

## BUILDING CODE OF AUSTRALIA 2022 CAPABILITY REPORT

### ALTERATIONS AND ADDITIONS TO WAVERLEY COLLEGE

131 BIRRELL STREET, WAVERLEY, NSW 2024

Report prepared for: m3architecture  
11 Saint James Street  
Petrie Terrace, QLD 4000

Report prepared by: Philip Chun BC NSW Pty Ltd  
Suite 22.02, Level 22, Australia Square, Tower Building  
264 George Street, Sydney, NSW 2000

Report Ref: 023-221028\_m3\_WaverleyCollege\_SSDA\_BCAREport\_R06

#### DOCUMENT ACCEPTANCE

	Name	Signed	Date
Reviewed by	Robert Marinelli Managing Director		08/07/24

#### REVISION HISTORY

Revision No.	Prepared by	Description	Date
R01_draft	Shaneel Sharma	Draft BCA 2022 SSDA Capability Report for review and comment	22/05/24
R02	Shaneel Sharma	Final BCA 2022 SSDA Capability Report	28/05/24
R03	Shaneel Sharma	Updated Final BCA 2022 SSDA Capability Report	05/06/24
R04	Shaneel Sharma	Final Report Drawing List and Conclusion Updated.	24/06/24
R05	Shaneel Sharma	Updated Draft Report to Address Stakeholder Comments	05/07/24
R06	Shaneel Sharma	Updated Final Report to Address Stakeholder Comments	08/07/24

BUILDING CODE  ACCESS CONSULTING  ESSENTIAL SERVICES



## 1. Introduction

This BCA assessment report prepared by Philip Chun is submitted to The Minister for Planning in support of a State Significant Development Application (SSDA) for alterations and additions to the existing Waverley College Senior Campus.

This report has been prepared in response to the relevant requirements outlined within the Planning Secretary's Environmental Assessments Requirements (SEARs) issued on 23 April 2024 for application SSD-42425537. **Table 1** below addresses the relevant SEARs requirements and provides a project response.

**Table 1 – Secretary's Environmental Assessments Requirements**

Item	SEARs	Relevant Report Section
4	A Building Code of Australia Compliance Report is a required documentation under SEARs item 4.	The development is capable of complying with the deemed-to-satisfy and performance requirements of the BCA.

In our role as the Building Surveyor / Registered Certifier, we have undertaken our first BCA assessment and have reviewed the plans referenced below that will form part of the SSDA application. Philip Chun BC NSW Pty Ltd has provided BCA assessment comments regarding compliance to the design team on the proposed new works, hence, we can confirm that we believe the new works proposed will be capable of achieving compliance with the Building Code of Australia 2022. The following report identifies issues that may affect the planning and Development Consent application.

## 2. Site description

The site is located at 131 Birrell Street, Waverley within The Waverley Local Government Area. It is bounded by Birrell Street to the north, Carrington Road to the west, Henrietta Street to the east and Salisbury Street to the south.

The school campus site has an area of approximately 32,853m<sup>2</sup> with frontages to Birrell St, Carrington Road and Salisbury Street.



**Figure 1 Indicative Site Aerial.** Source: m3architecture



### 3. Proposed Development

The subject State Significant Development Application (SSD-42425537) involves alterations and additions to the existing Waverley College at 131 Birrell Street, Waverley.

The proposed development involves works across the site in two parts, referred to as the east and west precincts. The works are proposed to be undertaken over multiple stages as well as a range of refurbishment miscellaneous works that will be undertaken over a 15–20-year period.

The west precinct proposal involves alterations and additions to existing structures, refurbishment of existing components of the site and landscape works. The west precinct scope of works involves the following buildings/areas:

- Refurbishment of the Centenary Quad
- Refurbishment of the Centenary building
- Library extension
- Extension to Chapel entry
- Refurbishment of the internal areas of Level 3 and all walkways at each level of the Conlon Building
- Landscape and external works include:
  - New covered link between Centenary building and Conlon building
  - New covered link along the South of the Centenary building
  - Refurbishment of Kenny Building landscaping
  - Extension of existing pool to enable accessible access.
  - Demolition of 10, 10a and 8 Carrington Road, and
  - Provision of temporary car parking during construction and new sports courts.

The east precinct proposal involves the demolition of existing structures including the residential dwellings and the construction of a new six storey building and an adjacent car park and tennis courts. The proposal also involves general landscape works. The east precinct scope of works involves the following buildings/areas:

- Demolition of 5-7, 9-11 and 17-19 Henrietta Street
- Construction of 6 storey new Building 1 for school purposes, undertaken over 2 stages
- Construction of new car parking
- New tennis court facilities, and
- Re-landscaping throughout the proposal precinct.

### 4. Background

This SSDA seeks to implement significant improvements to the Waverley College Senior Campus with the proposed works including new and refurbished teaching, learning and active spaces, and improved connectivity between buildings.



## 5. General BCA Assessment Philosophy – Western Precinct Projects

The Western Precinct works comprises of the near complete internal refurbishment of the Centenary Building, extensions to the existing Library Building, new and improved accessways and linkages between campus buildings, and new active spaces.

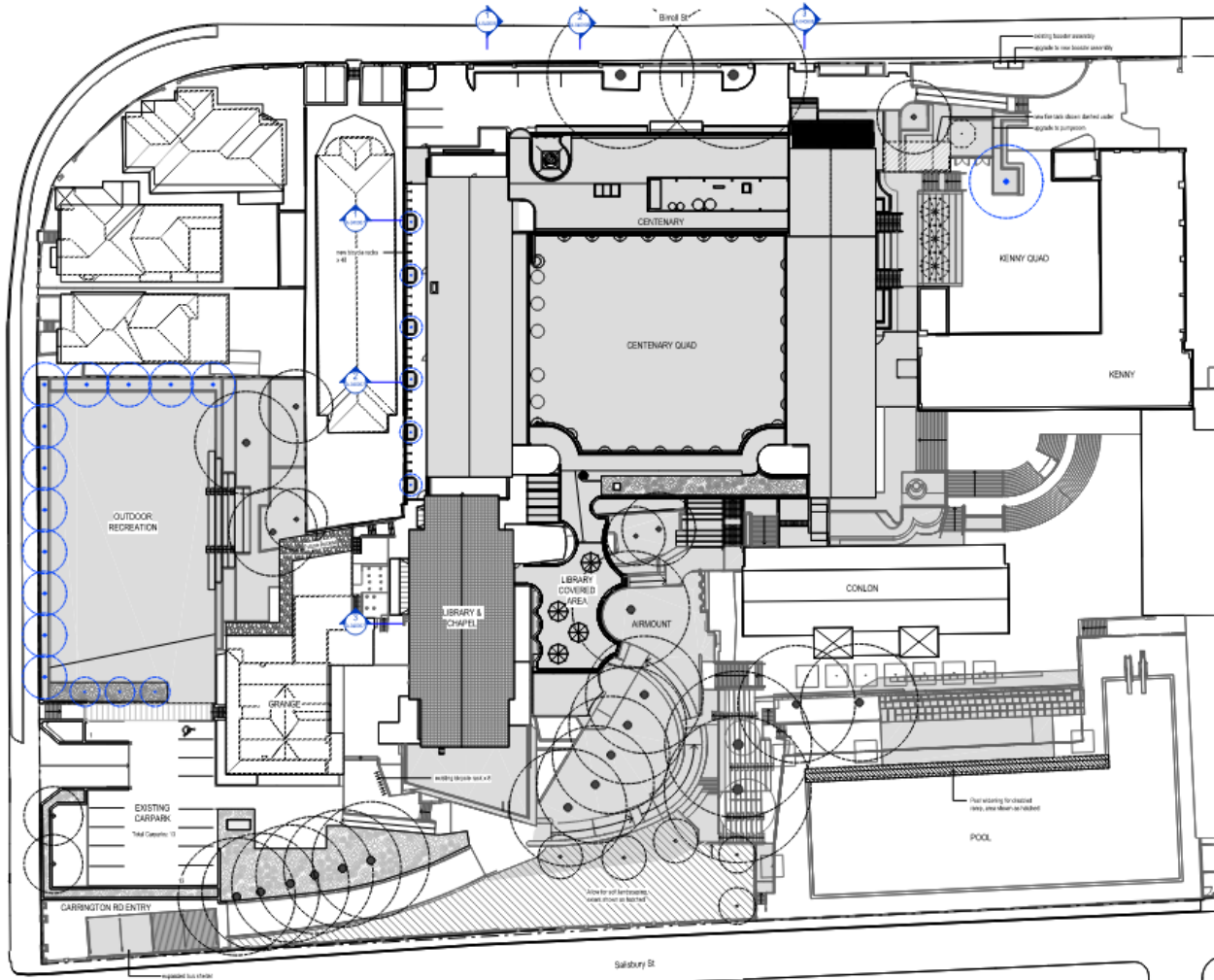


Figure 2 Indicative Proposed West Precinct

The effective height of the connected Library / Chapel, Centenary and Kenny building is 22.86m and is measured from Centenary Level B2 at RL 100.625, to the Centenary Level 6 Roof Deck at RL 123.490.

The Centenary Building adjoins the Library / Chapel Building and is linked by a covered accessway to the Kenny Building thus being considered all one building under the BCA. Therefore, fire separation is proposed / being addressed to treat these buildings as separate fire compartments to each other.

It is proposed to fire separate and address any departures where the Library / Chapel building adjoins the Centenary Building and fire separate the proposed lift and Kenny Building from the Centenary Building. This will allow the building to remain within the Type A Construction fire compartment limitations of Clause C3D3 of the BCA.

### 5.1 Change of Use Considerations

Only one level of the Centenary building will undergo a change of use for part of the floor at level 2. Hence, pursuant to Section 14 (1) of Environmental Planning and Assessment (Development Certification & Fire Safety) 2021, it is noted that the fire protection and structural capacity of the building will be appropriate to its new use, and the building will comply with such of the Category 1 fire safety provisions as are applicable to the new use.



This has been assessed and compliance is readily achievable, subject to further design development and construction documentation.

## **5.2 Considerations for alterations and additions**

The remainder of the buildings will have alterations and additions in various stages. Hence, pursuant to Section 14 (3) and (6) of Environmental Planning and Assessment (Development Certification & Fire Safety) 2021, it is noted that the fire protection and structural capacity of the building will not be reduced.

The building works therefore have been assessed on this basis and where there is new work, will be in accordance with current BCA requirements and the work will also consider the above requirement with respect to not making the existing fire and structural provisions any worse than what is there now.





## 7. Western Precinct Projects – Details

The following is a high-level summary of the Western Precinct projects with respect to BCA compliance for the proposed works as it stands at the time of this application, and as appropriate to the Development Consent application for proposed works.

### 7.1 Method of compliance proposed

The proposed building will comply with a combination of the deemed to satisfy and performance provisions of the Building Code of Australia.

### 7.2 Proposed Building Characteristics

The following is based upon the existing buildings construction and based on DA stage drawings and may change as the design is developed.

- The Library / Chapel, Centenary and Kenny Buildings are to be treated as separate fire compartments;
- The Rise in Storeys (RIS) for the Library / Chapel, Centenary & Kenny Building is 8;
- The building is required to be constructed of Type A construction;
- The effective height is less than 25m (Approximately 22.86m);
- The Conlon Building is considered a separate building to the above and has a Rise in Storeys of 3, Effective Height of 8.81m and is also to be of Type A Construction.
- The proposed structural works to the buildings are being constructed of reinforced concrete and in parts structural steel framing with reinforced concrete floor slabs together with varying façade construction, however all proposed external wall works will be of non-combustible construction;
- The performance solutions to do with fire and life safety will be assessed and compiled by Fire Safety Engineers from Red Fire Engineers as confirmed within their Letter of Support attached in Appendix B of this report;
- The works are described in the preceding sections of the report.
- The uses in this area will predominantly include school amenities, school libraries, admin / staff offices, school function space, chapel and storage spaces.

### 7.3 Use and Class of Buildings

The general classifications of the Western Precinct buildings are as follows.

**Table 2 – Centenary Building Use Matrix**

Level	Class	Use
Level B2	7b	Existing Storage
Level B1	9b, 7b,	School Amenities, Library / Book Hire, Storage
Level 01	9b, 5	School Health / Wellness Centre, Admin / Staff Offices, School Amenities and Lockers
Level 02	9b, 5	Classrooms, Staff Areas
Level 03	9b, 5	Classrooms, Staff Areas
Level 04	9b, 5	Classrooms, Staff Areas
Level 05	9b, 5	Classrooms, Staff Areas
Level 06	9b	Roof Deck Function Space
Level 07	Ancillary to 5, 7b, 9b	Open Air Plant Space (Not counted in the Rise in Storeys)



**Table 3 – Library / Chapel Building Use Matrix**

Level	Class	Use
Level B1	9b	School Library
Level M1	7b	Archive, Stores, Services
Level 01	9b	Chapel
Level 02	9b	Chapel Mezzanine & Library Rooftop Deck

**Table 4 – Kenny Building Use Matrix**

Level	Class	Use
Level 01	9b	School Lockers, School Canteen / Café, Classrooms / Open Air Quad
Level 02	9b	Classrooms
Level 03	9b	Classrooms
Level 04	9b	Classrooms

**Table 5 – Conlon Building Use Matrix**

Level	Class	Use
Level 01	9b, 5	Classrooms, Staff Areas
Level 1A	9b	Classrooms
Level 02	9b, 5	Classrooms, Staff Areas

## 7.4 Fire Compartmentation

The maximum area and volume size of a fire compartment specified in Table C3D3 of the BCA for Type A construction is 8,000m<sup>2</sup> and 48,000m<sup>3</sup> for Class 5 and 9b portions of the building.

The building works will not exceed the permitted upper fire compartment limitations.

Fire compartmentation has been also proposed due to the large floor plates as it is necessary to provide targeted compartmentation to ensure safe evacuation.

Prior to the completion of Design Development, drawings will be updated showing a resolved strategy for the fire compartmentation of the building including location of all fire walls and the appropriate fire resistance level to the building.

## 7.5 Fire Resistance Levels

The BCA provides minimum Fire Resistance Levels for the buildings structure. It is proposed that the Fire Safety Engineer review the provision of fire resistance levels to regularise them throughout the building except where the Fire Safety Engineer finds that this is not justified due to the expected fire severity. Variance to fire resistance levels would be part of a performance solution justified through fire engineering.

With regard to existing fire resistance levels, there is to be an investigation strategy in place for known parts of the buildings that are to be retained. The results are to be reviewed by the Structural Engineer and compliance assessed against the deemed to satisfy provisions and if necessary, performance solutions will be investigated by the fire engineer to meet the requirements of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021.



## 7.6 Building populations

The proposed population is to be confirmed by the School, however sufficient aggregate egress widths are currently available in accordance with D2D18 calculations.

## 7.7 Fire Safety Engineering – Preliminary

At this stage, fire engineered solutions will be proposed by the designers. Before any of these alternative solutions are approved under a Construction Certificate, the Fire Engineering Brief and Fire Engineering Reporting process will be completed.

Proposed areas where fire engineering may be employed will include but not be limited to the following:

**Table 6 – Performance Solutions**

Proposed Preliminary Performance Solutions – Fire and Life Safety	Deemed To Satisfy Provision
Rationalised separation of walls and openings between different fire compartments at the interface between the Library / Chapel and Centenary Buildings, and Kenny and Centenary Buildings.	Clauses C3D8, C4D4, C4D5
External walls within 6m of the south-west and northern central Centenary Building's and western Library's fire-isolated stair discharge paths are not being provided with an FRL of at least 60/60/60. Openings are also not being proposed to be protected.	Clause D2D12 & C4D5
The south-west Centenary Building's fire-isolated stair does not discharge into an area that is open for 2/3 of its perimeter and is not within 20m of open space directly connected to road.	Clause D2D12
Hose reel coverage omitted for locker areas, amenities, comms rooms, storerooms and server rooms.	Clause E1D3
Resistance to the incipient spread of fire (RISF60) ceilings will not comply with the proposed Centenary Building's roof access hatch arrangement.	Specification 5 S5C15
Balcony floor slab / spandrels not provided with the required FRL.	Clause C3D7 and Specification 5.
The proposed glazed awning attached to the building's external wall over the Chapel Foyer Entry is not constructed of non-combustible material, noting that the concession for glazing is only permitted for walls under C2D10 and not for ancillary elements attached to the external wall.	Clause C2D14
Others based on next stage of design	To be advised.

## 7.8 Other performance solutions - Preliminary

Additional performance solution where they do not relate to fire and life safety are as follows:

**Table 7 – Performance Solutions 2**

Proposed preliminary performance solutions – other	Deemed to satisfy provision
Weatherproofing of external walls and façade	F3P1
Others based on next stage of design	To be advised.

## 7.9 Structure

The Structural, Civil, Geotechnical, Facade Engineers will need to cross check and verify the various structural characteristics of the design including structural concrete walls, columns, shafts and slabs against AS3600 for thickness, slenderness and concrete cover, facade design and balustrades prior to issuing the relevant construction certificates. Certification would also be sought from design engineers attesting to compliance with BCA2022 adopted standards related to all new structure.



As discussed above, an agreed strategy with regard to existing structure will be followed to ensure the provision meets the requirements according to the appropriate Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021.

#### **7.10 Energy Efficiency**

The obligations under Part J of the BCA will be satisfied. A specialist consultant's report will be provided to verify compliance. ABCB Climate Map – Waverley is classified as Climate Zone 5.



## 8. Eastern Precinct Projects - Details

The following is a high-level summary of the Eastern Precinct projects with respect to BCA compliance for the proposed works as it stands at the time of this application, and as appropriate to the Development Consent application for proposed works.

### 8.1 Method of compliance proposed

The proposed building will comply with a combination of the deemed to satisfy and performance provisions of the Building Code of Australia.

### 8.2 Proposed Building Characteristics

The following is based upon the DA stage drawings and may change as the design is developed.

- The proposed Building 1 is to be treated as a separate building;
- The Rise in Storeys (RIS) for Building 1 is 6;
- The building is required to be constructed of Type A construction;
- The effective height is less than 25m (Approximately 17.50m);
- The structure of the building is proposed to be constructed of reinforced concrete and in parts structural steel framing with reinforced concrete floor slabs together with varying façade construction, however all external walls will be of non-combustible construction;
- The performance solutions to do with fire and life safety will be assessed and compiled by Fire Safety Engineers from Red Fire Engineers as confirmed within their Letter of Support attached in Appendix B of this report;
- The works are described in the preceding sections of the report.
- The uses in this area will predominantly include school classrooms / laboratories / workshops, science stores and prep rooms, Year 12 Common Room, staff offices and amenities, and roof deck areas.

### 8.3 Use and Class of Buildings

The general classifications of Building 1 are as follows, noting that the proposed adjacent car park and tennis courts are on grade and open to the sky.

**Table 8 – Building 1 Use Matrix**

Level	Class	Use
Level B0	9b, 7b	School Classrooms / Workshops, Science Storerooms
Level 01	9b, 5	School Classrooms / Laboratories, Staff Offices
Level 02	9b	School Classrooms / Laboratories / Prep Rooms and ancillary Staff Office
Level 03	9b, 7b	School Classrooms / Laboratories, Storeroom
Level 04	9b	School Classrooms / Laboratories / Prep Rooms and ancillary Staff Office
Level 05	9b, 5	Year 12 Common Room, Staff Offices and Amenities
Level 06	9b	Roof Deck Area (Not counted in the rise in storeys)

### 8.4 Fire Compartmentation

The maximum area and volume size of a fire compartment specified in Table C3D3 of the BCA for Type A construction is 8,000m<sup>2</sup> and 48,000m<sup>3</sup> for Class 5 and 9b portions, and 5,000m<sup>2</sup> and 30,000m<sup>3</sup> for Class 7b portions of the building.

The building works will not exceed the permitted upper fire compartment limitations.



Prior to the completion of Design Development, drawings will be updated showing a resolved strategy for the fire compartmentation of the building including location of all fire walls and the appropriate fire resistance level to the building.

### 8.5 Fire Resistance Levels

The BCA provides minimum Fire Resistance Levels for the buildings structure. It is proposed that the Fire Safety Engineer review the provision of fire resistance levels to regularise them throughout the building except where the Fire Safety Engineer finds that this is not justified due to the expected fire severity. Variance to required fire resistance levels would be part of a performance solution justified through fire engineering.

### 8.6 Building populations

The proposed population is to be confirmed by the School to determine if sufficient aggregate egress widths are being provided for the Phase 2 Stage of Building 1.

### 8.7 Fire Safety Engineering – Preliminary

At this stage, fire engineered solutions will be proposed by the designers. Before any of these alternative solutions are approved under a Construction Certificate, the Fire Engineering Brief and Fire Engineering Reporting process will be completed.

Proposed areas where fire engineering may be employed will include but not be limited to the following:

**Table 9 – Performance Solutions**

<b>Proposed Preliminary Performance Solutions – Fire and Life Safety</b>	<b>Deemed To Satisfy Provision</b>
Pop-out windows and planter box configurations vary from the required deemed to satisfy spandrel configuration.	Clause C3D7
Storerooms comprise more than 10% of the floor area of the storey on Levels L0 & L3. Rationalised fire separation of storerooms is proposed in lieu of 4hr fire separation.	Clause C3D9 & Specification 5.
Termination of firewalls at the façade / balcony / construction edge.	Clause D2D13 & Specification 5
An internal fire hydrant located on Level L0 is not proposed to be located within 4m of an exit contrary to AS 2419.1-2021.	Clause E1D2
Fire hose reels located more than 4m from an exit.	Clause E1D3
(Applicable to Building 1 Phase 2) Extended travel distances of approximately 51m to the nearest exit in lieu of 40m.	Clause D2D5
(Applicable to Building 1 Phase 2) Extended travel distances of approximately 75m between exits in lieu of 60m.	Clause D2D6
(Applicable to Building 1 Phase 2) Satellite fire hydrants within the meeting rooms are not located within the external stairway or within 4m of an exit contrary to AS 2419.1-2021.	Clause E1D2
Others based on next stage of design	To be advised.



## 8.8 Other performance solutions - Preliminary

Additional performance solution where they do not relate to fire and life safety are as follows:

**Table 10 – Performance Solutions**

Proposed preliminary performance solutions – other	Deemed to satisfy provision
Hob within the door thresholds of plant room doorways.	Clause D3D16
Weatherproofing of external walls and façade	Performance Requirement F3P1
Omission of external waterproofing membranes to balconies / external circulation areas.	Clause F1D5
Omission of falls to floor wastes for laboratory safety showers	Clause F2D4
Others based on next stage of design	To be advised.

## 8.9 Structure

The Structural, Civil, Geotechnical, Facade Engineers will need to cross check and verify the various structural characteristics of the design including structural concrete walls, columns, shafts and slabs against AS3600 for thickness, slenderness and concrete cover, facade design and balustrades prior to issuing the relevant construction certificates. Certification would also be sought from design engineers attesting to compliance with BCA2022 adopted standards related to all new structure.

## 8.10 Energy Efficiency

The obligations under Part J of the BCA will be satisfied. A specialist consultant's report will be provided to verify compliance. ABCB Climate Map – Waverley is classified as Climate Zone 5.



## 9. Conclusion

Philip Chun has reviewed the architectural documentation available to date referenced in Appendix A in our role as a Building Surveyor / Registered Certifier and can confirm the design of the proposed new works is generally capable of complying with the BCA.

The design is at a point where the inherent BCA philosophies have been checked and development consent can be sought. This is subject to normal design development and further assessment required during the subsequent detailed design stages of the project.

Areas of the design are still being refined so that compliance will be further assessed prior to the issue of a Construction Certificate for the works, as is required by the certifier as part of the legislative requirements related to 'certification work'. It is also the responsibility of all designers and engineers to ensure that the design complies with the requirements of the Building Code of Australia, the Australian Standards and the applicable legislation.

I Robert Marinelli, confirm this Building Code of Australia 2022 Capability Report addresses the requirement of SEAR No. 4 and relevant State and local legislation, policies, and guidelines including general compliance with the Building Code of Australia. I further confirm that none of the information contained in this report is false or misleading.

**Robert Marinelli**  
Managing Director  
**PHILIP CHUN BC NSW Pty Ltd**



## APPENDIX A – ASSESSED DOCUMENTATION

The plans listed below are proposed to be submitted for the Development Consent application; these plans have been issued by m3architecture:

Document No / Revision	Document No / Revision	Document No / Revision
21011 / SSDA A-000001 / 2	21011 / SSDA A-E22001 / 2	21001 / sd Ab-090000 / 2
21011 / SSDA A-000002 / 2	21011 / SSDA A-E22002 / 2	21001 / sd Ab-090001 / 2
21011 / SSDA A-000003 / 1	21011 / SSDA A-E22003 / 2	21001 / sd Ab-10B101 / 10
21011 / SSDA A-040010 / 2	21011 / SSDA A-E22004 / 2	21001 / sd Ab-10L001 / 10
21011 / SSDA A-040011 / 2	21011 / SSDA A-E22005 / 2	21001 / sd Ab-10L101 / 11
21011 / SSDA A-040012 / 2	21011 / SSDA A-E22006 / 2	21001 / sd Ab-10L201 / 11
21011 / SSDA A-041000 / 2	21011 / SSDA A-E22601 / 2	21001 / sd Ab-20B101 / 10
21011 / SSDA A-041001 / 2	21011 / SSDA A-E22602 / 2	21001 / sd Ab-20L001 / 10
21011 / SSDA A-041002 / 2	21011 / SSDA A-E22603 / 2	21001 / sd Ab-20L101 / 11
21011 / SSDA A-041003 / 2	21011 / SSDA A-E22705 / 2	21001 / sd Ab-20L201 / 11
21011 / SSDA A-041004 / 2	21011 / SSDA A-E22706 / 2	21001 / sd Ab-20L202 / 5
21011 / SSDA A-041005 / 2	21011 / SSDA A-E30000 / 2	21001 / sd Ab-160001 / 4
21011 / SSDA A-041006 / 2	21011 / SSDA A-E30001 / 2	21001 / sd Ab-160002 / 4
21011 / SSDA A-041007 / 2	21011 / SSDA A-E31001 / 2	21001 / sd Ab-260001 / 4
21011 / SSDA A-041008 / 2	21011 / SSDA A-E32001 / 2	21001 / sd Ab-260002 / 4
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Document No / Revision	Document No / Revision	Document No / Revision
21011 / SSSA A-E12003 / 2	21001 / sd Aa-20L101 / 10	21001 / sd Ad-20L101 / 10
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21011 / SSSA A-E20002 / 2	21001 / sd Aa-260002 / 6	21001 / sd Af-090001 / 2
21011 / SSSA A-E20003 / 2	21001 / sd Aa-260003 / 4	21001 / sd Af-10L101 / 4
21011 / SSSA A-E20300 / 2	21001 / sd Aa-260004 / 4	21001 / sd Af-20L101 / 4
21011 / SSSA A-E20400 / 2	21001 / sd Aa-270001 / 3	
21011 / SSSA A-E22000 / 2	21001 / sd Aa-270002 / 3	



## APPENDIX B – FIRE ENGINEER’S LETTER OF SUPPORT



**11 July 2024**

**m3architecture**

**11 Saint James Street,  
Petrie Terrace, QLD 4000  
Australia**

**Delivered via email: [george.t@m3architecture.com](mailto:george.t@m3architecture.com)**

**Attention: Jonathan Goh**

**Re: Fire Engineering SSDA Support Letter**

**Project No: JN23-00397      Version: 4**

**Project: Western Precinct and Eastern Precinct Building 1 (Phase 1 and Phase 2)**

**Address: 131 Birrell Street, Waverley, NSW 2024**

## **1 Background**

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- 1.1 This letter has been prepared by RED Fire engineers to support the State Significant Development Application (SSDA), from a fire engineering perspective, for alterations and additions to the Western precinct and Building 1 (Phases 1 and 2) at the Eastern Precinct of the Waverley College Senior Campus located at 131 Birrell Street, Waverley, NSW 2024.
- 1.2 The subject State Significant Development Application (SSD-42425537) involves alterations and additions to the existing Waverley College at 131 Birrell Street, Waverley.
- 1.3 The proposed development involves works across the site in two parts, referred to as the east and west precincts. The works are proposed to be undertaken over four (4) stages as well as a range of refurbishment miscellaneous works that will be undertaken over a 15-20 year period.

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**RED FIRE ENGINEERS PTY LTD**

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1.4 The Western precinct proposal involves alterations and additions to existing structures, refurbishment of existing components of the site and landscape works. The west precinct scope of works involves the following buildings/areas:

- Refurbishment of the Centenary Quad
- Refurbishment of the Centenary building
- Library extension
- Extension to Chapel entry
- Conlon external walkways and internal parts of L3

Landscape and external works include:

- New covered link between Centenary building and Conlon building
- New covered link along the South of the Centenary building
- Refurbishment of Kenny Building landscaping
- Extension of existing pool to enable accessible access
- Demolition of 10, 10a and 8 Carrington Road, and
- Provision of temporary car parking during construction and new sports courts.

1.5 The Eastern precinct proposal involves the demolition of existing structures including the residential dwellings and the construction of a new six storey building and an adjacent car park and tennis courts. The proposal also involves general landscape works. The east precinct scope of works involves the following buildings/areas:

- Demolition of 5-7, 9-11 and 17-19 Henrietta Street
- Construction of 6 storey new Building 1 for school purposes, undertaken over 2 stages
- Construction of new car parking
- New tennis court facilities, and
- Re-landscaping throughout the proposal precinct.

A preliminary BCA compliance review of both the Western and Eastern precinct, against the National Construction Code Series 2022 Volume One Building Code of Australia (BCA) Class 2 to Class 9 buildings of the proposed design has been undertaken by Philip Chun during the concept design stage (SSDA Submission –



BCA Capability Statement Report R06, 023-221028, dated 8.7.24) based on the architectural plans provided by m3architecture.

- 1.6 Based on these reviews, the development is anticipated to have potential BCA Deemed-to-Satisfy (DtS) departures as listed in Tables 1 and 2.
- 1.7 The departures listed below are proposed to be addressed as a fire engineering Performance Solution. Additional fire engineering Performance Solutions may be identified during the detailed design and developed in consultation with the design team and the BCA Consultant as the design progresses.

## 2 Conditional Support

- 2.1 Based on our experience, RED Fire Engineers is of the opinion that a Performance Solution to demonstrate compliance with the relevant Performance Requirements of the BCA can be developed for the project subject to the following, which is to be confirmed within the Detailed Design (DD) stage of the project:
- The performance of the existing fire safety systems is to be assessed by a professional fire protection contractor – accredited practitioner (fire safety). Upgrades and/or replacement of systems may be required.
  - The buildings are to be further assessed by the Building Code consultant and further departures with the current NCC may be identified. For existing parts of the buildings full upgrade is not proposed, however impact from 'legacy' design features on the performance solutions for new works will need to be assessed and some upgrade works may be required.

**Table 1: Description of Potential BCA DtS Departures (Western Precinct)**

Item	Description of Deemed-to-Satisfy departures	DtS Provisions	Relevant Performance Requirements	High Level Comment
1	Rationalised separation of walls and openings between different fire compartments at the interface between the Library / Chapel and Centenary Buildings, and Kenny and Centenary Buildings.	C3D8 C4D4 C4D5	C1P1 C1P2	<ul style="list-style-type: none"> <li>- Structural Engineer is to provide details of the proposed fire compartmentation of the building including the appropriate fire resistance levels</li> <li>- Each fire wall and/or opening is to be assessed on a case-by-case basis.</li> <li>- There is potential for additional fire safety measures to be required.</li> </ul>
2	External walls within 6m of the south-west and northern central Centenary Building's and western Library's fire-isolated stair discharge paths are not being provided with an FRL of at least 60/60/60. Openings are also not	D2D12 C4D5	D1P4	<ul style="list-style-type: none"> <li>- Each wall and/or opening is to be assessed on a case-by-case basis.</li> <li>- Carpet and combustible internal finishings to be removed from subject fire stairs.</li> </ul>



	being proposed to be protected.			<ul style="list-style-type: none"> <li>- Fire doors from subject fire stairs to be provided with vision panels.</li> <li>- Alternative egress path considered to be available from Library (west) that leads to open space and a road. Subject to PCA's in principle support</li> </ul>
3	The South-West Centenary Building's fire-isolated stair does not discharge into an area that is open for 2/3 of its perimeter and is not within 20m of open space directly connected to road.	D2D12	D1P4 E2P2	<ul style="list-style-type: none"> <li>- Occupants are to have alternative escape paths from the chapel.</li> <li>- In addition, evacuees are considered to have been provided with a well-ventilated discharge area from the chapel foyer (under a glazed canopy installed above Level 2) before exiting away from out under the canopy and out to open space.</li> <li>- Fuel load restrictions proposed within the discharge area.</li> </ul>
4	Hose reel coverage omitted for locker areas, amenities, comms rooms, storerooms and server rooms.	E1D3	E1P1	<ul style="list-style-type: none"> <li>- Areas that are restricted to only teachers/staff to be provided with Portable Fire Extinguishers (PFEs)</li> <li>- Vandal proof cabinets proposed in student areas.</li> </ul>
5	Resistance to the incipient spread of fire (RISF60) ceilings will not comply with the proposed Centenary Building's roof access hatch arrangement.	Spec 5 S5C15	C1P1 C1P2	<ul style="list-style-type: none"> <li>- Review of proposed detailed design of roof hatch and skylight design to be undertaken during DD to confirm acceptability.</li> <li>- Risk of fire spread to be assessed.</li> </ul>
6	Balcony floor slab/spandrels not provided with the required FRL.	C3D7 Spec 5	C1P1 C1P2	<ul style="list-style-type: none"> <li>- Further advice is to be sought from the Structural Engineer in regard to the proposed fire rated treatments; and</li> <li>- The expected outcome from a potential failure of the structural supporting beams to the Northern and Eastern balcony corridor slabs (once upstands have been removed) to be confirmed to assess acceptability of the reduced fire rating.</li> </ul>
7	The proposed glazed awning attached to the building's external wall over the Chapel Foyer Entry is not constructed of non-combustible material, noting that the concession for glazing is	C2D14	C1P1	<ul style="list-style-type: none"> <li>- The glazed canopy isn't considered to sustain fire spread.</li> <li>- Risk only from glazed canopy collapsing.</li> </ul>



	only permitted for walls under C2D10 and not for ancillary elements attached to the external wall.			- Further information is to be sought during the DD stage.
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**Table 2: Description of Potential BCA DtS Departures (Building 1)**

Item	Description of Deemed-to-Satisfy departures	DtS Provisions	Relevant Performance Requirements	High Level Comment
1	Pop-out windows and planter box configurations vary from the required deemed to satisfy spandrel configuration.	C3D7	C1P2	Each area to be assessed on a case-by-case basis to determine acceptability.
2	Storerooms comprise more than 10% of the floor area of the storey on Levels 0 and 3. Rationalised fire separation of storerooms is proposed in lieu of 4hr fire separation.	C3D9 & Specification 5	C1P1 C1P2	<ul style="list-style-type: none"> <li>- Each subject fire wall and/or opening is to be assessed on a case-by-case basis.</li> <li>- Subject to the proposed type of storage materials to determine feasibility of reduced FRLs.</li> </ul>
3	Termination of firewalls at the façade / balcony / construction edge.	D2D13 & Specification 5	C1P1 C1P2 E2P2	Details of connection between slab edge and wall to be further assessed in order to determine appropriateness of the proposed solution
4	An internal fire hydrant located on Level L0 is not proposed to be located within 4m of an exit contrary to AS 2419.1-2021.	E1D2	E1P3	<ul style="list-style-type: none"> <li>- Location of the fire hydrant is to be subject of FRNSW consultation.</li> <li>- To be located at the building periphery and therefore accessible by firefighters</li> </ul>
5	Fire hose reels located more than 4m from an exit.	E1D3	E1P1	It is considered more advantageous to have the Fire hose reels installed within the circulation corridors to allow easy access to the FHRs.
6	Extended travel distances of approximately 51m to the nearest exit in lieu of 40m. (Phase 2)	D2D5	D1P4 E2P2	<ul style="list-style-type: none"> <li>- External stairs are generally to comply with clause D2D13 (with exception of detail at slab termination).</li> <li>- Stairs are accessed via open walkways.</li> </ul>
7	Extended travel distances of approximately 75m between exits in lieu of 60m. (Phase 2)	D2D6	D1P4 E2P2	<ul style="list-style-type: none"> <li>- External stairs are generally to comply with clause D2D13 (with exception of detail at slab termination).</li> <li>- Stairs are accessed via open walkways.</li> </ul>



8	Satellite fire hydrants within the meeting rooms are not located within the external stairway or within 4m of an exit contrary to AS 2419.1-2021. (Phase 2)	E1D2	E1P3	Phase 2 includes converting existing stair voids to meeting rooms. This results in retaining existing fire hydrants (which are now deemed to be satellite fire hydrants as per the defined term within AS2419.1 2021). Full hydrant coverage to be maintained.
9	Fire hydrant system	E1D2	E1P3	Potential DTS departure to be confirmed and assessed during DD stage, e.g. hydrant booster may not be located within sight of the main entry.

- 2.2 The special hazard associated with the proposed EV chargers (proposed within carpark adjacent to the PAC building) are proposed to be assessed as part of the fire engineering assessment.
- 2.3 As part of the fire engineering process relevant stakeholders including Fire & Rescue NSW (FRNSW) and the principal certifier will be approached for comments. Proposed calculations (where applicable) and assessment methods will be documented in the Performance Based Design Brief (PBDB) for agreement and detailed assessment documented within the Fire Engineering Report (FER). Based on our experience, RED Fire Engineers is of the opinion that the abovementioned BCA DtS departures may be addressed as a Performance Solution to demonstrate compliance with the relevant Performance Requirements of the BCA. Additional fire safety measures may be required subject to consultation with FRNSW and the stakeholders during the detailed design stage.
- 2.4 Specific details of the required fire safety measures proposed to address the BCA DtS departures will be documented after a comprehensive fire engineering assessment is completed. The fire engineering Performance Solutions will be developed as part of the on-going design and development process.

### 3 Documentation

- 3.1 The relevant documents and drawings on which this letter is based are listed in Table 1.

**Table 1: Relevant documentation**

Organisation	Title	Project number/ ref	Date	Revision
Philip Chun	SSDA Submission – BCA Capability Statement Report R06	023-221028	8 <sup>th</sup> July 2024	6
m3architecture	Waverley College Senior Campus West Precinct - Architectural Drawings	21001 / sd	3 <sup>rd</sup> May 2024	8



m3architecture	Waverley College Senior Campus SSDA Architectural Drawings	WC_SSDA	3 <sup>rd</sup> May 2024	3
Philip Chun	21011 - Waverley College Building 1	023-221028_WC Building 1-DD#4_Pcmups240528_SSRMi	28 <sup>th</sup> May 2024	1
Philip Chun	Waverley College Senior Campus East Precinct - Building 1 Phase 2	023-221028_WC_SSDA B1 Phase 2_Pcmups240528i	28 <sup>th</sup> May 2024	1

#### 4 Conclusion

- 4.1 Based on our experience, RED Fire Engineers is of the opinion that a Performance Solution to demonstrate compliance with the relevant Performance Requirements of the BCA may be developed for the project without major changes to the proposed design.
- 4.2 If you have any queries in regard to the above, please do not hesitate to contact the undersigned.

Yours sincerely,

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