

Where it is possible to fall more than 4m to the surface below, the balustrade shall not contain any horizontal or near horizontal members that facilitate climbing between 150 – 760mm above the floor.

Handrails should generally be provided at a minimum height of 865mm alongside of all ramps and stairs.

The public stairs and ramps located along an accessible path of travel should be designed in accordance with the requirements of AS1428.1 for persons with disabilities. This requires a handrail on each side of the stair and ramp and for the handrail to extend approximately 550mm – 600mm past the last tread / end of ramp.

In addition to the above, handrails are required to both sides of all stairs with a width of 2m or more.

Class 7b Buildings

Balustrades in Class 7b parts of buildings are permitted to contain a 3 rail system, with a bottom rail situated at not more than 150mm above the nosing. The distance between the rails shall not exceed 460mm.

Handrails are required on both sides of all stairways except for fire isolated stairways used only for emergency egress purposes.

Note: in a required exit serving an area required to be accessible, handrails must be designed and constructed to comply with Clause 12 of AS1428.1-2009

9. Services and Equipment

The following section of this report describes the essential fire safety measures and the minimum performance requirements of those measures. A draft essential fire safety schedule can be found in Appendix B.

It is noted that the provisions below also apply to occupiable outdoor areas.

9.1. Fire Hydrants (BCA E1.3)

A system of Fire Hydrants is required to be provided in accordance with BCA Clause E1.3 and AS2419.1-2005.

A fire ring main is required.

9.2. Fire Hose Reels

A Fire Hose Reel System is required to the warehouse to BCA Clause E1.4 and AS2441-2005.

The system is required to provide coverage to the warehouse zones only.

Fire hose reel cupboards must not contain any other services such as water meters, etc., and doors to fire hose reel cupboards are not to impede the path of egress unless a performance solution is developed under BCA Performance Requirement EP1.1

The hose reels are currently not indicated. Coverage drawings and locations are to be provided.

9.3. Fire Extinguishers (BCA E1.6)

The provision of portable fire extinguishers is required to BCA Clause E1.6 and AS2444 - 2001 to provide coverage throughout.

Table E.6 details when portable fire extinguishers are required:

Occupancy Class	Risk Class (as defined in AS 2444)
General provisions – Class 5 & 7b buildings	a) To cover Class AE or E fire risks associated with emergency services switchboards. (Note 1) b) To cover Class F fire risks involving cooking oils and fats in kitchens. c) To cover Class B fire risks in locations where flammable liquids in excess of 50 litres are stored or used (not excluding that held in fuel tanks of vehicles).

Fire extinguishers are to be located in accordance with AS 2444 - 2001, often collocated with fire hydrants and/or fire hose reels.

The fire extinguisher locations are not currently indicated.

9.4. Automatic Sprinkler Protection (BCA E1.5)

Automatic sprinkler protection is required to Specification E1.5 and AS2118.1-2017 throughout the entire building.

The sprinkler system shall be connected to and activate an occupant warning system complying with BCA Specification E2.2a.

An occupant warning system should be provided in accordance with BCA Specification E1.5.

9.5. Smoke Hazard Management (BCA E2.2)

Smoke hazard management shall be provided throughout the building by means of the following systems:

- Automatic Smoke Exhaust System activated by Automatic Smoke Detection & Alarm System in accordance with the requirements of BCA Spec E2.2a and AS1670.1-2018

A fire indicator panel is required as part of the detection system. This panel is to be located within 4m of the main entry and should be incorporated within the fire control room. Any variation to the prescriptive provisions will require the consent of the fire brigade and should form part of the fire safety engineering report to verify the performance requirements of the BCA.

9.6. Exit Signs and Emergency Lighting (BCA E4.2 and BCA E4.5)

Emergency Lighting and Exit Signs indicating exit location paths of travel to exits to be provided in accordance with BCA Part E4 and AS/NZS 2293.1-2018, including the potential use of photo luminescent exit signs.

Where exit signs are proposed to be above 2.7m to avoid potential damage by forklifts in the warehousing areas, this will need to be documented as a performance solution by an accredited fire safety engineer. This would need to be assessed to BCA Performance Requirement EP4.2.

Details are required to be provided for review.

9.7. Fire Control Centre (BCA E1.8)

As the Class 7 building contains a floor area of greater than 18,000m², a fire control centre is required in accordance with BCA Specification E1.8.

The proposed Fire Control Room is not currently documented, and confirmation will be required.

10. Health and Amenity

10.1. Sanitary Facilities (BCA F2.2 and BCA F2.3)

The below sanitary facilities are indicated on the drawings:

Sanitary Facilities Provided			
	WC	Urinals	Basins
Male	7	7	8
Female	11	N/A	8
Accessible	2	-	2

The Above Facilities are adequate for:
140 males and 165 females – subtotal of 305 Staff.

Detailed designs will need to be developed as to the layout, dimensions, etc of the sanitary facilities.

Note: The Unisex facilities provided for people with disabilities may be counted once for each sex. These facilities are to be provided in accordance with AS1428.1-2009.

Bathroom Construction

Where bathrooms or rooms containing water closets have the WC within 1200mm of the doorway, the door shall be either sliding, open outwards, or be provided with removable hinges.

The bathroom doors in the offices have the WC within 1200mm. The doors must be opened outward or equipped with removable hinges unless the design is updated (refer to **Figure 6**).

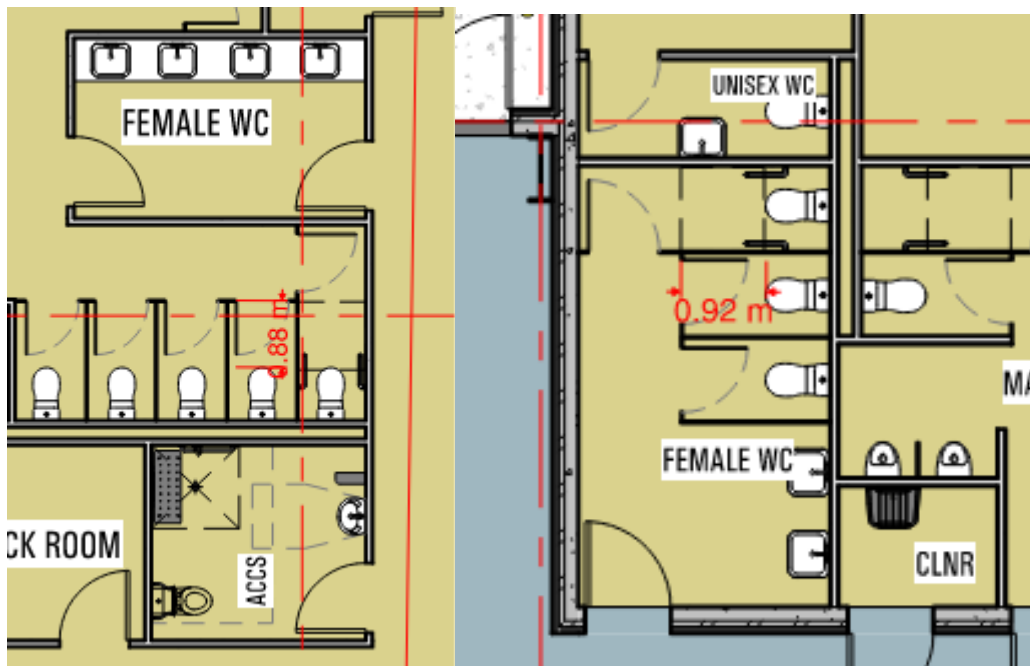


Figure 6 - The toilet doors have the WCs within 1200mm

10.2. Floor Wastes

Floor wastes are required to be provided where wall hung urinals are provided and the floor shall be sloped towards these wastes.

Floor wastes are not indicated.

10.3. Light and Ventilation (BCA Part F4)

Class 5 & 7

Natural Ventilation is required to be provided to rooms at a rate of 5% of the floor area in openings. Alternatively, mechanical ventilation is required in accordance with AS1668.2-2012

Artificial lighting complying with AS/NZS1680.0-2009 is to be incorporated with the final detailed design to be developed to confirm this.

These provisions also apply to areas considered as occupiable outdoor areas.

10.4. Condensation management (BCA Part F6)

Pliable building membranes installed to an external wall must:

- achieve compliance with AS 4200.1, and
- be installed in accordance with AS4200.2, and
- be a vapour permeable membrane (applicable as the development is in **Climate Zone 6**); and
- be located on the exterior side of the primary insulation layer or the wall assembly and except for the single skin mason and single sin concrete be separated from water sensitive materials.

Exhaust systems must achieve a minimum flow rate of 25L/s for bathrooms and sanitary compartments must discharge directly or via a duct to outdoor air or to a roof space that is ventilated.

Kitchens and laundries to achieve a minimum flow rate 40L/s and discharge directly or via a shaft or duct to outdoor air.

Exhaust systems discharging directly or via a shaft or a duct to a roof space must be through evenly distributed systems. Openings for minimum flow requirements must have a total unobstructed area of 1/300 of the respective ceiling area if the roof pitch is greater than 22°. 30% of the total unobstructed area required for exhaust being discharged directly or via a shaft or duct to outdoor air must be located not more than 900 mm below the ridge or highest point of the roof space.

10.5. Waterproofing (BCA FP1.4)

Performance Requirement FP1.4 which relates to the prevention of the penetration of water through external walls, must be complied with. It is noted that there are no Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls.

As such, a performance solution is to be prepared by a suitably qualified professional that demonstrates that the external walls of the proposed building complies with Performance Requirement FP1.4 which reads as follows:

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 occupants; and*
- b) *undue dampness or deterioration of building elements.*

Wet Areas

Internal wet areas throughout the development (e.g. bathrooms, laundries) shall be waterproofed in accordance with AS3740 - 2010 requirements.

Further review will be undertaken as the design develops with respect to the specification of waterproofing membrane, provision of water-stops at doorways etc.

10.6. Stormwater Drainage

Stormwater drainage systems serving the building are to comply with AS3500.3 - 2018.

The use of a syphonic stormwater drainage system is not covered by Australian Standards and any design incorporating one would need an appropriate performance solution will need to be documented by the hydraulic consultant addressing the system compliance against BCA Performance Requirements FP1.2 & FP1.3.

11. Energy Efficiency

11.1. SECTION J (Transition Period)

The commentary below is an assessment based on the provisions included in BCA 2019 Amendment 1.

11.2. SECTION J (JP1 Energy Use)

Efficient energy use must be achieved appropriate to the function and use of the building, level of human comfort, solar radiation, energy source of the services and sealing of the building envelope. To achieve this JV1, JV2, JV3 and JV4 verification methods have been introduced as options available to achieve compliance.

It is noted that a deemed to satisfy pathway is still available.

Access for maintenance is to be provided to the building in accordance with the requirements of BCA Part J8. The proposed site will be located in a **Climate Zone 6**.

Due to special nature of the building some energy provisions may not be appropriate. Certification from an appropriately qualified engineer should be provided for either option with a report / computations outlining how compliance is achieved.

Verification Methods

The Verification Methods available to demonstrate compliance with the BCA on a performance basis are as follows:

JV1 NABERS Energy for Offices

- To achieve compliance with JP1 a class 5 building must achieve a minimum of 5.5 NABERS Energy for Offices Base Building Commitment Agreement and comply with ANSI/ASHRAI Standard 140.
- To achieve the energy model for (JP1 (i)) solar radiation the base buildings greenhouse gas emissions are not more than 67% of the 5.5 star level when excluding:
 - Tenant supplementary heating; and
 - Cooling systems; and
 - External lighting; and
 - Car park services.
 - A thermal comfort level between predicted mean vote of -1 to +1 is achieved across not less than 95% of the floor area of all occupied zones for not less than 98% of annual hours of operation.
- The building also needs to comply with additional requirements of Spec JV1a.

JV2 Green Star

- To achieve compliance with JP1 for Class 5 and 7 buildings Green Star can be used as a verification method when the calculation method complies with ANSI/ASHRAE Standard, Specification JV1b and when:
 - The building complies with simulation requirements and is registered for a Green Star – Design & As-Built rating; and
 - The annual greenhouse gas emissions of the proposed building are less than 90% of the annual greenhouse gas emissions of the reference building; and
 - In the proposed building, a thermal comfort level of between predicted mean vote of -1 to +1 is achieved across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building; and
 - The building complies with the additional requirements of Specification JV1a.

JV3 Verification Using a Reference Building

- To achieve compliance with JP1 for Class 5 and 7 buildings verification using a reference building can be used when the calculation method complies with ANSI/ASHRAE Standard, Specification JVb and when:
 - It is determined that the annual greenhouse gas emissions of the proposed building are not more than the annual greenhouse gas emissions of a reference building when the proposed building is modeled with the proposed services and the proposed building is modelled with the same services as the reference building. The proposed building thermal comfort level is to be between predicted mean vote of -1 to +1 across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation; and
 - The building achieves the additional requirements in Specification JVa; and
 - The greenhouse gas emissions of the proposed building may be offset by renewable energy generated and use on site and another process such as reclaimed energy used on site.

12. Access for People with Disabilities

The development is required to comply with the accessibility provisions contained within:

- The Building Code of Australia 2019 Amendment 1;
- Disability (Access to Premises – Buildings) Standards 2010;
- AS1428.1-2009 General Requirements for Access – New Building Work;
- AS1428.4.1 -2009 Tactile Ground Surface Indicators
- AS2890.6-2009 Car Parking for People with Disabilities

Note: With the introduction of the Commonwealth *Disability Discrimination Act (DDA)* in 1992 (enacted in 1993), all organisations have a responsibility to provide equitable and dignified access to goods, services and premises used by occupants. Organisations and individuals since its introduction, are required to work to the objects of the Act which are to eliminate, as far as possible, discrimination against persons on the ground of disability in the **areas of work, accommodation, education, access to premises, clubs and sports, and the provision of goods, facilities, services and land, existing laws and the administration of Commonwealth laws and programs.**

This report assesses against the requirements contained with the Building Code of Australia (and documents referred to therein) and is not considered to be a full assessment against the Disability Discrimination Act.

12.1. General Building Access Requirements (BCA D3.1)

Access for people with disabilities shall be provided to and within the building in accordance with the requirements of Clause D3.2, D3.3 and D3.4 of the BCA 2019 Amdt 1 and AS 1428.1. Parts of the building required to be accessible shall comply with the requirements of:-

- AS1428.1-2009 General Requirements for Access – New Building Work;
- AS1428.4.1 -2009 Tactile Ground Surface Indicators
- AS2890.6-2009 Car Parking for People with Disabilities

Access for persons with a disability is to be provided as follows:

Office/shops (Class 5 buildings)

To and within all areas normally used by the occupants

Warehouse facilities

To and within all areas normally used by the occupants. Access to Dock office level 2 is not provided.

12.2. Provision for Access to Buildings

The BCA prescribes access to be provided to and within the building as follows:

- Via the principle pedestrian entry and at least 50% of all other entrances from the allotment boundary
- From designated car parking spaces for the use of occupants with a disability.
- From another accessible building connected by a pedestrian link.
- All areas used by the occupants.

A door is considered to be accessible if it is automatic (open and closing) or is more than 850mm in clear opening width and contains the required door circulation space.

12.3. Accessibility within Building (BCA D3.3)

A building required to be accessible is required to be equipped with either a AS 1428.1 compliant lift or AS 1428.1 compliant ramp, (but the maximum vertical rise of a ramp must not exceed 3.6m).

Within the building the following are required;

- Door circulation space as per AS1428.1 Clause 13.3
- Doorways must have a clear opening of 850mm
- Passing spaces (1.8m wide passages) must be provided at maximum of 20m intervals
- Within 2.0m of end access ways/corridors, turning areas spaces are required to be provided.
- Carpet pile height of not more than 11mm to an adjacent surface and backing <4mm
- Any glazing capable of being mistaken for a doorway or opening must be clearly marked (or contain chair rail, hand rail or transom as per AS 1288 requirements)

The design would generally comply with the prescriptive provisions of the BCA with additional ongoing review being undertaken as to door widths, circulation, etc. Further details are to be provided or access to these areas is to be assessed by an access consultant.

12.4. Car Parking (BCA D3.5)

Accessible car parking spaces are required to comply with AS 2890.6-2009 at the rate of 1 space for every 100.

A 'shared zone' of minimum 5400mm x 2400mm is required adjacent to accessible car parking spaces, protected with a bollard.

The designed items on the drawing appear to be in compliance with the requirements if there are no more than 200 carparks designed.

12.5. Tactile Indicators (BCA D3.8)

Tactile indicators are required to be provided to warn occupants of all stairs (except Fire Isolated stairs) and ramps regardless of public nature or private environment and where an overhead obstruction occurs less than 2.0m above the finished floor level.

12.6. Stairs (BCA D3.3 inter Alia AS1428.1)

Stairs shall be constructed as follows:

- a) Where the intersection is at the property boundary, the stair shall be set back by a minimum of 900mm so that the handrail and TGSIs do not protrude into the transverse path of travel.
- b) Where the intersection is at an internal corridor, the stair shall be set back one tread width plus 300mm (nominally 700mm as per AS 1428.1-2009 Fig 26(b)), so the handrails do not protrude into transverse path of travel.
- c) Stairs shall have opaque risers.
- d) Stair nosing shall not project beyond the face of the riser and the riser may be vertical or have a splay backwards up to a maximum 25mm.
- e) Stair nosing profiles shall;
 - Have a sharp intersection;
 - Be rounded up to 5mm radius; or
 - Be chamfered up to 5mm x 5mm

- f) All stairs, including fire isolated stairs shall, at the nosing of each tread have a strip not less than 50mm and not more than 75mm deep across the full width of the path of travel. The strip may be set back a maximum of 15mm from the front of the nosing. The strip shall have a minimum luminance contrast of 30% to the background. Where the luminous contrasting strip is affixed to the surface of the tread, any change in level shall not exceed a difference of 5mm.

12.7. Accessible Sanitary Facilities (BCA F2.4)

Unisex Accessible Sanitary Facilities

An accessible unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only and provided in accordance with AS 1428.1-2009 and must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary products and as per following.

Building Type	Minimum accessible unisex sanitary compartments to be provided
Office & industrial	a) 1 on every storey containing sanitary compartments; and b) Where a storey has more than 1 bank of sanitary compartments containing male and female sanitary compartments, at not less than 50% of those banks.

Accessible sanitary facilities are not provided on level 1 of the Dock office.

Ambulant Facilities

At each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1-2009 must be provided for use by males and females.

Ambulant facilities were sighted on the drawings and appear to be in compliance with the requirements.

12.8. Signage (BCA D3.6)

As part of the detailed design package, specifications will need to be developed indicating:

- Sanitary Facility Identification Signs (note that they are to comply with BCA Specification D3.6 and include the use of Braille, Tactile, etc and be placed on the wall on the latch side of the facility);
- Directional / Way Finding signs to the Lifts, Sanitary Facilities, etc;
- Identify each door required by BCA Clause E4.5 to be provided with an exit sign, stating 'EXIT' and 'Level' number
- Braille and tactile signs must be illuminated to ensure *luminance contrast* requirements are met at all times during which the sign is required to be read.

13. Appendix A - Reference Documentation

The following documentation was used in the assessment and preparation of this report:

Drawing No.	Title	Issue	Date	Revision
TP-03	Site plan	N/A	03/02/22	B
TP-05	Office plans SHT 1	N/A	03/02/22	B
TP-06	Office plans SHT 2	N/A	03/02/22	B
TP-07	Sections/Elevations	N/A	03/02/22	B

14. Appendix C - Fire Resistance Levels

The table below represents the Fire resistance levels required in accordance with BCA 2019 Amendment 1:

Table 5 TYPE C CONSTRUCTION: FRL OF BUILDING ELEMENTS	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 within it) or other external building element, where the distance from any fire-source feature to which it is exposed is—				
Less than 1.5 m	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
1.5 to less than 3 m	—/—/—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
EXTERNAL COLUMN not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Less than 1.5 m	90/—/—	90/—/—	90/—/—	90/—/—
1.5 to less than 3 m	—/—/—	60/—/—	60/—/—	60/—/—
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
INTERNAL WALLS-				
Bounding <i>public corridors</i> , public lobbies and the like—	60 / 60/ 60	—/—/—	—/—/—	—/—/—
Between or bounding <i>sole-occupancy units</i> —	60/ 60/ 60	—/—/—	—/—/—	—/—/—
Bounding a stair if <i>required</i> to be rated—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
ROOFS	—/—/—	—/—/—	—/—/—	—/—/—