

CONSTRUCTION CERTIFICATE No. J/75322/01

Issued under the Environmental Planning and Assessment Act 1979 Sections 6.4 and 6.7

Owner

Name: Place Management
 Address: Level 4, 66 Harrington Street, THE ROCKS NSW 2000

Property details

Address: 31 Wheat Road, DARLING HARBOUR NSW 2000
 Lot/Portion No: 401, 402, 403, 404 & 405 | 800, 801 & 805 | 2, 4 & 9 | 60, 64 & 65 | 11 | 201 & 217 | 8 | 10
 DP No: 862501 | 1164281 | 1048307 | 1009964 | 1125890 | 1130038 | 1048307 | 1147364
 Municipality: City of Sydney Council

Description and value of development

Description: Fit-Out and operation of the IMAX theatre including:

- Seating capacity for 450 patrons
- Foyer and reception areas at Ground, Level 1, Level 2 and Level 4
- Back of house areas at Ground, Level 1, Level 2 and Level 4
- Operating hours of 9:00 am to 12:00 am seven days a week
- Special event screenings

Value of work: \$8,588,316.00

Building Code of Australia building classification

Part: Fitout of the IMAX Theatre
 Use: Entertainment
 BCA classification: 9b

Determination

Approved/Refused: Approved
 Date of Determination: 23 October 2020

Plans and specifications approved

- MGC Approved Plans prepared by PMDL numbered: 0001-02[B], 1000-02[B], 1001-02[B], 1002-02[B], 1003-02[B], 1100-02[B], 1101-02[B], 1103-02[B], 1200-02[B], 1201-02[B], 1202-02[B], 1203-02[B], 1300-02[B], 1301-02[B], 1302-02[B], 1400-02[B], 1401-02[B], 1402-02[B], 1403-02[B], 1500-02[B], 1501-02[B], 1502-02[B], 1503-02[B], 1600-02[B], 1601-02[B], 1603-02[B], 1800-02[B], 1801-02[B], 1802-02[B], 1803-02[B], 1900-02[B], 1901-02[B], 1902-02[B], 1903-02[B], 2001-02[B], 2002-02[B], 3001-02[B], 3002-02[B], 3003-02[B], 4001-02[B], 4002-02[B], 4003-02[B], 4004-02[B], 4005-02[B], 4101-02[B], 6001-02[B], 6002-02[B], 8201-02[B], 9000-02[B], 9001-02[B], 9002-02[B], 9003-02[B] & 9101-02[B]

Fire Safety Performance Solution

Report Title: Fire Engineering Report
 Reference Number: 113560.01FER001k Revision: K
 Report Date: 21 October 2020
 Fire Engineer: Holmes Fire Accreditation Number: 2316

Attachments

1. Fire safety schedule.
2. Application form for Construction Certificate.
3. Long Service Levy Receipt prepared by Long Service Corporation dated 21 September 2020
4. Record of Site Inspection
5. Letter regarding The Ribbon Imax Theatre Independent Auditor prepared by NSW Planning Industry & Environment dated 15 November 2019
6. Permit Number for Hoarding prepared by Sydney Harbour Foreshore Authority dated 21 October 2016

7. Email Correspondence regarding Condition C3 and C22 prepared by Grocon dated 17 December 2019
8. Email Correspondence regarding Sydney Imax Redevelopment Construction Certificate prepared by Grocon Constructions Limited dated 14 November 2019
9. Email Correspondence regarding Sydney Imax Redevelopment Construction Certificate prepared by Grocon Constructions dated 17 December 2019
10. Independent Audit Program
11. Section E Certification (Hoarding and Scaffolding) prepared by Alessi Consulting dated 30 August 2019
12. Email Correspondence regarding DA Conditions C3 C22 and C19 prepared by Grocon dated 5 March 2020
13. Architectural Design Statement prepared by Drew Dickson Architects dated 22 October 2020
14. Test Certificate SFC-21553-12 prepared by Exova Warringtonfire dated 27 October 2014
15. Product Specification Fire Master prepared by Coopers
16. Product Data Sheet Fire Master prepared by Coopers
17. Workplace Safety Management Plan Revision 2 prepared by Grocon dated 23 June 2016
18. Waste & Demolition Management Plan prepared by Delta Group dated 12 May 2015
19. Vibration Monitoring Plan prepared by Douglas Partners Pty Ltd dated 28 July 2016
20. Structural Certificate prepared by Alessi Consulting dated 30 September 2019
21. Report for Operation Waste Management Plan prepared by The Aquis Group dated March 2019
22. Permit Number for Hoarding prepared by Sydney Harbour Foreshore Authority dated 21 October 2016
23. Operational Waste Management Plan prepared by The Aquis Group dated 15 April 2020
24. Noise Impact Assessment Revision 8 prepared by Acoustic Logic dated 13 December 2018
25. Letter regarding DA8838 prepared by Grocon Constructions (NSW) Pty Limited dated 14 November 2019
26. Internal Traffic Management Plan prepared by Grocon dated September 2019
27. Design Certificate for Disability Access Works prepared by Morris Goding Access Consulting dated 27 August 2020
28. Letter regarding Section D3.4 Areas prepared by Morris Goding Access Consulting dated 31 August 2020
29. Construction Management Plan Issue 5 prepared by Grocon dated 1 August 2016
30. Design Certificate for Mechanical Works prepared by D & E dated 17 August 2020
31. Design Certificate for Structural Works prepared by Tonkin dated 14 August 2020
32. Email correspondence regarding SSD Condition B17 prepared by Grocon dated 17 August 2020
33. Design Certificate for Disability Access Works prepared by Morris Goding Access Consulting dated 26 August 2020
34. Design Certificate for Electrical Service Works prepared by Heyday Group dated 23 October 2020
35. Design Statement for Fire Hose Reels prepared by EFWF dated 10 September 2020
36. Operational Waste Management Plan prepared by The Aquis Group dated March 2019
37. Email Correspondence for DA Condition C1 prepared by Grocon dated 26 August 2020
38. Design Certificate for Fire Seals and Collar Works prepared by Boone & Willard dated 26 August 2020
39. Email Correspondence for DA Conditions 8, B7, B8 & B9 prepared by Grocon dated 5 August 2020
40. Statement regarding SSD Conditions B10, B11 and B12 prepared by Boone and Willard dated 10 September 2020
41. Design Certificate Revision 4 for Mechanical Services Works prepared by D&E dated 4 September 2020
42. Letter regarding DA Condition B14 Environmental Performance prepared by Cundall dated 1 September 2020
43. Letter regarding Verification Method JV3 & BCA Part J Compliance prepared by Cundall dated 4 August 2020
44. Email Correspondence regarding DA Condition B9 prepared by Billbergia dated 31 August 2020
45. Plans for Mechanical Service Works prepared by D&E numbered: 1000-01[B], 1000-02[B], 1001-01[B], 1001-02[B], 1001-03[B], 1002-01[B], 1002-02[B], 1003-01[B], 1003-02[B], 1005-01[B], 1005-02[B], 1011-01[B], 2002-01[B], 2002-02[B], 2003-01[B], 2005-01[B], 2011-01[B], 0010-04[01], 0011-02[01], 0004-00[2]
46. Plans for Electrical Works prepared by Heyday Group numbered: 1300-00[02], 1301-00[02], 1302-00[02], 1303-00[02], 1305-00[02], 1320-00[05], 1321-00[04], 1322-00[04], 323-00[05], 1325-00[03], 1330-00[03], 1331-00[02], 1332-00[03], 1350-00[02].
47. Plans for Hydraulic Works prepared by Boone & Willard numbered: 1050[4], 1051[4], 1052[4], 1053[4], 1055[4], 2050[4], 2051[4], 2052[4], 2053[4], 2054[4], 2055[4].
48. Plans for Structural Works prepared by Tonkin numbered: S0000[1], S0001[1], S0020[1], S1000[1], S1001[1], S1010[1], S1011[1], S1012[1], S1013[1], S1100[1], S1101[1].
49. Plans for Fire Services Works prepared by BSA numbered: 2200-02[8], 2201-02[6], 2202-02[5], 2203-02[7], 2205-02[4], 2350-00[4], 2350-01[5], 2350-02[4], 2350-03[4], 2350-05[5], 2350-10[4].

50. Design Statement for Hydraulic Services prepared by EFWF dated 10 September 2020
51. Design Certificate for Fire Services prepared by BSA dated 04 September 2020
52. Design Certificate for Fire seals and collars prepared by Boone & Willard dated 10 September 2020
53. Fire Engineering Report Revision K prepared by Holmes Fire dated 21 October 2020
54. Email response to IFSR prepared by McKenzie Group dated 22 October 2020
55. Email regarding Stakeholder Concurrence prepared by Greaton Development dated 23 October 2020

Development Consent

Certificate no.: SSD 8838
Date of Determination: 28 February 2019

Certificate / Registered Certifier

McKenzie Group Consulting (NSW) Pty Ltd, certify that the work, if completed in accordance with these plans and specifications will comply with the Environmental Planning and Assessment Regulation 2000 as referred to in Section 6.8 of the Environmental Planning and Assessment Act 1979.

A handwritten signature in blue ink, appearing to be "G. Pearce".**Signature**

Signed on behalf of the Company, McKenzie Group Consulting (NSW) Pty Ltd
(ACN 093 211 995), Registered Body Corporate No. ABC 6
Signed by: Geoffrey Pearce
Category of Accreditation: A1
Registered Certifier No.: 0746

Date of endorsement **23/10/2020**
Certificate Number **J/75322/01**

Note: Prior to commencement of work section 6.6 of the Environmental Planning and Assessment Act 1979 must be satisfied.

ATTACHMENT 1

Existing Fire Safety Schedule

Issued under the Environmental Planning and Assessment Regulation 2000 Clause 168

N/A – New Building

Proposed Fire Safety Schedule

Issued under the Environmental Planning and Assessment Regulation 2000 Clause 168

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>
1.	Access Panels, Doors and Hoppers	BCA 2016 Clause C3.13
2.	Automatic Fail Safe Devices	BCA 2016 Clause D2.19 & D2.21
3.	Automatic Fire Detection and Alarm System	<p>BCA 2016 Spec. E2.2a & AS 1670.1 – 2015, AS/NZS 1668.1 – 2015 & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <p>The building shall be provided with a smoke detection and alarm system in accordance with BCA Specification E2.2a and the relevant requirement of AS 1670.1-2015. The system shall also be provided in accordance with the following:</p> <p>(a) Class 3 public areas (including the Level 22 Pool) and back of house areas (including plant rooms) shall be provided with smoke detectors in accordance with Section 5.1 of AS 1670.1-2015, including in sprinkler protected areas, however smoke detectors are not required within concealed spaces.</p> <p>(i) Thermal detectors complying with the relevant requirements of AS 1670.1-2015 may be provided in lieu of smoke detectors in locations where smoke detectors are likely to experience frequent spurious signals.</p> <p>(ii) Alarm Delay Facility (ADF) in accordance with Clause 3.4 of AS 1670.1 is only allowed to be provided for smoke detectors of SOUs within Class 3 areas. The delay period shall be no greater than 5 minutes.</p> <p>(b) The IMAX tenancy smoke detection shall be in accordance with Item 2.9.</p> <p>(c) The Level 3 and Level 5 areas shall have smoke detectors located on a 10 m by 10 m grid and a smoke detector within each room.</p> <p>(d) The Level 10 Mech Plant room and the Level 28 Plant Room shall have smoke detectors located on a 6 m by 6 m grid.</p> <p>(e) Level 29 Class 9b areas (and adjacent plant rooms) shall have smoke detectors located on a 7 m by 7 m grid.</p> <p>(f) Where automatic closing doors are provided to smoke lobby doors on Ground Level (refer to Item 1.23), a smoke detector shall be provided on the non-smoke lobby side of the door, located not more than 1.5 m from the door.</p> <p>(g) The lightwell is not required to be provided with a smoke detection system at the top of the atrium (aspirating or otherwise).</p> <p>(h) Smoke detection within the car stacker shall be provided at the underside of the roof / Level 3 slab of the car stacker in accordance with Clause 7 of AS 1670.1-2015.</p> <p>(i) The occupant warning system required for the building shall meet the requirements of Item 2.13.</p>

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>
		<p>(j) The Escalator Tunnel connecting Level 1 to Level 3 of the hotel need not be provided with smoke detectors inside the tunnel (above the escalator treads) provided that smoke detectors are provided at the top and at the base of the tunnel as shown in Figure 2-39.</p> <p>(a) The IMAX lobby areas shall have smoke detectors located on a 10 m by 10 m grid.</p> <p>(b) An aspirating smoke detection system is to be provided to serve the IMAX auditorium. The aspirating smoke detection system serving the auditorium shall:</p> <ul style="list-style-type: none"> (i) have a maximum transport time of 60 seconds; (ii) be configured to activate the Occupant Warning System within the auditorium (refer to Item 2.13) at an obscuration threshold of no more than 0.181 %/m; and (iii) be configured to activate the alarm signalling equipment, shutdown of mechanical systems and operate other relevant functions of the FDCIE at an obscuration threshold of no more than 0.363 %/m. <p>(c) Additional FDCIE and EWCIE panels shall be provided within the Ground Level portions of the IMAX tenancy with the functionality to control the SSISEP (refer to Item 2.13) within the IMAX tenancy.</p>
4.	Automatic Fire Suppression System	<p>BCA 2016 Spec. E1.5 & AS2118.1:1999, AS2118.6:2012, AS2118.1:2006 & AS2118.1:2017 (where specified) & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <p>Any cupboard or wardrobes that are not provided with sprinklers (refer to Item 2.2) shall:</p> <ul style="list-style-type: none"> ▪ Have a floor area not greater than 2.5 m²; ▪ Have their walls and ceilings lined with non-combustible materials; and ▪ Not be used for the storage of flammable liquids. ▪ In addition to the requirements of the BCA Clause E1.5, AS 2118.1-1999 and AS 2118.6-2012, the automatic sprinkler system shall be provided in accordance with the following: <ul style="list-style-type: none"> ▪ Fast response heads with a RTI of not more than 50 ms-1/2 shall be provided throughout the non-residential areas of the building. ▪ The sprinkler concessions within Item 2.2 may be applied. ▪ Concealed heads shall not be provided within the IMAX auditorium. ▪ Sprinklers shall be provided within the smoke lobbies (shaded orange in Figure 2-27) that are provided adjacent to the Ground Level fire-isolated passageways (refer to Item 1.20). ▪ Sprinklers shall be provided within the fire separated area of Stair H13 and associated corridor (refer to Item 1.29). ▪ Sprinkler coverage is not required to be provided to the base of the lightwell on Level 18. ▪ Sprinkler protection to the roof of the lightwell is not required.

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>
		<ul style="list-style-type: none"> ▪ Sprinkler protection to the portions of the Retail and Hotel areas on Level 1 that are located beneath the northern Western Distributor Roadway (shown shaded in Figure 2-28) shall be in accordance with Item 2.3 ▪ Sprinklers within the car stacker shall be in accordance with Item 2.4. ▪ The following concessions that are provided within AS 2118.1-2017 may be applied to the sprinkler system serving the subject building: <ul style="list-style-type: none"> ▪ Clause 5.7.7(c) – the clear space below sprinkler deflectors is permitted to be not less than 250 mm in washrooms and toilet cubicles ▪ Clause 5.7.10 – Dry shadowed areas up to a cumulative area of 1.4 m² per sprinkler are permitted. ▪ Clause 5.9.17 - Cupboards and Wardrobes are not required to be provided with a sprinkler head within the cupboard / wardrobe on the basis that sprinklers in the adjoining room are positioned in front of the door such that they would cover the area of the cupboard/wardrobe if the doors are in the open position and the cupboard/wardrobe is constructed in accordance with Item 1.31. <p>The sprinkler protection to portions of the Retail and Hotel areas on Level 1 that are located beneath the northern Western Distributor Roadway (shown shaded in Figure 2-28) shall consist of:</p> <ul style="list-style-type: none"> ▪ Sprinklers located below the ceiling (referred to as below-ceiling sprinklers), designed to achieve the spacing and performance requirements of Light Hazard for Hotel areas and OH3 for Retail areas; ▪ Sprinklers located above the ceiling (but below the roof) (referred to as above-ceiling sprinklers), designed to achieve the spacing and performance requirements of OH3. <p>The below-ceiling system and above-ceiling system shall each be served by separate isolation valves, one being located within a fire-isolated stair on Level 1 and the other being located within a fire-isolated stair on Level 2.</p> <p>For the kitchen exhaust ducts that discharge beneath the northern Wester Distributor Roadway (shown highlighted yellow in Figure 2-29) – in addition to the requirements of AS 2118.1-1999 for sprinkler heads within kitchen exhaust ducts, a secondary sprinkler head shall be provided within each kitchen exhaust duct. These secondary sprinkler heads shall:</p> <ul style="list-style-type: none"> ▪ Be located near the top of the corresponding kitchen exhaust duct; ▪ Be fed from the above-ceiling sprinkler system (refer to (a)(ii) above); and ▪ Have a suitable activation temperature for their location and comply with the requirements and guidance in AS 2118.1-1999

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>
5.	Emergency Lifts	BCA 2016 Clause E3.4 & AS 1735.2 – 2001 & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020: <ul style="list-style-type: none"> ▪ Lifts G and H are to be designed as emergency lifts to service all levels, except Level 30. These lifts are permitted to be located within the same fire-isolated shaft. ▪ Lifts A, B and C are to be provided with a fire service recall control switch complying with BCA Clause E3.9.
6.	Emergency Lighting	BCA 2016 Clause E4.2, E4.4 & AS/NZS 2293.1 – 2005 Amdt 1 & 2 & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020: Emergency lighting and exit signage is not required to be provided within the car stacker in accordance with the Deemed-to-Satisfy Provisions of the BCA. Illuminated exit signs shall be provided in accordance with AS 2293.1–2005 on each level within the car stacker, to highlight the egress points. The locations identified in drawing ELE-HEY-SHD-0475-00 are considered appropriate.
7.	EWIS (Sound Systems and Intercom Systems for Emergency Purpose)	BCA 2016 Clause E4.9 & AS 1670.4 - 2015 & AS 4428.4-2004 & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020: In addition to the requirements of BCA Specification E2.2a, Clause 6 and BCA Clause E4.9, the building occupant warning system shall be provided in accordance with the following: The sound pressure levels of the occupants warning system shall be not less than 75 dB(A) at all bedheads in all residential SOUs with the SOU entry door and all internal doors closed. Smoke and acoustic seals are to be installed on all doors where required prior to testing of sound pressure levels. The occupant warning system is to be configured to have cascading ALERT and cascading EVACUATE tones in accordance with the OWS matrix in Appendix F. The delay period between successive cascades to subsequent evacuation zones shall be 120 seconds. The Level 3 AHU Plantroom is to be treated as part of the car stacker evacuation zone.
8.	Emergency Evacuation Plan	AS 3745 – 2002
9.	Exit Signs	BCA Clauses E4.5, NSW E4.6 & E4.8 and AS/NZS 2293.1 – 2005 Amdt 1 & 2 & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020: The concession permitted within BCA Clause E4.7 shall not be provided, all exit signs and directional exit signs shall be illuminated. Illuminated directional exit signage shall be provided within Stair H08, at the base of the lowest flight, to direct occupants descending the stair to the north fire-isolated passageway.

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>
		<p>In addition to the exit signage required by the Deemed-to-Satisfy Provisions, additional directional exit signs shall be provided on Level 23, Level 25 and Level 26 as indicated in Figure 2-36, Figure 2-37 and Figure 2-38 respectively.</p> <p>Illuminated exit signs and direction exit signs shall be provided in accordance with BCA Part E4 and AS 2293.1–2005.</p> <p>The southern doorways from Retail Tenancies 02 and 03 on Ground Level, that lead into smoke lobbies (refer to Figure 2-27) shall not be nominated as exits nor be provided with exit signs.</p>
10.	Fire Control Rooms	BCA 2016 Spec. E1.8
11.	Fire Curtains	<p>BCA 2016 AS1905.2 – 2005 & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <ul style="list-style-type: none"> ▪ The fire curtain system, inclusive of head box, any side guides and curtain material, is to have been tested in accordance with AS 1530.4-2014 to determine the fire resistance level of the curtain. The fire curtain dimensions approved by the test shall cover all sizes applied for the project. ▪ The fire curtains are to have been designed to an internationally recognised standard and capable of achieving a minimum fire resistance level of -/120/-. ▪ The fire curtains are to be configured to operate in accordance with 2.21. ▪ The fire curtain shall be in the fully closed position within 60 seconds of activation. ▪ A red coloured strobe light and audible warning device must be located adjacent to each fire curtain, and both of which shall activate upon, or prior to, commencement of descent of the fire curtain. The audible device is to produce a sound of adequate intensity to alert occupants adjacent to the fire curtain, with consideration given to ambient noise levels. ▪ Ground Level fire separation shall incorporate an automatic fire curtain (as shown in Figure 2-28) in accordance with Item 1.18; ▪ Any chutes, ducts or services connecting the portions of the Ground Level that are located to the north of the fire curtain to the areas on Level 1 or Level 2 shall be: <ul style="list-style-type: none"> ▪ Protected in accordance with BCA Clause C3.15 where they penetrate the Level 1 floor slab; or ▪ Contained within a fire rated riser shaft with any doors or hoppers providing access to the shaft being self-closing, fire rated and provided with ambient and medium temperature smoke seals. ▪ A smoke curtain is to be provided to the IMAX Ground Level lobby area, to bound the path of travel between the base of Stair X04 and the western exit doors from the lobby as indicated in Figure 2-28.

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>
		<ul style="list-style-type: none"> ▪ The smoke curtains are to be designed to an internationally recognised standard. ▪ The smoke curtain assembly shall have a total leakage rate of not more than 25 m³/h per square metre of surface area when subjected to 25 Pa at ambient temperature and 25 Pa at 200°C in accordance with AS 1530.7-2007. ▪ The smoke curtain is to be capable of withstanding direct flame impingement for a period of 30 minutes. ▪ The smoke curtain shall be capable of withstanding a pressure differential of at least 40 Pa across the curtain when in the closed position. ▪ The smoke curtains are to be configured to operate in accordance with 2.22. ▪ The fire curtain shall be in the fully closed position within 60 seconds of activation. ▪ A red coloured strobe light and audible warning device must be located adjacent to each fire curtain, and both of which shall activate upon, or prior to, commencement of descent of the fire curtain. The audible device is to produce a sound of adequate intensity to alert occupants adjacent to the fire curtain, with consideration given to ambient noise levels.
12.	Fire Dampers	BCA 2016 Clause C3.15, AS/NZS 1668.1 – 2015 & AS 1682.1&2 - 1990
13.	Fire Doors	BCA 2016 Clause C3.2, C3.4, C3.5, C3.6, C3.7 & C3.8, Spec C3.4 and AS 1905.1 – 2015
14.	Fire Hose Reels	<p>BCA 2016 Clause E1.4 & AS 2441 – 2005 Amdt 1 & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <p>Fire hose reel coverage is not required to be provided to the following fire and smoke separated areas.</p> <ul style="list-style-type: none"> ▪ The egress corridors on Ground Level (shaded blue in Figure 2-27); ▪ (The smoke lobbies on Ground Level (shaded orange in Figure 2-27); ▪ The fire separated areas of Stair H13 and associated corridor (shaded orange in Figure 2-32) ▪ The Lift lobbies and adjacent comms rooms on Level 3, Level 5 and Level 29 (shaded orange in Figure 2-19, Figure 2-20, Figure 2-21 and Figure 2-22 and Figure 2-23).
15.	Fire Hydrant System	<p>BCA 2016 Clause E1.3 & AS 2419.1 – 2005 Amdt 1 & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <p>In addition to the requirements of the BCA Clause E1.3 AS 2118.6-2012 and AS 2419.1-2005, the fire hydrant system shall be provided in accordance with the following:</p> <p>The fire hydrant booster is permitted to be located within 10 m of the building;</p>

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>
		<p>A red visual warning device (red strobe) shall be provided at the fire hydrant booster assembly in accordance with Item 2.11;</p> <p>Where additional internal attack hydrants are required on the floorplate (i.e. in addition to those in the fire-isolated stairs), these shall be located within 25 m of a fire hydrant located within a fire-isolated stair.</p> <p>An attack hydrant is to be provided within the bicycle parking and amenities area on Ground Level.</p> <p>The fire hydrants that are provided to service the Car stacker shall not be located within the car stacker fire compartment (i.e. they shall be located within the fire-isolated access stair and the Level 2 lobby).</p> <p>Fire hydrant coverage to all areas of the car stacker shall be achieved with a 30 m length of hose and a 10 m spray, except for the following permitted shortfall areas:</p> <ul style="list-style-type: none"> ▪ Level 1 mezzanine: ~3 m shortfall to the north-west corner; ▪ Level 2: ~1 m shortfall to the north-west corner; and ▪ Level 2 mezzanine: ~ 5 m shortfall to the north-west corner. <p>Signage is to be provided in accordance with Item 3.6.</p>
16.	Fire Seals, Collars	BCA 2016 Clause C3.15, C3.16 & AS 1530.4 – 2014
17.	Fire Shutters	BCA 2016 Spec. C3.4 & AS 1905.2 – 2005
18.	Lightweight Construction	BCA 2016 Clause C1.8, C3.17 & AS 1530.3 – 1999
19.	Mechanical Air Handling System	<p>BCA 2016 Clause E2.2, AS/NZS 1668.1 – 2015</p> <p>Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <ul style="list-style-type: none"> ▪ The mechanical service risers that extend above the ballroom shall be separated from the ballroom by fire rated construction achieving an FRL of at least -/120/120. ▪ Mechanical ductwork passing through these fire separations shall be provided with fire rated smoke dampers in accordance with Item 2.18.
20.	Paths of Travel	<p>EP&A Reg 2000 Clause 186</p> <p>Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <ul style="list-style-type: none"> ▪ The travel distances in the residential areas on Level 10 to Level 28 shall be no more than 22 m from an SOU entry door to a point of choice of exits. ▪ Alternative paths of travel are permitted to converge within 6 m at the western core on Levels 12 to Level 18. ▪ The travel distance within the Level 10 Mech Plant room is permitted to be up to 32 m to a point of choice. ▪ The travel distance within the Level 28 Plant room is permitted to be up to 34 m to a point of choice.

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		<ul style="list-style-type: none"> ▪ The travel distance within the Level 1 Hotel Lounge area is permitted to be up to 24 m to a point of choice. ▪ The travel distance within the Level 3 restaurant and associated areas shall comply with the BCA Deemed-to-Satisfy Provisions of Clause D1.4(c)(i), except that the travel distance to a point of choice within this area is permitted to be up to 21 m.
21.	Portable Fire Extinguishers	BCA 2016 Clause E1.6 & AS 2444 – 2001
22.	Pressurising Systems	<p>BCA 2016 Clause E2.2 & AS/NZS 1668.1 – 2015 Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <p>The Class 6 retail areas on Ground Level and Level 1 are not required to be provided with a zone pressurisation system.</p> <p>The Class 9b IMAX tenancy is not required to be provided with a zone pressurisation system.</p> <p>The Class 9b bar and pool areas on Level 29 and Level 30 are not required to be provided with a zone pressurisation system.</p> <p>The Class 6 areas on Level 3 and the Class 9b areas on Level 5 shall be provided with a zone pressurisation system in accordance with AS/NZS 1668.1-2015 except that:</p> <ul style="list-style-type: none"> ▪ The system need only provide the required pressure differential (on the level of fire detection) in the event of a fire being detected within Level 3 or Level 5. ▪ The operation of the system shall be coordinated with the descent of the fire curtains on Level 3 and Level 5 (refer to Items 1.12, 1.16, and 2.21) <p>The stair pressurisation system to the fire-isolated stairs serving the residential levels is permitted to be designed based on levels 18 to 27 (inclusive) each being separate fire compartments.</p> <p>The fire-isolated passageways on Ground Level that connect Stairs H05 and H06 to the outside (shaded blue in Figure 2-27) are not required to be pressurised.</p> <p>The following configuration shall be adopted during commissioning and maintenance testing of the stair pressurisation systems serving Stars H05 and H06:</p> <ul style="list-style-type: none"> ▪ The door between Stair H05 and the north fire-isolated passageway and the final discharge door from the north fire-isolated passageway to the outside shall be open during the testing of the Stair H05 pressurisation system. ▪ The door between Stair H06 and the south fire-isolated passageway and the final discharge door from the south fire-isolated passageway to the outside shall be open during the testing of the Stair H06 pressurisation system. ▪ All doors to smoke lobbies and doors to Stairs H07 and H08 shall be closed during testing.
23.	Required Exit Doors (power operated)	BCA 2016 Clause D2.19

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>
24.	Self-Closing Fire Hoppers	BCA 2016 Clause C3.13 & AS 1530.4 – 2015
25.	Smoke Hazard Management System	<p>BCA 2016 Part E2 & AS/NZS 1668.1 – 2015</p> <p>Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <p>The car stacker shall be provided with a smoke exhaust system (hot layer smoke control system) in accordance with AS/NZS 1668.1-2015.</p> <p>The smoke extract shall be provided by a single extract point located at the roof level, in the centre of the space as indicated in Figure 2-30, providing a total extract rate of 30 m³/s.</p> <p>Makeup air shall be provided via fixed open façade louvers in accordance with Item 1.15.</p> <p>The smoke exhaust system shall be configured to operate upon activation of the smoke detection system (refer to Item 2.8(f)) or the sprinkler system (refer to Item 2.4) within the car stacker.</p> <p>The HVAC systems within the escalator void fire compartment (refer to Item 1.12) shall be configured to operate in accordance with Table 2-3 in fire mode.</p> <p>The HVAC systems within the Level 29 and Level 30 bar fire compartment shall be configured to operate in accordance with Table 2-3 in fire mode.</p>
26.	Smoke Dampers	BCA 2016 AS/NZS 1668.1 – 2015
27.	Smoke Doors	BCA 2016 Spec. C3.4
28.	Smoke Seals	<p>AS1530.7 – 2007</p> <p>Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020:</p> <ul style="list-style-type: none"> ▪ The following doors are to be provided with ambient, and medium temperature smoke seals: <ul style="list-style-type: none"> ○ Doors forming part of fire and smoke compartmentation on residential Levels (refer to Item 1.8); ○ Doors within fire rated walls in the IMAX tenancy (refer to Item 1.7) ○ Doors to smoke lobbies and discharge passageways on Ground Level (refer to Item 1.20); ○ Doors on Ground Level in the wall between the carpark and the lift lobby serving Lifts G and H; ○ Doors on Ground Level in the wall between the carpark and the Retail 02 tenancy (refer to Item 1.2); ○ Doors to Lift Smoke lobbies (refer to Item 1.13) ○ Doors to Comms and service cabinets (refer to Item 1.9(b)) ▪ The following doors are to be provided with ambient, medium, and hot (intumescent) temperature smoke seals:

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>
		<ul style="list-style-type: none"> ○ All doors opening into residential public corridors from residential SOUs and non-SOU rooms (Including comms rooms and service rooms - refer to Item 1.9(a)). ▪ Ambient and medium temperature smoke seals are to be installed on the top, bottom, and sides of the door leaf or the door frame. Hot temperature smoke seals are to be installed on the top and sides of the door leaf or the door frame – these are not required on the bottom of the door leaf. ▪ The ambient and medium temperature seals are to have been tested to AS 1530.7-2007, or equivalent, for ambient (25 ± 15°C) and medium (200 ± 20°C) temperature smoke. The door and seals are to form a smoke door assembly that complies with AS 6905-2007(except in the case of doors to comms and service cabinets – Item (a)(vii) above). ▪ The hot (intumescent) smoke seals are to have been tested to AS 1530.4-2014, for > 200°C temperature smoke. ▪ Hot smoke seals are to be either a separate seal to the ambient and medium temperature seal or as a combined ambient/medium/hot temperature seal such as Lorient LAS1812LSS or Killargo KG1612BW.
29.	Stand-by Power System	BCA 2016 Clause G3.8
30.	Wall-Wetting Sprinkler and Drencher Systems	BCA 2016 Clause C3.4 & AS 2118.2 – 2010 & Fire Engineering Report prepared by Holmes Revision K dated 21 October 2020: <ul style="list-style-type: none"> ▪ The south facing glazing of Retail Tenancy 06 on Ground Level that is located within 6 m of the SHFA building (refer to Item 1.36) is to be provided with wall wetting sprinklers (Drenchers) as indicated in Figure 2-31. ▪ The wall wetting sprinklers (Drenchers) shall be provided both internally and externally and be installed in accordance with the relevant requirements of AS 2881.2-2012 ▪ The sprinkler bulbs shall be fast response with a RTI of not more than 50 ms-1/2. ▪ The wall wetting sprinklers (Drenchers) shall be supplied from a sprinkler zone other than the sprinkler zone that serves the Retail Tenancy 06 areas on Ground Level.
31.	Warning and Operational Signs	EP&A Reg 2000 Clause 183, BCA Clause C3.6, D2.23, E3.3 & H101.8 Fire Engineering Report prepared by Holmes Engineering Revision K dated 21 October 2020
32.	Fire Engineering Report	Fire Engineering Report prepared by Holmes Engineering Revision K dated 21 October 2020

All services will require an inspection by a competent person for installation compliance to the relevant Australian Standard and the BCA and be certified accordingly.

