

19 August 2021

Chris Billingham
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Level 10, 60 Castlereagh Street
Sydney NSW 2000
chris.billinghurst@au.roberts.co

Dear Chris,

Re: Sydney Olympic Park new high school (SOPHS) – SSDA Stage BCA Review

Reference is made to BCA Logic Pty Ltd's engagement to provide Building Code of Australia (BCA) consultancy services (excluding the Access requirements of Part D3, E3.6, F2.4 and F2.9 covered under separate correspondence 113823-Access-r1) for the proposed Sydney Olympic Park new high school project, located at Burroway Road, Sydney Olympic Park NSW 2127.

The proposed development comprises of a six (6) storey high school building including general learning spaces (GLSs) and specialist teaching spaces, labs and workshops, learning units and staff spaces, library, gymnasium and ancillary administration areas with communal circulation spaces.

The building incorporates Class 5 and Class 9b Building Classifications under the BCA (BCA A6), is required to be of Type A Construction (BCA C1.1), has a rise in storeys of six (6) (BCA C1.2) and has an effective height of greater than 12m, however less than 25m (BCA Schedule 3).

As part of our engagement BCA Logic Pty Ltd have been requested to provide a high level independent review of the SSDA stage architectural documentation identified in **Annexure D** of this correspondence against the requirements of the Building Code of Australia 2019 Volume One Amendment 1 (the BCA2019) (excluding Access requirements). This review must not be construed as a detailed compliance assessment, as no such detailed assessment has been completed, nor is any detailed assessment able to be completed considering the level of detail currently included in the design documentation provided.

Now having completed a high level review of the documentation, BCA Logic have identified various features in the building design which require further consideration to ensure that compliance with the Building Code of Australia 2019 Volume One Amendment 1 can be achieved, namely the following:

1. Those Essential Fire and Other Safety Measures identified in **Annexure A** shall be provided to serve the building as required by the BCA2019 (as altered/updated by any subsequent Performance Solution(s) and design alterations or changes for the project); and
2. Those known Performance Solutions listed in **Annexure B** of this correspondence shall be provided to demonstrate that the BCA's Performance Requirements are met in addition to any other Performance Solutions which arise throughout the detailed design stages; and
3. Those relevant provisions of the BCA identified in **Annexure C** of this correspondence shall be demonstrated to be complied with (as varied by any Performance Solutions) in subsequent detailed design stages and through to the lodgment of the Crown Certification application with the Crown Certification Authority.

Provided the above items are addressed, and subject to ongoing design development, refinement and detailed assessment towards the Crown Certificate stage, it is considered that the building can comply with the BCA2019.

Yours faithfully,



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Annexure A – Schedule of Required/Proposed Essential Fire Safety Measures

The following fire safety measures are required to be installed in the building based on the current design scheme. This table may be required to be updated as the design develops and options for compliance are confirmed.

It is important that the fire and other safety measures below be read in conjunction with **Annexure C** of this correspondence, where the required measures may be varied by means of assessment against the Performance Requirements of the BCA.

Item	Essential Fire and Other Safety Measures	Standard of Performance
Fire Resistance (Floors – Walls – Doors – Shafts)		
1.	Access Panels & doors/hoppers (fire rated)	BCA2019 C3.13 (Openings in Shafts) BCA2019 Spec C3.4 AS 1905.1:2015 (Fire Resistant Doorsets) AS 1905.2:2005 (Fire Resistant roller shutters)
2.	Fire doors	BCA2019 C2.12 (Separation of Equipment) BCA2019 C2.13 (Electricity Supply Systems) BCA2019 C3.4 (Acceptable methods of Protection) BCA2019 C3.5 (Doors in Fire Walls) BCA2019 C3.10 (Opening in Fire Isolated Lift Shafts) AS1735.11- 1986 BCA2019 C3.13 (Opening in Shafts) BCA2019 D1.8 (External Stairways or Ramps in Lieu of Fire-Isolated Exits) Spec C3.4 AS1905.1: 2015
3.	Fire seals protecting openings in fire resisting components of the building	BCA2019 C3.15 (Openings for service installations) BCA2019 C3.16 (Construction joints) BCA2019 Spec C3.15 AS1530.4:2014 & AS4072.1-2005
4.	Fire shutters	BCA2019 C3.4 (Acceptable methods of protection) BCA2019 Spec. C3.4 AS1905.2-2005
5.	Fire windows	BCA2019 C3.2 (Protection of Openings)



Item	Essential Fire and Other Safety Measures	Standard of Performance
		BCA2019 C3.3 (Separation of external walls and associated openings in different fire compartments) BCA2019 C3.4 (Acceptable Methods of Protection) BCA2019 D1.7 (Travel Via Fire Isolated Exits) BCA2019 D1.8 (External Stairways or Ramps in Lieu of Fire-Isolated Exits) BCA2019 Spec. C3.4 identical to tested prototype AS1905.2-2005 (Fire Resistant Roller Shutters)
6.	Lightweight construction	BCA2019 C1.1, Spec. C1.1 BCA2019 C1.8, Spec C1.8
7.	Safety curtain in proscenium opening	BCA2019 NSW H101.10
General		
8.	Fire control centre	BCA2019 E1.8, Spec E1.8 (Fire Control Centres)
9.	Portable fire extinguishers	BCA2019 E1.6 AS 2444–2001
10.	Fire blankets	AS 2444–2001
General Egress		
11.	Automatic fail safe devices	BCA2019 D2.21 (Operation of Latches) AS 1670.1:2018 (Fire)
12.	Evacuation Training	AS 3745:2010
13.	Operation of Door latches	D2.21 (Operation of Latch) AS 1670.1:2018
14.	Required Automatic Doors	D2.19 (Doorways and Doors)
15.	Swing of Exit Doors	D2.20 (Swinging Doors)
16.	Warning & operational signs	BCA2019 D2.23 (Signs on Fire Doors) BCA2019 D3.6 (Braille Exit Signs) (Note: E4.5 (Exit Signs)) BCA2019 E3.3 (Lift Signs) NSW H101.8 (Stage Load Notice) BCA2019 Spec E1.8 (Fire Control Centres)



Item	Essential Fire and Other Safety Measures	Standard of Performance
17.	Open access balconies	BCA2019 D2.5 (Open Access Ramps and Balconies)
Lifts		
18.	Access to Lift Pits	BCA2019 D1.17 (Access to Lift Pits)
19.	Stretcher Lifts	BCA2019 E3.2 BCA2019 E3.7 (Fire Service Controls) BCA2019 E3.9 (Fire Service Recall Operation Switch) BCA2019 E3.10 (Lift Car Fire Service drive control switch) BCA2019 Spec E3.1 AS 1735.11:1986 (Fire rated landing doors)
Electrical Services		
20.	Automatic fail safe devices	BCA2019 D2.21 (Operation of Latches) AS1670.1:2018 (Fire)
21.	Automatic fire detection & alarm system	BCA2019 E2.2 , NSW Table E2.2a, Table 2.2b Spec E2.2a BCA2019 C2.3 (Large Isolated Building) BCA2019 C3.5 (Doors in Fire Walls) BCA2019 D2.21 (Operation of Latch) Spec C3.4 AS 1670.1:2018 (Fire) – Section 4 and 5 (Detectors) AS 1670.1:2018 (Fire) – Section 7 (Smoke Control) AS 1670.3:2018 (Fire Alarm Monitoring) AS 1670.4:2018 (EWIS)
22.	Emergency lighting	BCA2019 E4.2, E4.4 AS/NZS 2293.1:2018
23.	Exit signs	BCA2019 E4.5 (Exit Signs) BCA2019 E4.6 (Direction Signs) BCA2019 E4.8 (Design and Operation - Exits) AS/NZS 2293.1:2018
24.	Smoke detectors & heat detectors	BCA2019 E2.2, Spec E2.2a



Item	Essential Fire and Other Safety Measures	Standard of Performance
	<ol style="list-style-type: none"> Smoke Exhaust System Auto-shutdown of Air-handling System. <ul style="list-style-type: none"> > (Clause E2.2(b)) - Any system that recycles air from one fire compartment to another, or operates in a manner that may spread smoke and does not operate as a smoke control system as per AS 1668.1; > (NSW Table E2.2b) - Any system in a Class 9b assembly building which does not form part of a smoke hazard management system, other than: <ul style="list-style-type: none"> non-ducted individual room units with a capacity of not more than 1000 L/s; or miscellaneous exhaust are systems installed as per Section 5 and 6 of AS/NZS 1668.1:2015. 	AS 1668.1:2015
25.	Emergency warning and intercom systems (EWIS)	BCA2019 E4.9 AS 1670.4:2018 (EWIS)
26.	System Monitoring	BCA2019 E1.5 & Spec E1.5 BCA2019 E2.2, Table E2.2a, Spec E2.2a AS 1670.3:2018
Hydraulic Services		
27.	Fire hydrant systems	BCA2019 E1.3 BCA2019 C2.12 (Separation of Equipment) AS 2419.1:2005 FRNSW Technical Sheet D15/45534.V9 issued 10.01.19, 'Compatible Hose Connections'
28.	Hose reel systems	BCA2019 E1.4 AS 2441:2005
29.	Wall-wetting sprinkler / drenchers	BCA2019 C3.4 AS 2118.2: Wall-wetting sprinkler / drenchers
Mechanical Services		
30.	Fire dampers	BCA2019 E2.2, Spec E2.2a, Spec E2.2b BCA2019 C3.15 AS 1668.1:2015 (Amdt 1) AS 1682.1:2015 & AS 1682.2:2015
31.	1. Mechanical air handling systems	BCA2019 E2.2, Table E2.2a, Table E2.2b



Item	Essential Fire and Other Safety Measures	Standard of Performance
	<p>2. Smoke Control System/Smoke Exhaust System</p> <p>3. Auto-shutdown of Air-handling System.</p> <ul style="list-style-type: none"> > (Clause E2.2(b)) - Any system that recycles air from one fire compartment to another, or operates in a manner that may spread smoke and does not operate as a smoke control system as per AS 1668.1:2015; > miscellaneous exhaust are systems installed as per Section 5 and 6 of AS 1668.1:2015; > (NSW Table E2.2b) - Any system in a Class 9b assembly building which does not form part of a smoke hazard management system, other than: <ul style="list-style-type: none"> non-ducted individual room units with a capacity of not more than 1000 L/s; or miscellaneous exhaust are systems installed as per Section 5 and 6 of AS 1668.1:2015. 	<p>Spec E2.2a, Spec E2.2b</p> <p>AS 1668.1:2015 (Amdt 1)</p>
32.	Smoke dampers	<p>BCA2019 E2.2, Spec E2.2a</p> <p>AS 1668.1:2015 (Amdt 1), AS 1682.1:2015 & AS 1682.2:2015</p>
<p>Notes:</p> <p>(An air-handling system which does not form part of a smoke hazard management system in accordance with Table E2.2a or Table E2.2b and which recycles air from one <i>fire compartment</i> to another <i>fire compartment</i> or operates in a manner that may unduly contribute to the spread of smoke from one <i>fire compartment</i> to another <i>fire compartment</i> must—</p> <ul style="list-style-type: none"> (i) ((be designed and installed to operate as a smoke control system in accordance with AS 1668.1:2015; or (ii) <ul style="list-style-type: none"> (A) incorporate smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and (B) be arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1670.1:2018; and <p>Miscellaneous air-handling systems covered by Sections 5 and 6 of AS 1668.1:2015 serving more than one <i>fire compartment</i> (other than a carpark ventilation system) and not forming part of a smoke hazard management system must comply with that Section of the Standard.</p> <p>A smoke detection system must be installed in accordance with Clause 5 of Specification E2.2a to operate AS 1668.1:2015 systems that are provided for zone smoke control and automatic air pressurisation for fire-isolated exits.</p>		



Annexure B – Schedule of Required/Recommended Performance Solutions

There are specific areas where strict Deemed-to-Satisfy BCA Compliance may not be achieved by the proposed design and site constraints. These matters may be able to be addressed in a detailed Fire Engineering Report (FER) (for fire safety matters), or a Performance Solution Report (for non-fire-safety matters) to be prepared for this development under separate cover.

Note that the required Performance Solutions, and any additional requirements associated with those Performance Solutions, may change as the design develops and as options for compliance with the Deemed-to-Satisfy Provisions are explored further.

Where any Performance Solution listed below is not found to be feasible, then design alteration would be necessary to achieve compliance with the BCA2019's Performance Requirements via either a Performance Solution or a Deemed-to-Satisfy Solution. It is particularly important that the project Fire Engineer is consulted on the required Performance Solutions listed below.

Item	Description of Performance Solution	DTS Provision
1.	Rationalisation of the protection of external walls and openings located within the external walls within 3m of the common allotment boundaries. <i>There are external walls and openings in the external walls within 3m of the allotment boundaries requiring fire-resisting building elements and protection. It is assumed that the exposure to the allotment boundaries will be subject to fire engineering justification, where it is also currently unclear whether the proposed eastern road is a private or public road.</i>	C1.1, Spec C1.1, C3.2 & C3.4
2.	Rationalisation of any egress travel distance technical non-compliances (once confirmed upon further development of the floor plate and partition layouts with all doorways shown). <i>The exact egress travel distances are not able to be confirmed until doorways and egress paths are clearly documented in the building design, however it is assumed that Performance Solutions will be necessary to permit extended egress travel distances.</i>	D1.4 & D1.5
3.	Rationalisation of the re-entry of the required egress stairway discharge paths of travel below the building to reach the road. <i>At the first floor and ground floor storeys persons egressing via the required stairways are required to discharge into/required to re-enter the building to reach the road.</i>	D1.7 & D1.8
4.	Rationalisation of the smoke control systems provided to serve the Gym Stage and Mvt. Stage (stage areas exceed 50m ²). <i>The stage areas exceed 50m² and therefore are required to be served by smoke exhaust systems. It is assumed that the smoke exhaust systems will be subject to fire engineering justification.</i>	NSW Table E2.2b & Spec E2.2b
5.	To demonstrate that the construction of the external walls is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements. <i>There are no Deemed-to-Satisfy Provisions relating to the weatherproofing of external walls, and therefore a Performance Solution must be provided to demonstrate that the Performance Requirement FP1.4 of the BCA is met.</i>	F1.0 (FP1.4)



Annexure C – Building Code of Australia Compliance Specification

The following BCA matters are to be complied with in the design of the building and by specific BCA Design Certificate to be issued by the relevant architectural, services and engineering consultants at the Crown Certificate Stage. This schedule should be forwarded to all consultants to obtain verification that these items have and will be included in the design documentation/specifications:

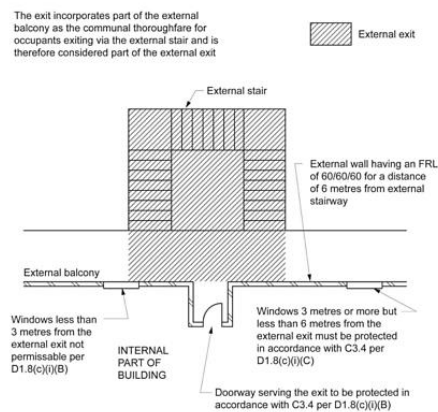
Architectural Design Certification

1. The FRL's of building elements for the proposed works shall be designed in accordance with Table 3 of Specification C1.1 of BCA2019 for a building of Type A Construction, except as varied by any Fire Engineered Performance Solution.
2. Lightweight construction used to achieve required fire resistance levels shall comply with Specification C1.8 of BCA2019.
3. Building elements shall be non-combustible in accordance with C1.9 of BCA2019.
4. Materials, floor and wall linings/coverings, surface finishes and air-handling ductwork used in the works shall comply with the fire hazard properties of Clause C1.10 and Specification C1.10 of BCA2019.
5. Any ancillary elements fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible shall comply with Clause C1.14 of BCA2019.
6. The maximum fire compartment sizes in the building shall be in accordance with Clause C2.2 of BCA2019, with consideration to ground floor and first floor where fire wall separation will be required to keep the fire compartments within the building to within those limitations of Clause C2.2 of BCA2019.
7. Vertical separation shall be provided to the new openings in the external walls in accordance with Clause C2.6 of BCA2019. It is noted that no spandrel separation is required in the stairway or to a void, nor to a fully sprinkler-protected building.
8. Equipment shall be separated in accordance with Clause C2.12 of BCA2019.
9. Any electricity substation, and any main switch room sustaining emergency equipment required to operate in the emergency mode, shall be separated from the remaining building with construction having an FRL 120/120/120 and provided with self-closing -/120/130 fire doors in accordance with Clause C2.13 of BCA2019.
10. Openings in the external walls that are required to have an FRL shall be in located in accordance with Clause C3.2 and C3.3 of BCA2019 or protected in accordance with Clause C3.4 of BCA2019, except as varied by any Fire Engineered Performance Solution.
11. Doorways in any fire walls separating fire compartments shall be protected in accordance with Clause C3.5 of BCA2019.
12. Doors in a fire-isolated exit shall be self-closing or automatic closing fire doors with an FRL of not less than -/60/30 in accordance with Clause C3.8 of BCA2019, except as varied by any Fire Engineered Performance Solution.
13. Fire-isolated stairways shall not be penetrated by services other than those permitted by Clause C3.9 of BCA2019.
14. Services penetrating elements required to possess an FRL including the floor slabs, walls, shafts, etc. shall be protected in accordance with Clause C3.12, C3.13 and C3.15 and Specification C3.15 of BCA2019.
15. Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation shall be protected in accordance with BCA Clause C3.16.
16. The lift doors shall be FRL -/60/- fire doors complying with AS 1735.11:1986 in accordance Clause C3.10 of BCA2019.



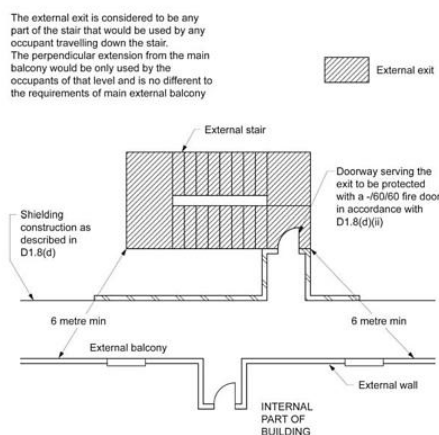
17. The top and bottom of the riser shafts shall achieve an FRL not less than the FRL required for the walls of the shaft in accordance with Clause 2.7 of Specification C1.1 of BCA2019.
18. Fire doors shall comply with AS 1905.1:2015 and Specification C3.4 of BCA2019.
19. Fire shutters and fire windows shall be in accordance with Specification C3.4 of BCA2019.
20. The required exits shall be fire-isolated in accordance with Clause D1.3 of BCA2019.
21. Travel distances to exits shall be in accordance with Clause D1.4 of BCA2019, except as varied by any Fire Engineered Performance Solution.
22. The alternative exits shall be distributed uniformly around the storey and shall not be less than 9m apart, and not more than 60m apart, in accordance with Clause D1.5 of BCA2019, except as varied by any Fire Engineered Performance Solution.
23. The dimensions of exits and paths of travel to exits shall be provided in accordance with Clause D1.6 of BCA2019.
24. The fire-isolated exits shall be in accordance with Clause D1.7 of BCA2019, except as varied by any Fire Engineered Performance Solution.
25. The external stairway or ramp serving as a required exit shall be in accordance with Clause D1.8 of BCA2019, except as varied by any Fire Engineered Performance Solution. The below Figures from the Guide to the BCA2019 are provided for guidance as a critical design compliance consideration for the protection of the external stairways throughout all storeys.

Figure D1.8(1) Protection of the external exit using the external wall of the building in accordance with D1.8(c)(i)



D1.8(d) provides requirements for the shielding construction and protection of any openings in that construction.

Figure D1.8(2) Protection of the external exit using shielding construction in accordance with D1.8(c)(ii)



26. Discharge from exits shall be in accordance with Clause D1.10 of BCA2019.

27. Access to the lift pit shall be in accordance with Clause D1.17 of BCA2019.
28. The stairway or ramp within the fire-isolated shaft shall be non-combustible, and if there is a local failure shall not cause structural damage or impair the fire resistance of the shaft, in accordance with Clause D2.2 of BCA2019, except as varied by any Fire Engineered Performance Solution.
29. The non-fire isolated stairs shall be constructed in accordance with Clause D2.3 of BCA2019.
30. The ramp or balcony provided for smoke hazard management requirements shall be in accordance with Clause D2.5 of BCA2019. The below areas throughout all storeys are identified as important for early design consideration against D2.5 of BCA2019 – these areas shall strictly meet BCA2019 D2.5 to permit the required stairways to be treated as external stairways for the purposes of D1.8 of the BCA2019.



31. The construction of EDB's and telecommunications distribution boards shall be in accordance with Clause D2.7 of BCA2019 with the enclosure bounded by non-combustible construction or fire protective covering and smoke seals provided around the perimeter of the non-combustible doors and any openings sealed with non-combustible mastic to prevent smoke spreading from the enclosure.
32. New pedestrian ramps shall comply with AS 1428.1:2009, Clause D2.10 and Part D3 of BCA2019. The floor surface of a ramp must have a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013.
33. Stair geometry to the new stairways shall be in accordance with Clause D2.13 of BCA2019. Stair treads shall have a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013.
34. Landings and door thresholds throughout the development shall be provided in accordance with Clause D2.14 and D2.15 of BCA2019. Landings shall have either a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 where the edge ledge to a flight below.

35. The handrails and balustrades to all stairs and throughout the building shall be in accordance with Clause D2.16, and D2.17 of BCA2019.
36. The doorways and doors shall be in accordance with Clause D2.19 and D2.20 of BCA2019.
37. Door latching mechanisms shall be in accordance with Clause D2.21 of BCA2019
38. Signage shall be provided on fire and smoke doors in accordance with Clause D2.23 of BCA2019.
39. The openable portion of a window shall be in accordance with Clause D2.24 of BCA2019.
40. Fire precautions whilst the building is under construction fire precautions shall be in accordance with Clause E1.9 of BCA2019.
41. Additional provisions may possible be required in accordance with Clause E1.10 of BCA2019, due to the special hazards associated with the building works or the location of the building works.
42. External above ground waterproofing membranes shall comply with Clause F1.4 of BCA2019 and AS 4654 Parts 1 & 2:2012.
43. The new roof covering shall be in accordance with Clause F1.5 of BCA2019.
44. Any sarking proposed shall be installed in accordance with Clause F1.6 of BCA2019.
45. Waterproofing of all wet areas to the building shall be carried out in accordance with Clause F1.7 of BCA2019 and AS 3740:2010.
46. Damp proofing of the proposed structure shall be carried out in accordance with Clause F1.9 and F1.10 of BCA2019.
47. All new glazing shall be installed throughout the development in accordance with Clause F1.13 of BCA2019 and AS 1288:2006 / AS 2047:2014.
48. Sanitary facilities shall be provided in the building in accordance with Clause F2.1, Table F2.1, Clause F2.3 and Table F2.3 of BCA2019.
49. The construction of the sanitary facilities shall be in accordance with Clause F2.5 of BCA2019.
50. Ceiling heights shall be in accordance with Clause F3.1 of BCA2019.
51. Natural light shall be provided in accordance with Clause F4.1, F4.2, and F4.3 of BCA2019.
52. A means of natural or mechanical ventilation shall be provided in accordance with Clause F4.5, F4.6 and F4.7 of BCA2019.
53. Water closets and urinals shall be located in accordance with Clause F4.8 of BCA2019.
54. The sanitary compartments shall either be provided with mechanical exhaust ventilation or an airlock in accordance with Clause F4.9 of BCA2019.
55. A safe manner for cleaning of windows located 3 or more storeys above ground level shall be provided in accordance with the Work Health & Safety Act 2011 and regulations made under that Act in accordance with NSW G1.101 of BCA2019.
56. The stoves, heaters or similar appliances installed in the building shall be in accordance with AS/NZS 2918:2018 and Clause G2.2 of BCA2019.
57. Boilers and pressure vessels shall be installed in accordance with Specification G2.2 of BCA2019.
58. The building has a theatre, stage, and public hall and therefore shall be in accordance with Part H1 and Specification H1.3 of BCA2019, except as varied by any Fire Engineered Performance Solution.
59. Essential fire or other safety measures must be maintained and certified on an ongoing basis, in accordance with the provisions of the Environmental Planning and Assessment Regulation, 2000.



60. The building shall comply with Section J of BCA2019.

Electrical Services Design Certification:

61. Electrical conductors located within the building that supply a main switchboard which sustains emergency equipment shall comply with Clause C2.13 of BCA2019.
62. A smoke detection and alarm system shall be installed throughout the building in accordance with Table E2.2a, and Specification E2.2a of BCA2019.
63. Emergency lighting shall be installed throughout the development in accordance with Clause E4.2, E4.4 of BCA2019 and AS/NZS 2293.1:2018.
64. Exit signage shall be installed in accordance with Clause E4.5, E4.7, and E4.8 of BCA2019 and AS/NZS 2293.1:2018.
65. An emergency warning and intercom system (EWIS) shall be provided to the building in accordance with Clause E4.9 of BCA2019.
66. Artificial lighting shall be installed throughout the development in accordance Clause F4.4 of BCA2019 and AS/NZS 1680.0:2009.
67. The building shall comply with Section J of BCA2019.

Hydraulic Services Design Certification:

68. Storm water drainage shall be provided in accordance with Clause F1.1 of BCA2019 and AS/NZS 3500.3:2018
69. Fire hydrant system shall be installed in accordance with Clause E1.3 of BCA2019 and AS 2419.1:2005 as required.
70. Fire hose reels shall be installed in accordance with Clause E1.4 of BCA2019 and AS 2441:2005.
71. Portable fire extinguishers shall be installed in accordance with Clause E1.6 of BCA2019 and AS 2444:2001.
72. The building shall comply with Section J of BCA2019.

Mechanical Services Design Certification:

73. An air-handling system which does not form part of a smoke hazard management system shall be installed in accordance with Clause E2.2 of BCA2019, and AS 1668.1:2015.
74. A smoke exhaust system shall be installed in the building in accordance with Table E2.2b, and Specification E2.2c of BCA2019, except as varied by any Fire Engineered Performance Solution.
75. Where not naturally ventilated the building shall be mechanically ventilated in accordance with Clause F4.5 of BCA2019 and AS 1668.2:2012.
76. The building shall comply with Section J of BCA2019.
77. Rigid and flexible ductwork shall comply with the fire hazard properties set out in AS 4254 Parts 1 and 2.

Structural Engineering Design Certification:

78. The material and forms of construction for the proposed works shall be in accordance with Clause B1.2, B1.4 and B1.6 of BCA2019 as follows:
- a. Dead and Live Loads – AS/NZS 1170.1:2002
 - b. Wind Loads – AS/NZS 1170.2:2011
 - c. Earthquake actions – AS 1170.4:2007
 - d. Masonry – AS 3700:2018
 - e. Concrete Construction – AS 3600:2018



- f. Steel Construction AS 4100:1998
 - g. Aluminium Construction – AS/NZS 1664.1 or 2:1997
79. The FRL's of the structural elements for the proposed works shall be designed in accordance with Specification C1.1 of BCA2019, including Table 3 for a building of Type A Construction, except as varied by any Fire Engineered Performance Solution.
 80. The lift shaft shall have an FRL in accordance with Clause C2.10 and Specification C1.1 of BCA2019.
 81. Lightweight construction used to achieve required fire resistance levels shall comply with Specification C1.8 of BCA2019.
 82. The construction joints to the structure shall be in accordance with Clause C3.16 of BCA2019 to reinstate the FRL of the element concerned.
 83. Upon completion of the works, a structural engineer shall be able to certify that local failure will be in accordance with Clause D2.2 of BCA2019 for the fire isolated stairs, except as varied by any Fire Engineered Performance Solution.

Lift Services Design Certification:

84. The lifts throughout the development shall be provided with stretcher facilities in accordance with Clause E3.2 of BCA2019 and shall be capable of accommodating a stretcher with a patient lying horizontally by providing a clear space not less than 600mm wide x 2000mm long x 1400mm high above the floor level.
85. Warning signage in accordance with Clause E3.3 of BCA2019 shall be provided to the lifts to advise not to use the lifts in a fire.
86. A fire service recall control switch shall be installed on a landing at a location nominated by the appropriate authority in accordance with Clause E3.9.
87. A lift car fire service drive control switch shall be installed within the lift car in accordance with Clause E3.10.
88. The lifts shall comply with AS 1735.12:1999 in accordance with Clause E3.6 of BCA2019.
89. All electric passenger lifts and electrohydraulic passenger lifts shall comply with Specification E3.1 of BCA2019.

NSW Specification Design Certificate:

90. Materials, floor and wall linings/coverings, surface finishes and air-handling ductwork used in the works shall comply with the fire hazard properties in accordance with Clause C1.10, NSW Clause C1.10, Specification C1.10 and NSW Specification C1.10 of BCA2019.
91. The discharge points of exits shall be in accordance with Clause D1.10, and NSW Clause D1.10(f) of BCA2019.
92. The dimensions of exits and paths of travel to exits shall be provided in accordance with Clause D1.6, and NSW Clause D1.6(f)(vi)&(j) of BCA2019.
93. Stair geometry to the new stairways shall be in accordance with Clause D2.13, and NSW Clause D2.13(a)(ix)(x)(xi) of BCA2019. Stair treads shall have a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 or a nosing strip with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013.
94. Landings and door thresholds throughout the development shall be provided in accordance with Clause D2.14 and D2.15, and NSW Clause D2.15(d)&(e) of BCA2019. Landings shall have either a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 where the edge leads to a flight below.



95. The handrails and balustrades to all stairs and throughout the building shall be in accordance with Clause D2.16, NSW Clause D2.16 & NSW Table D2.16a and D2.17 of BCA2019.
96. The doorways and doors shall be in accordance with Clause D2.19, NSW Clause D2.19(b)(v) and D2.20 of BCA2019.
97. The door latching mechanisms to the proposed required exit doors shall be in accordance with Clause D2.21 and NSW Clause D2.21(c)&(d) of BCA2019.
98. The building is a theatre, stage, and public hall and therefore shall be in accordance with NSW Part H1, Specification H1.3, and NSW Part H1 of BCA2019.
99. The building is potentially an Entertainment Venue and shall be in accordance with NSW Part H1, Specification H1.3 and NSW Part H1 of BCA2019, unless confirmed otherwise.
100. The building shall comply with NSW Part J of BCA2019.
101. A smoke detection and alarm systems shall be installed throughout the building in accordance with Table E2.2a, NSW Table E2.2a and NSW Specification E2.2a of BCA2019.
102. Exit signage shall be installed in accordance with Clause E4.5, NSW Clause E4.6, E4.7, and E4.8 of BCA2019 and AS/NZS 2293.1:2018.
103. A smoke exhaust system shall be installed in the building in accordance with Table E2.2b, NSW Table E2.2b and Specification E2.2b of BCA2019, except as varied by any Fire Engineered Performance Solution.
104. The building shall be mechanically ventilated in accordance with Clause F4.5, NSW F4.5(b) of BCA2019 and AS 1668.2:2012.



Annexure D – Project Documentation

The following architectural design documentation has been relied upon in completing our review and providing this correspondence.

Architectural Plans Prepared by Woods Bagot Dated 16 August 2021 (Revision A) and updated 18 August 2021 (Revision B)

Drawing Number	Sheet Title
DA0000	Cover Sheet & Drawing List
DA1100	Site Plan Existing
DA1101	Site Plan Demo
DA1102	Site Plan Proposed
DA1200	Proposed Ground Plan
DA1201	Proposed Plan Level 1
DA1202	Proposed Plan Level 2
DA1203	Proposed Plan Level 3
DA1204	Proposed Plan Level 4
DA1205	Proposed Plan Level 5
DA1206	Proposed Plan Roof
DA1300	Proposed Elevations
DA1301	Proposed Elevations
DA1302	Proposed Sections
DA1303	Proposed Sections
DA1500	Area Plans - GFA
DA1900	Shadow Diagrams

