MAITLAND CITY CLUB

BCA ASSESSMENT REPORT

Maitland City Club – 14 Arthur Street, Rutherford

Project Number: 117581
Report Type: Development Application (DA)
R: 1
Date: 14 June 2023

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Jensen Hughes Australia

Providing building regulations, fire engineering, accessibility, and energy consulting services to NSW for over 25 years

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Executive Summary

This document provides an assessment of the architectural design drawings for the proposed Shade Structure development at Maitland City Club against the Deemed-to-Satisfy provisions of the Building Code of Australia (BCA) 2022, Volume 1.

Part 3 'Matters for Further Consideration' of this report outlines the identified BCA compliance issues that require further information or consideration and/or assessment as Performance Solutions.

Any Performance Solution will need to be detailed in a separate report and must clearly indicate methodologies for achieving compliance with the relevant BCA Performance Requirements.

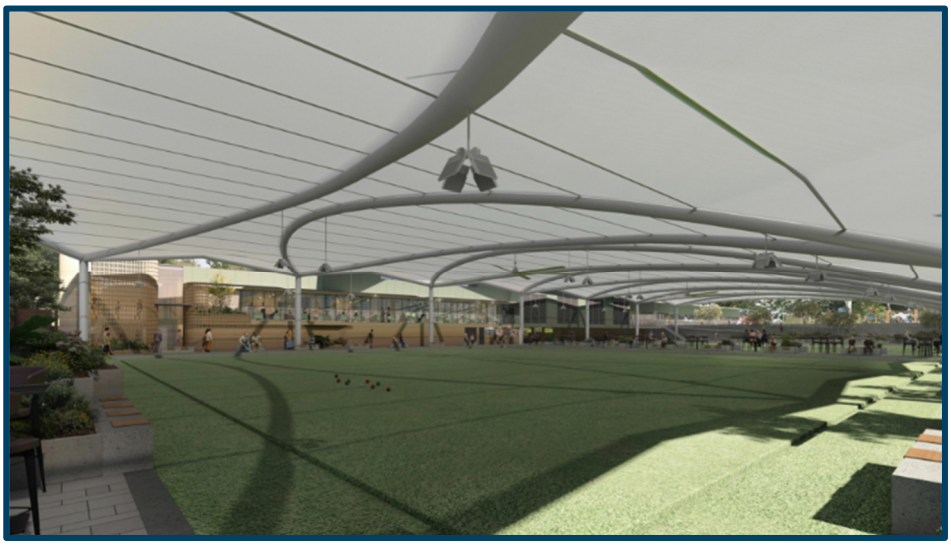
Item	*Description*	*BCA Provisions*
Performance Solutions Required		
1.	Smoke hazard management – Update to existing Fire Engineering Report is required to consider implication of new shade structure to the make up air and overall smoke compartmentation strategy	AS1670.1:2018 – Section 1.7
2.	To permit the existing buildings to remain separate 'buildings' and not become a united building	Clause C2D2 & Spec 5
3.	To allow the travel distance to exceed forty (40) metres to an exit (52 metres) within the shade structure and the proposed new function rooms	Clause D2D5
4.	To permit the travel distance between alternative exits to be greater than sixty (60) metres within the shade structure and within the existing building.	Clause D2D6
5.	To delete the requirements of Fire Hose Reels in the shade structure	Clause E1D3
6.	To permit unisex facilities within the proposed synthetic green changerooms.	Clause F4D4
Building Code of Australia Compliance Matters to be Addressed		
1.	The egress doors within the Shade Structure are required to swing in the direction of egress.	Clause D3D25.

2.	The Foyer stair design is to be altered to ensure there is consistency with the going and risers, including the handrail to ensure it is continuous.	Clause D3D14 & D3D22
3.	The internal lift dimensions are to be no less than 1100 x 1400 mm. The depth of the lift is to increase to 1400 mm	Clause E3D8
4.	Existing fire hydrant system to be reconfigured as necessary to serve the proposed new shade structure	Clause E1D2
5.	To provide ambulant facilities for male and female within the Lower Ground Floor changeroom	Clause F4D4.
Further Information Required		
1.	Maitland City Club are to confirm that the proposed shade structure will not increase the club patron capacity.	Clauses D2D18 & F4D4

1.0 Basis of Assessment

1.1 LOCATION AND DDSCRIPTION

The building development, the subject of this report, is located at Maitland City Club, 14 Arthur Street, Rutherford. The proposed works involved constructing a large shade structure that will cover two (2) new synthetic lawn bowl greens and connect to the existing club located on the site. The principal pedestrian and vehicular entrance are on Arthur Street.



1.2 PURPOSE

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy Provisions of BCA 2022, Amendment 1, and to clearly outline those areas (if any) where compliance is not achieved, where areas may warrant redesign to achieve strict BCA compliance or where areas may be able to be assessed against the relevant performance criteria of BCA 2022. Such assessment against relevant performance criteria will need to be addressed by means of a separate Performance Based Fire Safety Engineered Assessment Report to be prepared under separate cover.

1.3 BUILDING CODE OF AUSTRALIA

This report is based on the Deemed-to-Satisfy Provisions of the National Construction Code Series Volume 1 – Building Code of Australia, 2022 (BCA) incorporating the State variations where applicable. Please note that the version of the BCA applicable to new building works is the version applicable at the time of the lodgement of the Construction Certificate application to the Accredited Certifying Authority. The BCA is updated generally on a three-yearly cycle, starting from the 1st of May 2016.

1.4 LIMITATIONS

This report does not include nor imply any detailed assessment for design, compliance or upgrading for:

a. the structural adequacy or design of the building;

b. the inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and

c. the design basis and/or

This report does not include, or imply compliance with:

a. the National Construction Code – Plumbing Code of Australia Volume 3

b. the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to), (Note: The provision of disabled access to the subject development has been assessed against the deemed to satisfy provision of Part D4 and F4D5 of BCA2022 only);

c. Demolition Standards not referred to by the BCA;

d. Work Health and Safety Act 2011;

e. Requirements of Australian Standards unless specifically referred to;

f. Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Local Council, ARTC, Department of Planning and the like; and

g. Conditions of Development Consent issued by the Local Consent Authority.

1.5 DESIGN DOCUMENTATION

This report has been based on the Design plans and Specifications listed in Annexure A of this Report.

2.0 Building Description

For the purposes of the Building Code of Australia (BCA) the development may be described as follows.

2.1 RISE IN STOREYS (CLAUSE C2D3)

The building has a rise in storeys of Three (3)

2.2 CLASSIFICATION (CLAUSE A6G1)

The building has been classified as follows.

Table 1: Building Classification(s)

Class	*Level*	*Description*
Class 5	Level One	Offices
Class 7b	Ground Floor	Loading Dock
Class 9b	Ground Floor	Bowling Leagues Club and associated function rooms.
Class 9b	Lower Ground Floor	Shade Structure

2.3 EFFECTIVE HEIGHT (CLAUSE A1G4)

The building has an effective height of less than twelve (12) metres.

2.4 TYPE OF CONSTRUCTION REQUIRED (TABLE C2D2)

The building is required to be of Type A Construction.

2.5 FLOOR AREA AND VOLUME LIMITATIONS (TABLE C3D3)

Class 5	Maximum Floor Area	8,000 m^2
	Maximum Volume	48,000 m^3
Class 7b	Maximum Floor Area	5,000 m^2
	Maximum Volume	30,000 m^3
Class 9b	Maximum Floor Area	8,000 m^2
	Maximum Volume	48,000 m^3

2.6 FIRE COMPARTMENTS

The bowling club & proposed shade structure has been considered one (1) compartment. Note: A performance solution is proposed to permit the shade structure and the club to be separate buildings otherwise as a United Building the Fire Compartment Floor Area would exceed 8000m^2.

2.7 EXITS

The following points in the building have been considered as the exits:

a. The point of *open space* or *road* past the external exits

b. The top riser of the proposed new internal non-fire isolated stair

2.8 CLIMATE ZONE (CLAUSE A1G4)

The building is located within Climate Zone 5

2.9 LOCATION OF FIRE-SOURCE FEATURES

The fire source features for the subject development are:

North: The allotment boundary of 12 Arthur Street & the far side of Arthur Street

South: The far side of Melbee Street

East: The far side of Woodberry Street

West: The allotment boundary of 16 Arthur Street

In accordance with Clause 2.1 of Specification 5, a part of a building element is exposed to a fire-source feature if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that–

a. has an FRL of not less than 30/–/–; and

b. is neither transparent nor translucent.

3.0 BCA Assessment

3.1 INTRODUCTION

The assessment undertaken is in relation to the plans prepared for the development consent application. The technical details required for a development consent are far less than that required for a construction certificate (CC) and as such, this assessment is designed to address a higher-level assessment of the building against the provisions of the BCA.

The main purpose of this report is to address any major design changes required to the building, services required to be installed, and the fundamentals of design required by sections C, D, E, F, G and H (where applicable) of the BCA. This report does not address the design requirements for the structure of the building (Section B), or for the detailed design of services (Section E).

The summary below is to be read in conjunction with the BCA specification contained in Annexure F of the report.

3.2 FIRE RESISTANCE AND STABILITY – PART C2 & SPECIFICATION 5 (SPEC C1.1)

The required fire resistance levels for the building elements are outlined in Annexure C of this report.

The components of the external wall, in a building of Type A, are required to be non-combustible. The plans indicate the shade structure's structural elements of the external wall will be constructed from steel. As such, S6C6 of Specification 5 (Spec C1.1: 2.5) grants a concession for structural steel columns to not have an FRL if they are no more than one (1) storey.

In addition, S5C15 (Spec C1.1: 3.5) permits the roof to not have an FRL if the covering is *non-combustible* and has a rise in storey of no more than three (3). No details have been provided regarding the roof covering and further information will be required during the Construction Certificate Stage. However, compliance is readily achievable.

No details have been provided regarding the fire resistance elements for the new function room. However, compliance is achievable.

3.3 COMPARTMENTATION AND SEPARATION – PART C3

Due to the connection between the proposed shade structure and existing building, it will be required to treat these compartments as a 'united building' and not as separate buildings. A performance solution is proposed to permit the shade structure and the club to be separate buildings otherwise as a United Building the Fire Compartment Floor Area would exceed 8000m^2 appropriate to a ''large isolated building''.

This would be on the basis that the shade structure is substantially an open area with minimal fire load and has been conservatively considered a Class 9b due to the formal use of the zone beneath the shade structure as a bowling green which is equivalent to an assembly building type use and is not a Class 10 structure.

Further information will be needed during the Construction Certificate Stage.

Compliance with Part C3 of the BCA can be readily achieved by the proposal.

3.4 PROTECTION OF OPENINGS – PART C4

3.4.1 Openings in External Walls

The external walls of the proposed shade structure will be more than six (6) metres to the far side of the Woodberry & Melbee Streets. As such, there is no requirement to protect any openings within the external walls.

3.5 OCCUPANT ACCESS AND EGRESS – SECTION D

3.5.1 Egress from the Building

It will be necessary to undertake a Performance Solution to permit extended travel distances to an exit as per Clause D2D5 of the BCA. The Performance Solution must address the extended travel distances within the new function rooms and the covered shade structure. Further information will be required during the Construction Certificate Stage.

Furthermore, an additional Performance Solution will be required to permit the distance between alternative exits to be more than sixty (60) metres to an exit within the shade structure, including the existing Class 9b Club, as the alternative exit for the new function rooms relies on exiting back through the Club.

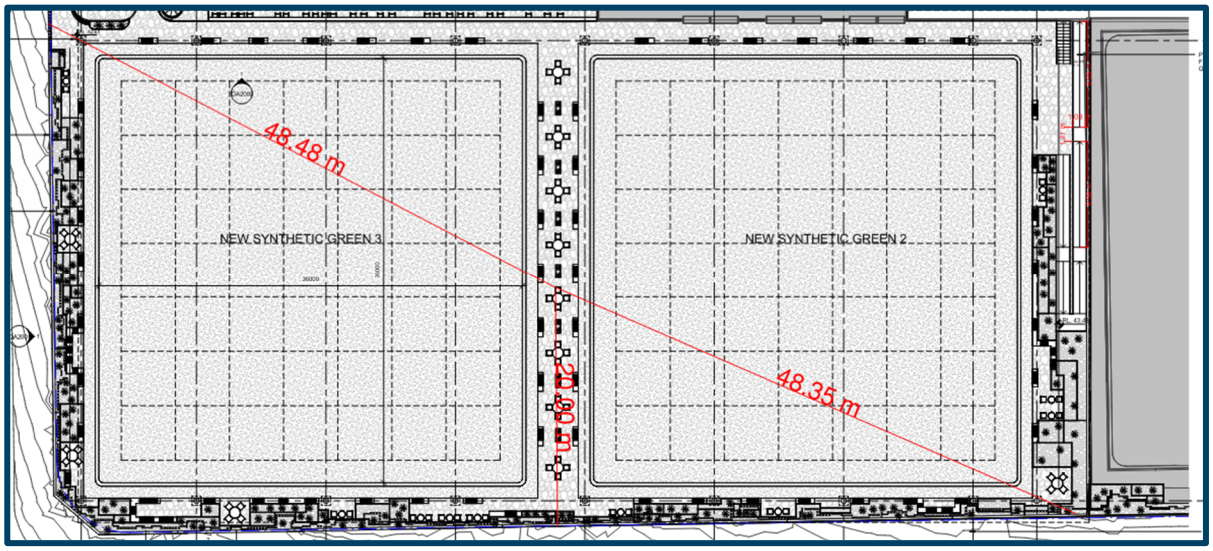


Figure 1 - Travel Distances in the shade structure

The shade structure is single storey and has a single stairway. Where the egress discharges to open space on the property, a continuous pathway from the point of discharge to the street is required. The plans do not indicate such a pathway and as such the provisions of Clause D2D15 of the BCA will need to be addressed.

It is recommended that two (2) egress gates are included to permit occupants to discharge to the *road*. Further design input will be required during the Construction Certificate Stage.

Details of treads and risers, landings, thresholds, balustrades, and handrails have not been provided however compliance is readily achievable. The design of these elements can be assessed at the Construction Certificate stage.

It is necessary to alter the stair design within the Foyer on the Lower Ground Level. The design's going and risers will need to be consistent to ensure a continuous handrail can be provided to at least one (1) side of the stair. Further design input will be required during the Construction Certificate Stage.

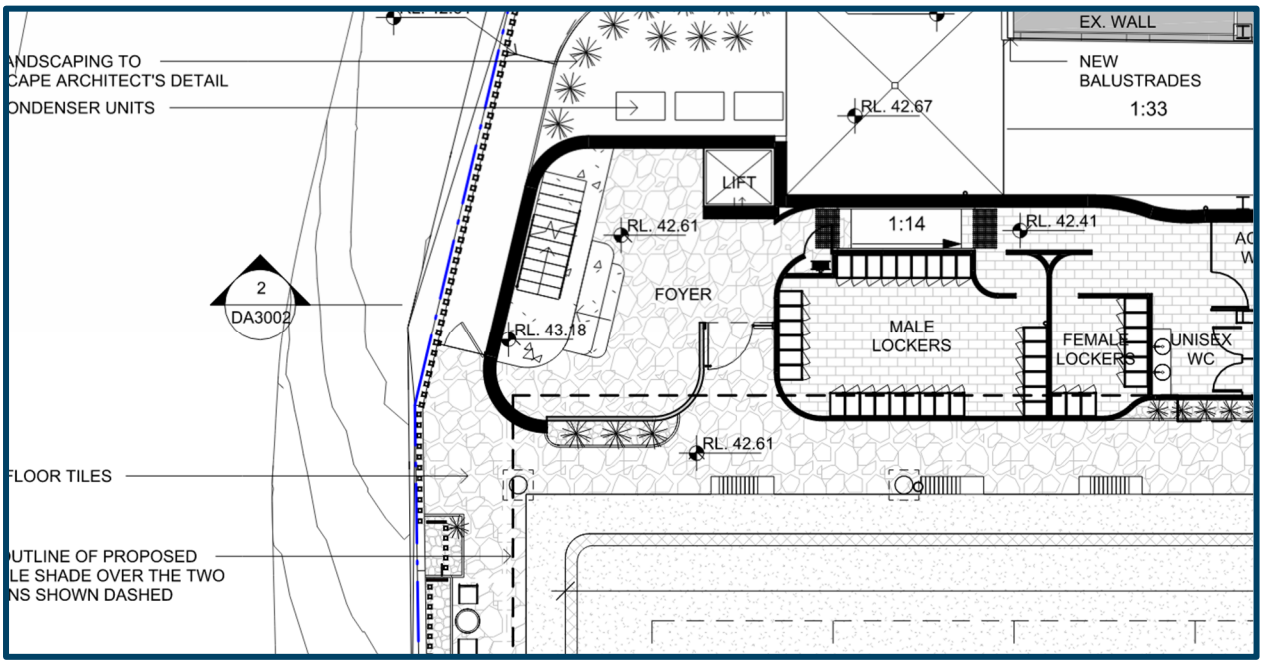


Figure 2 - The Foyer Stair on the Lower Ground Floor

Furthermore, the egress doors within the Shade Structure are required to swing in the direction of egress as per D3D25.

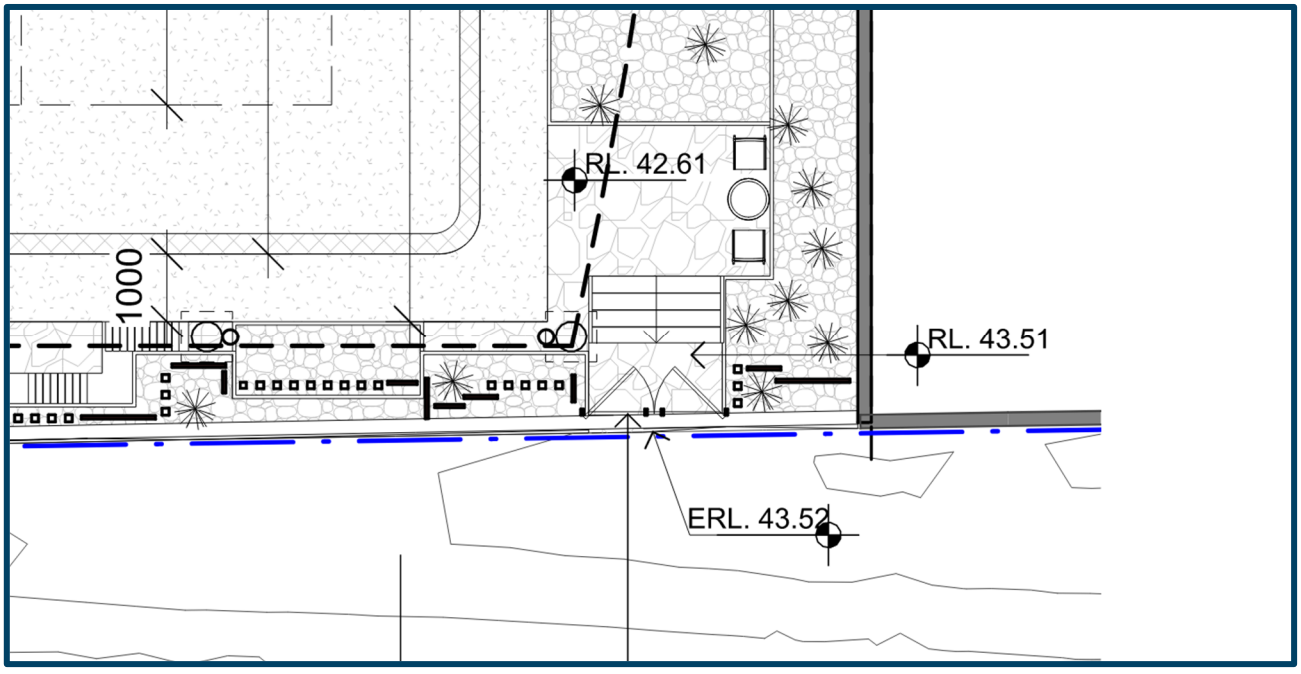


Figure 3 - The egress door to Woodberry Street

3.5.2 Access for People with Disabilities

The accessible requirements of Part D4 have been assessed within a separate report (117581-Access-r1)

3.6 SERVICES AND EQUIPMENT – PART E1, E2, E3 AND E4

The building is required to be provided with the services and equipment set out in Annexure B of this report. The annexure also outlines the standard of performance to be achieved by the services and equipment.

Part E1 – Fire Fighting Equipment

Fire Hydrant

As the development has a floor area greater than 500m^2, it is required to be served by a fire hydrant. The drawings do not indicate that the location of the hydrant. However, it is noted during an onsite inspection that there are two (2) street hydrants located on Woodberry Street & Melbee Street. There are also two (2) hydrants located between the greens. A street hydrant pressure flow & coverage assessment is required to comply with AS2419 – 2005, and further information is needed regarding the internal hydrants to determine if they will remain or be demolished.

Fire Hose Reel

No details have been provided regarding the Fire Hose Reels (FHR). Compliance is achievable, subject to further information being provided at the Construction Certificate Stage. Alternatively, a Performance Solution may permit to delete the FHRs within the shade structure.

Sprinklers

The building is a single storey building that does not require sprinklers.

Portable Fire Extinguishers

The development is required to have Portable Fire Extinguishers throughout the building.

Part E2 – Smoke Hazard Management

As the shade structure is single storey, there are no requirements for smoke detection.

The proposed new function room is required to have a smoke detection and alarm system. It is recommended that discretion is applied to permit the existing AS1670.1-2004 smoke and alarm system with the club to be extended to the new function area works.

As a result of the new works, the current Fire Engineering requirements outline by GHD within the building may be impacted. As such, it is recommended to ensure that YGL are reengaged to ensure that the recommendations within their report are not impacted. Where the new works impact the current smoke hazard management, then the Fire Engineer Report will need to be updated to include the new works and additional non-compliances.

Part E3 – Lifts

The drawings indicate that there is a new passenger lift installed within the new lobby between the lower ground and ground floor. The internal dimensions appear to be less than the required to be 1100 x 1400 mm. Further information will be required during the Construction Certificate Stage to indicate a compliant lift car as per BCA Part E3.

Part E4 – Visibility in an emergency, exits signs and warning systems.

Emergency lighting is required as per BCA Clause E4.2 for all non-fire-isolated stairs, corridors, passageways, hallways, or the like that is part of a path of travel to an exit.

Exit signs are required to be installed throughout the building, including direction exit signs to guide occupants to the designated exits in the building.

The DA plans do not provide any details for the emergency lighting and exit signs. As such further information will be required at the CC stage, however compliance is readily achievable.

3.7 FACILITIES IN CLASS 3 TO 9 BUILDINGS – PART F4

Facilities have been provided as part of the development to the Lower Ground. However, it is understood that the facilities will not be increase the population size. The intent of these amenities is to provide direct facilities at the same level as the Bowling Greens, which are replacing the deleted ground floor change rooms. Written confirmation is required from Maitland City Club to confirm that there is no intention to increase the population load.

Due to the facilities being shared between male and females, it will be necessary to undertake a Performance Solution during the Construction Certificate Stage to permit shared facilities. The BCA under Clause F4D4 requires that separate male and female facilities are provided. In addition, the single cubicles will be required to be ambulant facilities.

3.8 ROOM HEIGHTS – PART F5

The ceiling heights have been assessed in accordance with Part F5 of the BCA which has indicated that compliance is readily achievable.

3.9 LIGHT AND VENTILATION – PART F6

The proposed shade structure is substantially open and will provide sufficient natural light to the occupants within the building. Compliance is achieved.

No information has been provided regarding the lighting and ventilation of the function rooms. However, compliance is readily achievable.

4.0 Statement of Compliance

The plans assessed were developed to a standard suitable for submission as a development application and do not contain all the details necessary to allow a CC to be issued. As such, this assessment was limited to the major items of the BCA with the view of identifying any items that may result in a modified development consent being required, or additional key items that need to be included in the design.

The architectural design documentation as referred to in report has been assessed against the applicable provisions of the Building Code of Australia (BCA) and it is considered that such documentation complies or is capable of complying with that Code.

Annexures

Annexure A: Design Documentation

This report has been based on the following design documentation.

Table 2: Architectural Plans

Architectural Plans Prepared by Dacca Architecture			
Drawing Number	*Revision*	*Date*	*Title*
DA0000	C	5/06/2023	COVER PAGE AND DRAWING LIST
DA0001	C	5/06/2023	SITE PLAN
DA0010	C	5/06/2023	DEMOLITION PLAN – LOWER GROUND FLOOR
DA0011	C	5/06/2023	DEMOLITION PLAN – GROUND FLOOR
DA0012	C	5/06/2023	DEMOLITION PLAN – ROOF
DA1100	C	5/06/2023	PROPOSED LOWER GROUND FLOOR PLAN
DA1101	C	5/06/2023	PROPOSED GROUND FLOOR PLAN
DA1102	C	5/06/2023	PROPOSED ROOF PLAN
DA2001	C	5/06/2023	PROPOSED ELEVATIONS 1
DA2002	C	5/06/2023	PROPOSED ELEVATIONS 2
DA3001	C	5/06/2023	PROPOSED SECTIONS 1
DA3002	C	5/06/2023	PROPOSED SECTION 2
DA4001	C	5/06/2023	3D STREET VIEWS
DA5000	C	5/06/2023	SHADOW DIAGRAMS – 21 JUNE – EXISTING AND PROPOSED
DA5001	C	5/06/2023	SHAODW DIAGRAMS – 21 DECEMBER – EXISTING AND PROPSOED

Annexure B – Existing Fire Safety Essential Services

The following fire safety measures are the existing measures installed within in the building. The following table may be required to be updated as the design develops and options for compliance are confirmed.

Item	*Essential Fire and Other Safety Measures*	*Standard of Performance*
General		
1.	Portable fire extinguishers	BCA Clause E1.6 AS 2444–2001
General Egress		
1.	Emergency lighting	BCA Clause E4.2, Clause E4.4 AS/NZS 2293.1
2.	Exit signs	BCA Clause E4.5 BCA Clause E4.6 BCA Clause E4.8 AS/NZS 2293.1
Electrical Services		
1.	Automatic smoke detection system	AS1670.1 – 1995
2.	Emergency Warning Intercommunications System (EWIS)	AS2220.1 - 1989
Hydraulic Services		
1.	Fire hydrant systems	BCA Clause E1.3 AS 2419
2.	Hose reel systems	BCA Clause E1.4, AS2444
Fire Engineering Report for ‘Maitland City Bowls Smoke Management’ by GHD (reference 2122181/195539) Rev 2 dated 10/12/13		

Annexure C - Fire Resistance Levels

The following fire resistance levels (FRL's) are required for the various building elements, with a fire source feature being the far boundary of a road adjoining the allotment, a side or rear boundary or an external wall of another building on the allotment except a Class 10 structure.

Type A Construction

Table 10. Type A Construction

Item	*Class 9b*
Loadbearing External Walls (including columns and other building elements incorporated therein) - Less than 1.5m to a *fire-source feature* - 1.5 – less than 3m from a *fire-source feature* - 3m or more from a *fire-source feature*	120/120/120 120/90/90 120/60/30
Non-Loadbearing External Walls - Less than 1.5m to a *fire-source feature* - 1.5 – less than 3m from a *fire-source feature* - 3m or more from a *fire-source feature*	-/120/120 -/90/90 -/-/-
External Columns - Loadbearing - Non-loadbearing	120/-/- -/-/-
Common Walls & Fire Walls	120/120/120
Stair and Lift Shafts required to be fire-resisting. - Loadbearing - Non-loadbearing	120/120/120 -/120/120
Internal walls bounding sole occupancy units. - Loadbearing - Non-loadbearing	120/-/- -/-/-
Internal walls bounding public corridors, public lobbies, and the like: - Loadbearing - Non-loadbearing	120/-/- -/-/-

Item	*Class 9b*
Ventilating, pipe, garbage and like shafts: - Loadbearing - Non-loadbearing	120/90/90 -/90/90
Other loadbearing internal walls, beams trusses and columns	120/-/-
Floors	120/120/120
Roofs[1]	120/60/30

Annexure D – Definitions

Effective height

Effective height means the vertical distance between the floor of the lowest storey included in a determination of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units).

Envelope

Envelope, for the purposes of Section J in Volume One, means the parts of a building's fabric that separate a conditioned space or habitable room from—

a. the exterior of the building; or
b. a non-conditioned space including—
    i. the floor of a rooftop plant room, lift-machine room or the like; and
    ii. the floor above a carpark or warehouse; and
    iii. the common wall with a carpark, warehouse or the like.

Exit

Exit means –

a. Any, or any combination of the following if they provide egress to a road or open space—
    i. An internal or external stairway.
    ii. A ramp.
    iii. A fire-isolated passageway.
    iv. A doorway opening to a road or open space.
    v. A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

Fire compartment

Fire compartment means –

a. the total space of a building; or
b. when referred to in—
    i. the Performance Requirements — any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or
    ii. the Deemed-to-Satisfy Provisions — any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to Satisfy Provisions of the relevant Part.

Fire-resistance level (FRL)

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with Specification A2.3, for the following criteria—

a. structural adequacy; and

b. integrity; and

c. insulation,

and expressed in that order.

Note: A dash means that there is no requirement for that criterion. For example, 90/–/– means there is no requirement for an FRL for integrity and insulation, and –/–/– means there is no requirement for an FRL.

Fire-source feature

a. the far boundary of a road, river, lake or the like adjoining the allotment; or

b. a side or rear boundary of the allotment; or

c. an external wall of another building on the allotment which is not a Class 10 building

Fire wall

Fire wall means a wall with an appropriate resistance to the spread of fire that divides a storey or building into fire compartments.

Flammability index

Flammability Index means the index number as determined by AS 1530.2:1993.

Group number

Group number means the number of one of 4 groups of materials used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining, or attachment to a wall or ceiling.

Horizontal exit

Horizontal exit means a required doorway between 2 parts of a building separated from each other by a fire wall.

Loadbearing

Intended to resist vertical forces additional to those due to its own weight.

Non-combustible

Non-combustible means—

a. applied to a material — not deemed combustible as determined by AS 1530.1:1994 — Combustibility Tests for Materials; and

b. applied to construction or part of a building — constructed wholly of materials that are not deemed combustible

Occupiable outdoor area

Occupiable outdoor area means a space on a roof, balcony or similar part of a building–

a. that is open to the sky; and
b. to which access is provided, other than access only for maintenance; and
c. that is not open space or directly connected with open space.

Open space

Open space means a space on the allotment, or a roof or similar part of a building adequately protected from fire, open to the sky and connected directly with a public road.

Performance Requirement

Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

Performance Solution

Performance Solution means a method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.

Sarking-type material

Sarking-type material means a material such as a reflective insulation or other flexible membrane of a type normally used for a purpose such as waterproofing, vapour management or thermal reflectance.

Smoke developed index

Smoke developed index means the index number for smoke as determined by AS/NZS 1530.3.

Smoke development rate

Smoke development rate means the development rate for smoke as determined by testing flooring materials in accordance with AS ISO 9239.1.

Smoke growth rate index

Smoke growth rate index (SMOGRA RC) means the index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.

Annexure E – BCA Compliance Specification

The following BCA matters are to be addressed by specific BCA Design Certificate to be issued by the relevant architectural, services and engineering consultants at the Construction 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

2. Materials, floor and wall linings/coverings, surface finishes and air-handling ductwork used in the works will comply with the fire hazard properties of Clause C2D11 and Specification 5 of BCA 2022.
3. 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 will comply with Clause C2D14 of BCA 2022.
4. The required exits will be fire-isolated in accordance with Clause D2D4 of BCA 2022.
5. Travel distances to exits will be in accordance with Clause D2D5 of BCA 2022.
6. The alternative exits will be distributed uniformly around the storey and will not be less than 9m apart, and not more that 45m apart in the residential portion or patient care areas in the health-care building or 60m, in accordance with Clause D2D6 of BCA 2022.
7. The external stairway or ramp serving as a required exit will be in accordance with Clause D2D13 of BCA 2022.
8. Discharge from exits will be in accordance with Clause D2D15 of BCA 2022.
9. The non-required stairways, ramps and escalators will be in accordance with Clause D2D17 of BCA 2022.
10. The non-fire isolated stairs will be constructed in accordance with Clause D3D4 of BCA 2022.
11. Stair geometry to the new stairways will be in accordance with Clause D3D14 of BCA 2022. Stair treads are to have a surface with a slip-resistance classification complying with Table D3D14 when tested in accordance with AS 4586:2013.
12. Landings and door thresholds throughout the development will be provided in accordance with Clause D3D14 and D3D16 of BCA 2022. Landings to have either a surface with a slip-resistance classification complying with Table D3D15 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 D3D15 when tested in accordance with AS 4586:2013 where the edge ledge to a flight below.
13. The handrails and balustrades to all stairs and throughout the building will be in accordance with Clause D3D17, and D3D22 of BCA 2022.
14. Non-illuminated exit signage will be installed in accordance with Clause E4D7 and of BCA 2022.
15. External above ground waterproofing membranes will comply with Clause F1D5 of BCA 2022. and AS 4654 Parts 1 & 2:2012.
16. The new roof covering will be in accordance with Clause F3D2 of BCA 2022.
17. Waterproofing of all wet areas to the building will be carried out in accordance with Clause F2D2 of BCA 2022 and AS 3740:2010.
18. Damp proofing of the proposed structure will be carried out in accordance with Clause F1D6 and F1D7 of BCA 2022.

19. Floor wastes will be installed to bathrooms and laundries above sole occupancy units or public space in accordance with Clause F2D4 of BCA 2022.
20. Sub-floor ventilation will be provided in accordance with Clause F1D8 of BCA 2022.

Electrical Services Design Certification:

21. Emergency lighting will be installed throughout the development in accordance with Clause E4D2, E4D4 of BCA 2022 and AS/NZS 2293.1:2018.
22. Exit signage will be installed in accordance with Clause E4D5, E4D7, and E4D8 of BCA 2022 and AS/NZS 2293.1:2018.
23. Artificial lighting will be installed throughout the development in accordance Clause F6D5 of BCA 2022 and AS/NZS 1680.0:2009.
24. Lighting power and controls will be installed in accordance with Part J7 of BCA 2022.

Hydraulic Services Design Certification:

25. Storm water drainage will be provided in accordance with Clause F1D3 of BCA 2022 and AS/NZS 3500.3:2018
26. Fire hydrant system will be installed in accordance with Clause E1D2 of BCA 2022 and AS 2419.1:2005 as required.
27. Fire hose reels will be installed in accordance with Clause E1D3 of BCA 2022 and AS 2441:2005.
28. Portable fire extinguishers will be installed in accordance with Clause E1D14 of BCA 2022 and AS 2444:2001.

Structural Engineers Design Certification:

29. The material and forms of construction for the proposed works will be in accordance with Clause B1D3 B1D5 and B1D6 of BCA 2022 as follows:
    a. Dead and Live Loads – AS/NZS 1170.1:2002
    b. Wind Loads – AS/NZS 1170.2:2011
30. Earthquake actions – AS 1170.4:2007
31. Masonry – AS 3700:2018
32. Concrete Construction – AS 3600:2018
33. Steel Construction AS 4100:1998
34. The FRL's of building elements for the proposed works have been designed in accordance with Table 3 of Specification 5 of BCA 2022 for a building of Type A Construction

NSW Specification Design Certification:

35. Materials, floor and wall linings/coverings, surface finished, and air-handling ductwork used in the works will comply with the fire hazard properties in accordance with Clause C2D20, NSW Clause C2D11, Specification 5 and NSW Specification 5 of BCA 2022.
36. The building will be separated in accordance with Clause C3D6 of BCA 2022.

37. Doorways and other openings in internal walls required to have an FRL will be protected in accordance with Clause C4D12 of BCA 2022.
38. The number of exits provided to the building will be in accordance with Clause D2D3 of BCA 2022.
39. The discharge points of exits will be in accordance with Clause D2D15 of BCA 2022.
40. The dimensions of exits and paths of travel to exits will be provided in accordance with Clause D2D8 and D2D9 of BCA 2022.
41. Stair geometry to the new stairways will be in accordance with Clause D3D14 of BCA 2022. Stair treads are to have a surface with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013 or a nosing strip with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013.
42. Landings and door thresholds throughout the development will be provided in accordance with Clause D3D15 and D3D16 and NSW Clause D3D16 of BCA 2022. Landings to have either a surface with a slip-resistance classification complying with Table D3D15 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 D3D15 when tested in accordance with AS 4586:2013 where the edge leads to a flight below.
43. The handrails and balustrades to all stairs and throughout the building will be in accordance with Clause D3D17, NSW Table D3D18 and D3D22 of BCA 2022.
44. The doorways and doors will be in accordance with Clause D3D24, NSW Clause D3D24 and D3D25 of BCA 2022.
45. Exit signage will be installed in accordance with Clause E4D5, NSW Clause E4D6, E4D7, and E4D8 of BCA 2022 and AS/NZS 2293.1:2018.