CREDWELL

Project	16 Wyatt Avenue, Belrose
Report	NCC Assessment Report
Reference	C21070-NCC-r3
Date	29 November 2021
Client	Northern Beaches Essential Services Accommodation

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Contents

Document Control

Reference/Revision	Date	Description	Prepared by
C21070-NCC-r1	20/04/2021	NCC Assessment Report	**Wesley Vos** Senior Building Surveyor AIBS Level 1
C21070-NCC-r2	11/05/2021	NCC Assessment Report	**Wesley Vos** Senior Building Surveyor AIBS Level 1 
C21070-NCC-r3	29/11/2021	NCC Assessment Report	

1 Introduction

1.1 Building Location

The development being the subject of this Report is proposed to be located at 16 Wyatt Avenue, Belrose. The proposed development consists of construction of two (2) separate boarding house buildings, each containing a level of associated basement carparking. To maintain consistency with the nomenclature specified on the architectural drawings, the buildings are referred to as "Upper Building" and "Lower Building" in this Report. The development also incorporates construction of a freestanding Bin Storage Room.

1.2 Objectives

The purpose of this Report is to outline an assessment of the proposed development against the National Construction Code, Volume 1, Building Code of Australia, 2019, Amendment 1 (the "NCC"). The assessment addresses all relevant Deemed-to-Satisfy (DtS) Clauses of the NCC and provides comment on the compliance status of the proposed development. If the development does not comply with a DtS Clause, where appropriate, a recommendation to prepare/obtain a Performance Solution is specified. Where a Clause is not relevant to the proposed development it is not discussed.

It is presumed the assumptions, content, and limitations of this Report are reviewed and understood by the reader. Credwell Consulting should be contacted to clarify any queries or assumptions made in relation to the contents of this Report. Furthermore, Credwell Consulting take no responsibility for misinterpretation of any of the content herein.

1.3 Limitations

This Report does not include or imply any audit, assessment, or upgrading of the proposed development regarding:

1. The structural design; and
2. The capacity or design of any electrical, fire, hydraulic or mechanical services.

This Report does not include or imply, any assessment of, or compliance with:

1. any development consent conditions;
2. the Liquor Licencing Act 1997;
3. the Work Health and Safety Act 2011;
4. the Swimming Pools Act 1992; and
5. requirements of authorities including, but not limited to, WorkCover, Roads and Maritime Services, Council, telecommunications supply authority, electricity supply authority, water supply authority, gas supply authority, and the like.

<u>Interpretations</u>

Numerous Clauses within the NCC require interpretation. Where interpretation of a Clause is required, Credwell Consulting apply what is believed to be the current standard industry practice (at the time the Report is written).

<u>Dimensions and Tolerances</u>

The NCC regularly specifies minimum dimensions for construction. The assessment outlined in this Report includes a review of such minimum dimensions that are relevant to the proposed development. However, Credwell Consulting does not guarantee that all relevant minimum dimensions have been assessed where they are not clearly and explicitly denoted/marked on the architectural drawings reviewed. Also, it remains the

responsibility of the designer(s) and builder(s) to confirm that all minimum dimensions are achievable on site prior to work commencing.

1.4 Reviewed Documentation

The assessment outlined in this Report is based on review of the documentation referenced in Annexure A.

2 Building Description

For the purposes of the NCC, the building is described as follows:

2.1 Classification

Upper Building

Class	Use	Area
Class 7a	Carpark	Basement
Class 3	Boarding house	Lower Ground Floor Ground Floor (x2)

Lower Building

Class	Use	Area
Class 7a	Carpark	Basement
Class 3	Boarding house	Ground Floor First Floor

Bin Storage Room

Class	Use	Area
Class 7b	Storage	Ground Floor

2.2 Rise in Storeys

The Upper Building has a rise in storeys of three (3).

The Lower Building has a rise in storeys of three (3).

The Bin Storage Room has a rise in storeys of one (1).

2.3 Type of Construction

Upper Building

Given the classification of the top floor (Class 3) and the rise in storeys (three (3)), the building is required to be of Type A Construction.

Lower Building

Given the classification of the top floor (Class 3) and the rise in storeys (three (3)), the building is required to be of Type A Construction.

Bin Storage Room

Given the classification of the top floor (Class 7b) and the rise in storeys (one (1)), the building is required to be of Type C Construction.

2.4 Effective height

Upper Building

The effective height is calculated to be less than 12m.

Lower Building

The effective height is calculated to be less than 12m.

Bin Storage Room

The effective height is calculated to be less than 12m.

2.5 Fire Compartments

Upper Building

For the purposes of the assessment outlined in this Report, the Basement and Ground Floor (upper) are individual fire compartments, and the Lower Ground and Ground floors form an individual fire compartment (connected by non-fire-isolated communication stairway).

Lower Building

For the purposes of the assessment outlined in this Report, the Basement is an individual fire compartment, and the Ground and First floors form an individual fire compartment (connected by non-fire-isolated stairways).

Bin Storage Room

For the purposes of the assessment outlined in this Report, the Bin Storage Room is considered to be a single fire compartment.

2.6 Required Exits

For the purposes of the assessment outlined in this Report, the following are considered as the exits from the building:

Upper Building

1. The doorways providing access to open space on the Basement and Ground Floor (lower) storeys.
2. The stairway serving the Basement, Lower Ground Floor, and Ground Floor (upper) storeys.

Lower Building

1. The doorways providing access to open space on the Basement and Ground Floor storeys.
2. The stairway serving the Basement and First Floor storeys.
3. The stairway serving the First Floor.

Bin Storage Room

1. The doorways providing access to open space.

2.7 Climate Zone

The buildings are located within Climate Zone 5, being within the Northern Beaches Council local government area.

3 Fire Safety Measures

Given the assessment in this Report, the following fire safety measures are required to be installed in the building. This list is subject to minor change if Performance Solutions are proposed, or other options are taken during the Construction Certificate (CC) and/or construction stages.

	Fire Safety Measure	Standard of Performance
1.	Access panels, doors and hoppers to fire-resisting shaft	NCC Clause C3.13 Manufacturer's Specifications
2.	Automatic fail-safe devices (electronic latching)	NCC Clause D2.21 Manufacturer's Specifications
3.	Automatic fire detection and alarm systems	NCC Clause E2.2 and Specification E2.2a Clause 4 AS 1670.1-2018
4.	Building occupant warning system	NCC Clause E2.2 and Specification E2.2a Clause 7 AS 1670.1-2018
5.	Emergency lighting	NCC Clause E4.2 & E4.4 AS/NZS 2293.1-2018
6.	Exit signs	NCC Clause E4.5, E4.6 & E4.8 AS/NZS 2293.1-2018
7.	Fire dampers	NCC Clause C3.15 AS 1668.1-2015 Manufacturer's Specification
8.	Fire doors	NCC Clause C3.8, & C3.11 and Specification C3.4 Clause 2 AS 1905.1-2015
9.	Fire hose reel systems	NCC Clause E1.4 AS 2441-2005
10.	Fire hydrant systems	NCC Clause E1.3 AS 2419.1-2005
11.	Fire seals protecting openings in fire-resisting components of the building	NCC Clause C3.15 and Specification C3.15 AS 1530.4-2014 AS 4072.1-2005 Manufacturer's Specification
12.	Fire shutters (option for providing protection of openings)	NCC Clause C3.3 & C3.4 and Specification C3.4 Clause 4 Manufacturer's Specification
13.	Fire windows (option for providing protection of openings)	NCC Clause C3.3 & C3.4 and Specification C3.4 Clause 5 Manufacturer's Specification
14.	Lightweight construction (fire rated)	NCC Clause C1.8 and Specification C1.8 Manufacturer's Specification
15.	Mechanical air handling systems (automatic shutdown)	NCC Clause E2.2 and Specification E2.2a AS 1668.1-2015
16.	Portable fire extinguishers	NCC Clause E1.6 AS 2444-2001
17.	Smoke doors	NCC Clause C2.5, Specification C2.5, and Specification C3.4 Clause 3
18.	Warning and operational signs	NCC Clause D2.23 & E3.3 Environmental Planning and Assessment Regulation 2000 Clause 183
19.	Paths of travel	NCC Parts D1 & D2 Environmental Planning and Assessment Regulation 2000 Clause 186
20.	Fire alarm monitoring	NCC Clause E2.2 and Specification E2.2a Clause 8 AS 1670.3-2018

	Fire Safety Measure	Standard of Performance
21.	Performance Solutions to: 1. Justify public corridors having a length of greater than 40m. 2. Justify exit stairway not being fire-isolated. 3. Justify extended exit travel distances. 4. Justify discharge of fire-isolated exits. 5. Justify rising and descending stair flights in a fire-isolated stairway not being separated. 6. Justify exit door not swinging in direction of egress. 7. To justify vertical separation between openings which does not comply with the provisions of C2.6	TBA – Performance Solutions to be prepared at CC stage of development.

4 Fire Resistance Levels

The following fire resistance levels (FRLs) are required for the various elements of the building. Where the table below refers to a fire source feature (FSF), this is as defined in the NCC as the far boundary of a road, river, lake or the like adjoining the allotment, or a side or rear boundary of the allotment, or an external wall of another building on the allotment which is not a Class 10 building.

Building Element - Type A Construction	**Class 2,**	**Class 7a**
Loadbearing External Walls - Less than 1.5m from a FSF - 1.5-3m from a FSF - 3m or more from a FSF	 90/90/90 90/60/60 90/60/30	 120/120/120 120/90/90 120/60/30
Non-Loadbearing External Walls - Less than 1.5m from a FSF - 1.5-3m from a FSF - 3m or more from a FSF	 -/90/90 -/60/60 -/-/-	 -/120/120 -/90/90 -/-/-
External Columns (not incorporated into an external wall) - Loadbearing - Non-Loadbearing	 90/-/- -/-/-	 120/-/- -/-/-
Common Walls and Fire Walls	90/90/90	120/120/120
Internal Walls - Fire resisting lift and stair shafts - Loadbearing - Non-Loadbearing	 90/90/90 -/90/90/90	 120/120/120 -/120/120
Internal Walls - Bounding public corridors, public lobbies and the like - Loadbearing - Non-Loadbearing	 90/90/90 -/60/60	 120/-/- -/-/-
Internal Walls - Between or bounding sole-occupancy units - Loadbearing - Non-Loadbearing	 90/90/90 -/60/60	 120/-/- -/-/-
Internal Walls - Ventilating, pipe, garbage and the like, shafts not used for discharge of hot products of combustion - Loadbearing - Non-Loadbearing	 90/90/90 -/90/90	 120/90/90 -/90/90
Other loadbearing internal walls, internal beams, trusses and columns	90/-/-	120/-/-
Floors	90/90/90	120/120/120
Roofs	90/60/30	120/60/30

Notes:
Clause 2.5(c) of Specification C1.1 grants a concession to structures located on roofs to house plant and equipment to not have a Fire-Resistance Level (FRL) provided their construction is non-combustible.

*[1]Clause 2.8(b) of Specification C1.1 grants a concession to a carpark in a Class 3 building, or building containing Class 2 and 3 parts, having not more than three (3) storeys, where one (1) of the storeys is used solely as a carpark or some other purpose ancillary to a Class 2 and/or 3 and the remaining storeys are of Class 2 and 3 only, to be regarded as a Class 2 or 3 for the purpose of determining the relevant FRLs.

*[2]Clause 4.1(i) requires a floor in a Class 3 building, except where within a sole occupancy unit, to –

(i) be constructed so that it is at least of the standard achieved by a floor/ceiling system incorporating a ceiling which has a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or

(ii) have an FRL of at least 30/30/30; or

(iii) have a fire-protective covering on the underside of the floor, including beams incorporated in it, if the floor is combustible or of metal; and

Building Element – Type C Construction	Class 7b
External Walls - Less than 1.5m from a FSF - 1.5 - 3m from a FSF - 3m or more from a FSF	 90/90/90 60/60/60 -/-/-
External Columns (not incorporated into an external wall) - Less than 1.5m from a FSF - 1.5 - 3m from a FSF - 3m or more from a FSF	 90/-/- 60/-/- -/-/-
Common Walls and Fire Walls	90/90/90
Internal Walls - Fire resisting stair shafts –	60/60/60
Internal Walls – Bounding public corridors, public lobbies and the like -	-/-/-
Internal Walls – Between or bounding sole-occupancy units	-/-/-
Roofs	-/-/-

5 Disability (Access to Premises – Buildings) Standards 2010

The Disability (Access to Premises – Buildings) Standards 2010 (the "Premises Standards") is Commonwealth legislation (applies nationally) that was created under the Disability Discrimination Act. The Premises Standards identifies buildings to which it applies before specifying construction standards that those buildings are required to comply with. In summary, the Premises Standards are applicable to a new building, a new part of a building, and an affected part of a building, and the construction standards applicable are contained within "Schedule 1 Access Code for Buildings".

The Premises Standards provides a definition for a new building, a new part of a building, and an affected part of a building. The definition of a new building and a new part of a building is currently considered to be in line with standard dictionary definitions (unless a building or part obtained construction approvals prior to 1 May 2011). However, the term "affected part" is specific to the Premises Standards and is defined by Clause 2.1(5) as follows –

(a) the principal pedestrian entrance of an existing building that contains a new part; and
(b) any part of an existing building, that contains a new part, that is necessary to provide a continuous accessible path of travel from the entrance to the new part.

The upgrade requirements of the Premises Standards are founded on determining whether a development within an existing building results in the creation of an affected part.

As previously mentioned, the construction standards of the Premises Standards are contained within "Schedule 1 Access Code for Buildings". It should be noted that this part of the Premises Standards was prepared in consultation with the Australian Building Codes Board (ABCB – publisher of the NCC). As such, the requirements outlined in each document are the same. Therefore, assessment of the proposed development against the relevant requirements of the NCC applicable to access for people with a disability ensures that it also complies with the Premises Standards.

The subject proposed development incorporates construction of new buildings, therefore, the buildings must comply with the Premises Standards. An assessment of the buildings against the relevant requirements of the NCC applicable to access for people with a disability, as outlined in this Report, is equivalent to an assessment against "Schedule 1 Access Code for Buildings" of the Premises Standards. Therefore, confirmation of compliance with the NCC should also be taken as confirmation of compliance with the Premises Standards.

6 Matters for Further Consideration

6.1 Assessment

The reviewed documentation referenced in Annexure A of this Report has been assessed against the Deemed-to-Satisfy (DtS) provisions of the NCC. This assessment has identified the following areas where compliance with the NCC will require further consideration.

Annexure B of this Report provides a detailed assessment of the proposal against each of the relevant DtS provisions of the NCC.

6.2 Possible Performance Solutions

The following items relate to areas where a Performance Solution may be available to justify a deviation from the DtS requirements of the NCC. This Report does not form a Performance Solution.

Item	Possible Performance Solution	DtS Provision
1.	Justify vertical separation of openings not in accordance with NCC Clause C2.6	C2.6
2.	Justify public corridors having a length of greater than 40m.	C2.14
3.	Justify extended exit travel distances.	D1.4
4.	Justify the Lower Building not incorporating any accessible SOUs.	D3.1
5.	Justify access not being provided to the Lower Building from the main point of pedestrian entry at the allotment boundary, the Upper Building, or an accessible carparking space.	D3.2
6.	Justify the Lower Building not incorporating accessways compliant with Clause D3.3 and AS 1428.1-2009.	D3.3
7.	Justify the Lower Building not incorporating any accessible carparking spaces.	D3.5

6.3 Vertical separation of openings in an external wall – NCC Clause C2.6

The upper and lower building as considered to have a rise in storeys of three, therefore are required to be of Type A construction.

The provisions of NCC Clause C2.6, in this instance, requires any part of a window or other opening in an external wall that is located above another opening in the storey below to be separated via:

(i) a spandrel which—
(A) is not less than 900 mm in height; and
(B) extends not less than 600 mm above the upper surface of the intervening floor; and
(C) is of non-combustible material having an FRL of not less than 60/60/60;

Or

(iv) a slab or other horizontal construction that—
(A) projects outwards from the external face of the wall not less than 1100 mm; and
(B) extends along the wall not less than 450 mm beyond the openings concerned; and
(C) is non-combustible and has an FRL of not less than 60/60/60.
Currently, the vertical separation between the several openings located at 'North East Elevation – Lower Building', North East Elevation – Upper and Lower Building', 'South-

West Elevations – Upper and Lower Building', 'West Elevation – Lower Building' and 'East Elevation – Lower Building' has not been co-ordinated in accordance with this Clause.

The openings at the above-mentioned elevations will need to be appropriately addressed by a Fire Engineer at CC Stage.

6.4 Public corridors in Class 2 and 3 buildings – Clause C2.14

The public corridor serving the Lower Ground Floor and Ground Floor (lower) of the Upper Building has a length of approximately 82m and is not proposed to be divided at intervals of not more than 40m with smoke-proof walls complying with Clause 2 of Specification C2.5.

The main public corridor serving the Ground and First Floor of the Lower Building (connected by the non-fire-isolated stairway) has a length of approximately 49m and is not proposed to be divided at intervals of not more than 40m with smoke-proof walls complying with Clause 2 of Specification C2.5.

The design team have advised that these corridor lengths will be justified by a Performance Solution prepared by a suitably qualified fire safety engineer.

6.5 Exit travel distances – Clause D1.4

The exit travel distance from the Common Terrace on the First Floor of the Upper Building exceeds 20m to a point of choice at which travel in different directions to no less than two (2) exits is available (approximately 23m).

The exit travel distance from L213 and L215 of Lower Building First Floor exceed 6m to a point of choice at which in different directions to no less than two (2) exits are available (approximately 6.5m).

The exit travel distance from L201 and L203 of Lower Building First Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 7.5m).

The exit travel distance from L115 and L117 of Lower Building Ground Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 6.8m).

The exit travel distance from L101 of Lower Building Ground Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 15.9m).

The exit travel distance from L102 of Lower Building Ground Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 12.7m).

The exit travel distance from L103 and L105 of Lower Building Ground Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 7m).

The exit travel distance from common terrace of Lower Building Ground Floor exceeds 20m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 28.13m).

The design team have advised that these extended exit travel distances will be justified by a Performance Solution prepared by a suitably qualified fire safety engineer.

6.6 General Building access requirements – Clause D3.1

The Lower Building does not incorporate any accessible SOUs. The design team have advised that this will be justified by a Performance Solution prepared by a suitably qualified access consultant, reliant upon the provisions of the required accessible SOUs for the entire development and all required facilities being provided in the Upper Building only.

6.7 Access to buildings – Clause D3.2

Access is not provided to the Lower Building from the main point of pedestrian entry at the allotment boundary, the Upper Building, or an accessible carparking space. The design team have advised that this will be justified by a Performance Solution prepared by a suitably qualified access consultant.

6.8 Parts of buildings to be accessible – Clause D3.3

The Lower Building does not incorporate accessways compliant with Clause D3.3 and AS 1428.1-2009. The design team have advised that this will be justified by a Performance Solution prepared by a suitably qualified access consultant.

6.9 Accessible carparking – Clause D3.5

Upper Building

Based on the building having 22 rooms (including the caretaker's unit), being required to have two (2) accessible rooms, and having 11 carparking spaces, one (1) accessible carparking space is required to be provided.

Lower Building

Based on the building having 32 rooms, being required to have two (2) accessible rooms, and having 20 carparking spaces, one (1) accessible carparking space is required to be provided.

The Upper Building is provided with two (2) accessible carparking spaces and the Lower Building is not provided with any accessible carparking spaces. The design team have advised that the provision of two (2) accessible carparking spaces to the Upper Building in lieu of providing one (1) accessible carparking space to each building will be justified by a Performance Solution prepared by a suitably qualified access consultant.

7 Statement of Compliance

Credwell Consulting have completed a detailed assessment of the subject proposed development, as indicated on the drawings referenced in Annexure A of this Report, against the relevant requirements of the NCC. The details of this are specified in the Assessment Table provided in Annexure B of this Report. Subject to this assessment, Credwell Consulting advise that the design of the proposed development complies, or is capable of complying, with the relevant requirements of the NCC.

Annexure A – Reviewed Documentation

This Report is based on review of the documentation listed below:

Architectural drawings prepared by Platform Architects, Project reference WAB2			
Drawing Number	Revision	Date	Title
A0.02	DA04	27/11/21	SITE PLAN
A1.01	DA04	27/11/21	UPPER BUILDING BASEMENT PLAN
A1.02	DA04	27/11/21	UPPER BUILDING LOWER GROUND FLOOR PLAN
A1.03	DA04	27/11/21	UPPER BUILDING GROUND FLOOR PLAN – SHEET 1
A1.04	DA04	27/11/21	UPPER BUILDING GROUND FLOOR PLAN – SHEET 2
A1.05	DA04	27/11/21	UPPER BUILDING GROUND FLOOR PLAN
A1.06	DA04	27/11/21	UPPER BUILDING ROOF PLAN
A1.07	DA04	27/11/21	LOWER BUILDING BASEMENT PLAN
A1.08	DA04	27/11/21	LOWER BUILDING GROUND FLOOR PLAN – SHEET 1
A1.09	DA04	27/11/21	LOWER BUILDING GROUND FLOOR PLAN – SHEET 2
A1.10	DA04	MAY ‘21	LOWER BUILDING FIRST FLOOR PLAN – SHEET 1
A1.11	DA04	27/11/21	LOWER BUILDING FIRST FLOOR PLAN – SHEET 2
A1.12	DA04	27/11/21	LOWER BUILDING ROOF PLAN – SHEET 1
A1.13	DA04	27/11/21	LOWER BUILDING ROOF PLAN – SHEET 2
A2.01	DA04	27/11/21	NORTH EAST ELEVATIONS UPPER AND LOWER BUILDINGS
A2.02	DA04	27/11/21	SOUTH WEST ELEVATIONS UPPER AND LOWER BUILDINGS
A2.03	DA04	27/11/21	SOUTH EAST ELEVATION NORTH WEST ELEVATION
A2.04	DA04	27/11/21	SOUTH EAST ELEVATION NORTH WEST ELEVATION
A3.01	DA04	27/11/21	SECTION A UPPER BUILDING
A3.02	DA04	27/11/21	SECTION B LOWER BUILDING
A3.03	DA04	27/11/21	SECTIONS I & II UPPER BUILDING
A3.04	DA04	27/11/21	SECTIONS III & IV UPPER BUILDING
A3.05	DA04	27/11/21	SECTIONS V & VI LOWER BUILDING
A3.06	DA04	27/11/21	SECTION VII LOWER BUILDING

Annexure B – Detailed Assessment

The following Assessment Table outlines a Clause by Clause review of the subject proposed development against the relevant Deemed-To-Satisfy (DTS) provisions of the NCC. Where a Clause is not relevant to the proposed development, no discussion of that Clause is provided.

The following abbreviations have been used in the table below:

PS	**Performance Solution** The design does not comply with the Clause, however, a Performance Solution is proposed to justify the design in its current format.
CRA	**Compliance Readily Achievable** It is considered that, whilst there is insufficient information currently provided to determine strict compliance with the relevant DTS Clause, the proposed design can comply in its current format.
Complies	The proposed design complies with the relevant DTS Clause
DNC	**Does Not Comply** The proposed design does not comply with the relevant DTS Clause and requires amendment.
FI	**Further Information** Further information is required to determine whether the proposed design satisfies the requirements of the relevant DTS Clause.
N/A	**Not Applicable** The relevant DTS Clause is considered not applicable to the subject proposed development but requires further explanation to confirm reason(s).
Noted	The relevant DTS Clause specifies information only, no assessment is required.

SECTION B - STRUCTURE			
Clause		**Comments**	**Assessment**
Part B1 – Structural provisions			
B1.0	Deemed-to-Satisfy Provisions	Information only.	Noted
B1.1	Resistance to actions	Resistance to actions must be in accordance with this Clause. Structural Engineer to certify.	CRA
B1.2	Determination of individual actions	The magnitude of individual actions must be determined in accordance with this Clause.	CRA
B1.4	Determination of structural resistance of materials and forms of construction	The structural resistance of materials and forms of construction must be determined in accordance with this Clause. Structural Engineer to certify.	CRA
B1.5	Structural software	Structural software used in computer aided design of a building or structure must comply with the ABCB Protocol for Structural Software in accordance with this Clause. Structural Engineer to certify.	CRA
B1.6	Construction of buildings in flood hazard areas	A Class 2 or 3 building, Class 9a health-care building, Class 9c building or Class 4 part of a building in a flood hazard area must comply with this Clause.	CRA
SECTION C – FIRE RESISTANCE			
Clause		**Comments**	**Assessment**
Part C1 – Fire resistance and stability			
C1.0	Deemed-to-Satisfy Provisions	Information only.	Noted
C1.1	Type of construction required	**Upper Building** The building, having a rise in storeys of two (2) and containing a Class 3 part on the top storey, is required to be Type B construction. **Lower Building** The building, having a rise in storeys of three (3) and containing a Class 3 part on the top storey, is required to be Type A construction. **Bin Storage Room** The building, having a rise in storeys of one (1) and containing a Class 7b part on the top storey, is required to be Type C construction. Each building element must comply with Specification C1.1 as applicable.	CRA CRA CRA CRA
C1.2	Calculation of rise in storeys	**Upper Building** The building has a rise in storeys of two (2). **Lower Building** The building has a rise in storeys of three (3). **Bin Storage Room** The building has a rise in storeys of one (1).	Noted
C1.3	Buildings of multiple classification	The top storey of the Upper and Lower Buildings contains a Class 3 part. The top storey of the Bin Storage Room contains a Class 7b part.	Noted
C1.4	Mixed types of construction	The buildings will be a single Type of construction.	Noted
C1.8	Lightweight construction	If lightweight construction is utilised to achieve an FRL, it must comply with this Clause and Specification C1.8.	CRA
C1.9	Non-combustible building elements	The buildings are required to be of Type A and Type B construction, therefore, the building elements listed in this Clause must be non-combustible. Where a building element is required to be non-combustible, all materials forming that element are to be non-combustible. This Clause also identifies building elements to which it does not apply.	CRA

<table>
<tr><th colspan="2">Clause</th><th>Comments</th><th>Assessment</th></tr>
<tr><td colspan="2"></td><td>Also, it should be noted that wall systems utilising permanent polymer/PVC formwork (e.g. Dincel, Rediwall, etc.) used where the NCC requires the element to be non-combustible, must be justified by a Performance Solution prepared by a suitably qualified fire safety engineer.</td><td></td></tr>
<tr><td>C1.10</td><td>Fire hazard properties</td><td>The fire hazard properties of all materials must comply with this Clause and Specification C1.10.</td><td>CRA</td></tr>
<tr><td>C1.14</td><td>Ancillary elements</td><td>“Ancillary elements”, other than those listed in this Clause, must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible.</td><td>CRA</td></tr>
<tr><td colspan="4">Part C2 – Compartmentation and separation</td></tr>
<tr><td>C2.0</td><td>Deemed-to-Satisfy Provisions</td><td>Information only.</td><td>Noted</td></tr>
<tr><td>C2.1</td><td>Application of Part</td><td>Clause C2.2, C2.3 and C2.4 do not apply to a carpark provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 or an open-deck carpark.</td><td>Noted</td></tr>
<tr><td>C2.2</td><td>General floor area and volume limitations</td><td><table><tr><td>Class 7a</td><td>Maximum Floor Area 5,000m^2
Maximum Volume 30,000m^3</td></tr><tr><td>Class 3</td><td>The Class 3 parts of the buildings are not subject to the floor area and volume limitations of C2.2. Rather, Table 3 of Specification C1.1 and Clause C3.11 regulate the compartmentation and separation requirements applicable to Class 2 buildings or parts.</td></tr></table></td><td>Complies</td></tr>
<tr><td>C2.6</td><td>Vertical separation of openings in external walls</td><td>The upper and lower building as considered to have a rise in storeys of three, therefore are required to be of Type A construction.

The provisions of NCC Clause C2.6, in this instance, requires any part of a window or other opening in an external wall that is located above another opening in the storey below to be separated via:

(i) a spandrel which—
(A) is not less than 900 mm in height; and
(B) extends not less than 600 mm above the upper surface of the intervening floor; and
(C) is of non-combustible material having an FRL of not less than 60/60/60;

Or

(iv) a slab or other horizontal construction that—
(A) projects outwards from the external face of the wall not less than 1100 mm; and
(B) extends along the wall not less than 450 mm beyond the openings concerned; and
(C) is non-combustible and has an FRL of not less than 60/60/60.

Currently, the vertical separation between the several openings located at ‘North East Elevation – Lower Building’, North East Elevation – Upper and Lower Building’, ‘South-West Elevations – Upper and Lower Building’, ‘West Elevation – Lower Building’ and ‘East Elevation – Lower Building’ has not been co-ordinated in accordance with this Clause.

The openings at the above-mentioned elevations will need to be redesigned to comply with the provisions of C2.6 or appropriately addressed by a Fire Engineer at CC Stage.</td><td>DNC/PS</td></tr>
</table>

Clause		Comments	Assessment
C2.7	Separation by fire walls	Fire walls must comply with this Clause.	CRA
C2.8	Separation of classifications in the same storey	The entire Lower Ground Floor of the Upper Building must be constructed to achieve the FRLs applicable to the Class 7b part (Storage room), or the different classifications must be separated from one another by fire walls.	CRA
C2.9	Separation of classifications in different storeys	Each storey must be separated from the storey below by construction having the FRL applicable to a floor for the classification in the lower storey.	CRA
C2.10	Separation of lift shafts	The lifts in each building must be enclosed within a shaft that has the FRLs outlined in Specification C1.1 with reference to the classification in which it is located.	CRA
C2.11	Stairways and lifts in one shaft	The stairways and lifts are proposed to be located in separate shafts in each building.	Complies
C2.12	Separation of equipment	Equipment including lift motor rooms, emergency generators sustaining emergency equipment operating in emergency mode, central smoke control plan, boilers or battery areas with a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours, and on-site fire pumps must be fire separated from the remainder of the building in accordance with this Clause.	CRA
C2.13	Electricity supply system	If the main switch room sustains emergency equipment operating in emergency mode, the room is to be separated from the remainder of the building with construction having a FRL of not less than 120/120/120. Where emergency equipment is required in a building, all switchboards in the electrical installation that sustain the electricity supply to the emergency equipment must be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from the non-emergency equipment switchgear.	CRA
C2.14	Public corridors in Class 2 and 3 buildings	The public corridor serving the Lower Ground Floor and Ground Floor (lower) of the Upper Building has a length of approximately 82m and is not proposed to be divided at intervals of not more than 40m with smoke-proof walls complying with Clause 2 of Specification C2.5. The main public corridor serving the Ground and First Floor of the Lower Building (connected by the non-fire-isolated stairway) has a length of approximately 49m and is not proposed to be divided at intervals of not more than 40m with smoke-proof walls complying with Clause 2 of Specification C2.5. The design team have advised that these corridor lengths will be justified by a Performance Solution prepared by a suitably qualified fire safety engineer. The walls dividing the public corridors into lengths of less than 40m within the Lower Building must comply with Clause 2 of Specification C2.5. The doorways through these walls must comply with Clause 3 of Specification C3.4.	PS CRA
Part C3 – Protection of openings			
C3.0	Deemed-to-Satisfy Provisions	Information only.	Noted
C3.1	Application of Part	Information only.	Noted
C3.2	Protection of openings in external walls	There are no openings in external walls required to be protected in accordance with Clause C3.4 under this Clause.	Noted
C3.4	Acceptable methods of protection	Any openings in external walls requiring protection under Clause C3.3 must be protected in accordance with the requirements of this Clause.	CRA
C3.5	Doorways in fire walls	Doorways through fire walls must be protected in accordance with the requirements of this Clause.	CRA

Clause		Comments	Assessment
C3.8	Openings in fire-isolated exits	The doorways opening into the fire-isolated exits, that are not doorways opening to a road or open space, must be protected with self-closing -/60/30 fire door sets.	CRA
C3.9	Service penetrations in fire-isolated exits	Fire-isolated exits must not be penetrated by any service other than electrical wiring for lighting and intercom systems, water supply for fire services, and other fire related services.	CRA
C3.10	Openings in fire-isolated lift shafts	The lift doors must achieve an FRL of not less than -/60/- and be in accordance with this Clause. Also, the lift indicator panels must comply with this Clause.	CRA
C3.11	Bounding construction: Class 2 and 3 buildings and Class 4 parts	The doorways to the units, and other rooms served by the public corridors, must be self-closing -/60/30 fire door sets.	CRA
C3.12	Openings in floors and ceilings for services	All service shafts must achieve the FRLs outlined by Table 3 of Specification C1.1.	CRA
C3.13	Openings in shafts	Openings providing access to service shafts must be protected in accordance with this Clause.	CRA
C3.15	Openings for service installations	The protection of service penetrations through fire rated building elements must comply with this Clause.	CRA
C3.16	Construction joints	Construction joints in fire rated building elements must be protected in accordance with this Clause.	CRA
C3.17	Columns protected with lightweight construction to achieve an FRL	Any columns protected with lightweight fire rated materials to achieve the required FRL must comply with this Clause.	CRA
Specification C1.1 – Fire-resisting construction			
1	Scope	This Specification contains the requirements for fire resisting construction of building elements.	Noted
2	General Requirements	-	-
2.1	Exposure to fire-source-features	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 - (i) has an FRL of not less than 30/–/–; and (ii) is neither transparent nor translucent.	CRA
2.2	Fire protection for support of another part	Where a part of a building required to have a FRL depends on direct vertical or lateral support from another part to maintain its FRL, that supporting part, if located within the same fire compartment, must have a FRL not less than that required for the part it is supporting.	CRA
2.3	Lintels	A lintel must have the FRL required for the part of the building in which it is situated unless it complies with the exemption requirements of this Clause.	CRA
2.4	Method of attachment not to reduce the fire-resistance of building elements	The method of attaching or installing a finish, lining, ancillary element or service installation to a building element must not reduce the fire-resistance of that element to below that required.	CRA
2.7	Enclosure of shafts	Shafts required to have an FRL must be enclosed at the top and bottom by construction having an FRL not less than that required for the walls of a non-loadbearing shaft in the same building, except that these provisions need not apply to - (a) the top of a shaft extending beyond the roof covering, other than one enclosing a fire-isolated stairway or ramp; or (b) the bottom of a shaft if it is non-combustible and laid directly on the ground.	CRA
2.8	Carparks in Class 2 and 3 buildings	Where the building contains not more than three (3) storeys, of which one (1) storey is a Class 7 used solely for the purpose of parking motor vehicles or for some other purpose that is ancillary to the Class 3, the carpark storey may be regarded as a Class 3 for the purpose of determining the relevant fire-resisting requirements of Specification C1.1 only.	Noted

Clause		Comments	Assessment
3	Type A Construction	-	-
3.1	Fire-resistance of building elements	The building elements are to have FRLs as determined by this Clause. See Part 4 of the Report.	CRA
3.2	Concessions for floors	A floor need not have an FRL in accordance with the concessions given in this Clause.	Noted
3.4	Roof superimposed on concrete slab: Concession	A roof superimposed on a concrete slab need not have an FRL if it complies with this Clause.	Noted
3.5	Roof: Concession	A roof need not comply with Table 3 if its covering is non-combustible and the building - (a) has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 installed throughout; or (b) has a rise in storeys of 3 or less; or (c) is of Class 2 or 3; or (d) has an effective height of not more than 25 m and the ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space of not less than 60 minutes.	Noted
3.7	Internal columns and walls: Concession	Where the building has a roof without an FRL in accordance with Clause C3.5, the internal columns (except those referred to in Clause 3.1(f) Specification C1.1) and walls (except fire walls and shaft walls) within the storey immediately below the roof are granted a concession by this Clause to have an FRL of no less than 60/60/60.	Noted
3.9	Carparks	A carpark can comply with the requirements of this Clause where it meets all the relevant criteria.	Noted
3.10	Class 2 and 3 buildings: Concession	The building can comply with the requirements of this Clause where it meets all the relevant criteria.	Noted
Specification C1.8 – Structural tests for lightweight construction			
1	Scope	This Specification describes test methods to be applied to and criteria to be satisfied by a wall system of light weight construction.	Noted
2	Application	Information only.	Noted
3	Tests	Tests to walls and lift shafts to comply with this Clause.	CRA
4	Test specimens	Testing to comply with this Clause.	CRA
5	Test methods	Tests to be carried out in accordance with this Clause.	CRA
6	Criteria for compliance	The wall system or the specimen of it must comply with this Clause.	CRA
Specification C1.10 – Fire hazard properties			
1	Scope	This Specification sets out requirements in relation to the fire hazard properties of linings, materials and assemblies in buildings.	Noted
2	Application	Linings, materials and assemblies must comply with the appropriate provisions described in Table 1 of this Clause.	Noted
3	Floor linings and floor coverings	Fire hazard properties of the floor linings and floor coverings are to comply with this Clause.	CRA
4	Wall and ceiling linings	Fire hazard properties of the wall and ceiling linings are to comply with this Clause.	CRA
5	Air-handling ductwork	Fire hazard properties of the air-handling ductwork are to comply with this Clause.	CRA
6	Lift cars	Fire hazard properties of the lift cars are to comply with this Clause.	CRA
7	Other materials	Fire hazard properties of other materials not covered in Clauses 3, 4, 5 or 6 above are to comply with this Clause.	CRA
Specification C3.4 – Fire doors, smoke doors, fire windows and shutters			
1	Scope	This Specification sets out requirements for the construction of fire doors, smoke doors, fire windows and fire shutters.	Noted
2	Fire Doors	Fire doors must comply with AS1905.1-2005 and this Clause.	CRA
3	Smoke Doors	Smoke doors must comply with this Clause.	CRA
4	Fire Shutters	Fire shutters must comply with this Clause and the manufacturer's specifications.	CRA

Clause		Comments	Assessment
5	Fire Windows	Fire windows must comply with this Clause and the manufacturer's specifications.	CRA
Specification C3.15 – Penetration of walls, floors and ceilings by services			
1	Scope	This Specification prescribes material and methods of installation for services that penetrate walls, floors and ceilings required to have an FRL.	Noted
2	Application	Information only.	Noted
3	Metal pipe systems	Metal pipe system penetration must comply with this Clause.	CRA
4	Pipes penetrating sanitary compartments	Pipes penetrating sanitary compartments must comply with this Clause.	CRA
5	Wires and cables	Wire and cable penetrations must comply with this Clause.	CRA
6	Electrical switches and outlets	Electrical switches and outlets must comply with this Clause.	CRA
7	Fire-stopping	Fire-stopping must comply with this Clause.	CRA

SECTION D – ACCESS AND EGRESS

Clause		Comments	Assessment
Part D1 – Provision for escape			
D1.0	Deemed-to-Satisfy Provisions	Information only.	Noted
D1.1	Application of Part	The Deemed-to-Satisfy Provisions of this Part do not apply to the internal parts of a sole-occupancy unit in a Class 2 or 3 building or a Class 4 part of a building.	Noted
D1.2	Number of exits required	The provision of exits throughout the buildings complies.	Complies
D1.3	When fire-isolated stairways and ramps are required	No fire isolated stairways are required. Refer to Clause C2.14	CRA
D1.4	Exit travel distances	The exit travel distance from the Common Terrace on the First Floor of the Upper Building exceeds 20m to a point of choice at which travel in different directions to no less than two (2) exits is available (approximately 23m). The exit travel distance from L213 and L215 of Lower Building First Floor exceed 6m to a point of choice at which in different directions to no less than two (2) exits are available (approximately 6.5m). The exit travel distance from L201 and L203 of Lower Building First Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 7.5m). The exit travel distance from L115 and L117 of Lower Building Ground Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 6.8m). The exit travel distance from L101 of Lower Building Ground Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 15.9m). The exit travel distance from L102 of Lower Building Ground Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 12.7m). The exit travel distance from L103 and L105 of Lower Building Ground Floor exceed 6m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 7m).	PS

Clause		Comments	Assessment
		The exit travel distance from common terrace of Lower Building Ground Floor exceeds 20m to a point of choice at which travel in different directions to no less than two (2) exits are available (approximately 28.13m). The design team have advised that these extended exit travel distances will be justified by a Performance Solution prepared by a suitably qualified fire safety engineer.	
D1.5	Distance between alternative exits	The distances between alternative exits complies.	Complies
D1.6	Dimensions of exits and paths of travel to exits	The exits must have an unobstructed width (measured clear of handrails) of no less than 1,000mm. Please note a constructed width of approximately 1,100mm is required to install a compliant handrail to one (1) side of a stairway (as required for a fire-isolated stairway), and a constructed width of approximately 1,200mm is required to install compliant handrails to both sides of a stairway (as required for a non-fire-isolated stairway).	CRA
D1.7	Travel via fire-isolated exits	No fire isolated stairs are required.	CRA
D1.9	Travel by non-fire-isolated stairways or ramps	The travel by non-fire-isolated stairways complies.	Complies
D1.10	Discharge from exits	The discharge from and access to exits must comply with the requirements of this Clause.	CRA
D1.12	Non-required stairways, ramps and escalators	The non-required stairway in the Upper Building complies.	Complies
D1.13	Number of persons accommodated	Determination of the occupant capacity of the building must be in accordance with this Clause.	Noted
D1.14	Measurement of distances	Information only.	Noted
D1.15	Method of measurement	Information only.	Noted
D1.17	Access to lift pits	If the building incorporates a lift pit, access to it must comply with this Clause.	CRA
Part D2 – Construction of exits			
D2.0	Deemed-to-Satisfy Provisions	Information only.	Noted
D2.1	Application of Part	Clause D2.13, D2.14(a), D2.16, D2.17(d), D2.17(e), D2.21, and D2.24 are the only Clauses of this Part that apply to the internal parts of a sole-occupancy unit in a Class 3 building.	Noted
D2.2	Fire-isolated stairways and ramps	Construction of the fire-isolated stairways must be – (a) of non-combustible materials; and (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft.	CRA
D2.3	Non-fire-isolated stairways and ramps	The construction of the non-fire-isolated exit stairways must be – (a) of non-combustible materials; and (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft. or only of – (a) reinforced or prestressed concrete; or (b) steel in no part less than 6 mm thick; or (c) timber that— (i) has a finished thickness of not less than 44 mm; and (ii) has an average density of not less than 800 kg/m3 at a moisture content of 12%; and (iii) has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.	CRA

Clause		Comments	Assessment
D2.4	Separation of rising and descending stair flights	No fire isolated exits	N/A
D2.7	Installations in exits and paths of travel	Services or equipment comprising - (i) electricity meters, distribution boards or ducts; or (ii) central telecommunications distribution boards or equipment; or (iii) electrical motors or other motors serving equipment in the building may be installed in any corridor, hallway, lobby or the like leading to a required exit if the services or equipment are enclosed by non-combustible construction or a fire-protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure.	CRA
D2.8	Enclosure of space under stairs and ramps	The space below the stairways located within the fire-isolated exits must not be enclosed to form a cupboard or similar enclosed space. The space below the non-fire-isolated stairways must not be enclosed to form a cupboard or other enclosed space unless - (i) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and (ii) any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door.	CRA
D2.10	Pedestrian ramps	The floor surfaces of ramps must have a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586-2013.	CRA
D2.12	Roof as open space	Where a roof is being used as open space (pathway between an exit discharge and a road – discharge from exit of Lower Building to roof of Basement) it must – (a) have an FRL of not less than 120/120/120; and (b) not have any roof lights or other openings within 3 m of the path of travel of persons using the exit to reach a road or open space.	CRA Complies
D2.13	Goings and risers	The geometry of the stairways and slip-resistance of the stairway treads must comply with this Clause.	CRA
D2.14	Landings	The geometry and slip-resistance of landings must comply with this Clause.	CRA
D2.15	Thresholds	The thresholds throughout the building comply with the requirements of this Clause.	Complies
D2.16	Barriers to prevent falls	Barriers (balustrades) must be provided in accordance, and comply, with this Clause.	CRA
D2.17	Handrails	The configuration of the stairways must allow for the installation of a compliant handrail. To enable installation of a compliant handrail, a stairway must be configured so that there is an offset of one (1) tread width between the bottom riser of the upper flight and the top riser of the lower flight. Also, the stairways must be configured so that the requisite handrail extensions and method of termination do not encroach on the swing of a door or an intersecting pathway at the point of handrail termination at the top and bottom of the stairways.	CRA
D2.19	Doorways and doors	The doorways and doors throughout the building comply.	
D2.20	Swinging doors	The swinging doors serving the exits must not encroach - (a) at any part of their swing by more than 500mm on the required width (including any landings) of a required— (i) stairway; or (ii) ramp; or (iii) passageway, if they are likely to impede the path of travel of the people already using the exit; and (b) when fully open, by more than 100 mm on the required width of the required exit, and the measurement of encroachment in each	CRA

Clause		Comments	Assessment
		case is to include door handles or other furniture or attachments to the door.	
D2.21	Operation of latch	All doorways must be provided with latches compliant with the requirements of this Clause.	CRA
D2.23	Signs on doors	Signage must be located on or adjacent to all fire doors in accordance with this Clause. For the self-closing doors, the sign is to say - FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN. For the doors discharging from a fire-isolated exit - FIRE SAFETY DOOR – DO NOT OBSTRUCT. The text is to be a minimum of 20mm in height and of a colour contrasting to the background of the sign.	CRA
D2.24	Protection of openable windows	The windows to the bedrooms must be protected in accordance with this Clause.	CRA
Part D3 – Access for people with a disability			
D3.0	Deemed-to-Satisfy Provisions	Information only.	Noted
D3.1	General building access requirements	Access must be provided to each Classification within the building in accordance with the following: <u>Class 3</u> From a pedestrian entrance required to be accessible to at least one (1) floor containing sole-occupancy units, and to the entrance doorway of each sole-occupancy unit located on that level. To and within not less than one (1) of each type of room or space for use in common by the residents. Where a ramp complying with AS 1428.1-2009 or a passenger lift is installed - (a) to the entrance doorway of each sole-occupancy unit; and (b) to and within rooms or spaces for use in common by the residents, located on the levels served by the lift or ramp. To and within two (2) accessible Sole-Occupancy Units (SOUs) located within the Upper Building (based on 22 SOUs – including Caretaker Unit). Also, to and within two (2) accessible SOUs located within the Lower Building (based on 32 SOUs). <u>Class 7a</u> To and within any level containing accessible carparking spaces. The Lower Building does not incorporate any accessible SOUs. The design team have advised that this will be justified by a Performance Solution prepared by a suitably qualified access consultant.	PS CRA PS
D3.2	Access to buildings	An accessway must be provided to a building required to be accessible - (i) from the main points of a pedestrian entry at the allotment boundary; and (ii) from another accessible building connected by a pedestrian link; and (iii) from any required accessible carparking space on the allotment. Also, access must be provided through the principal pedestrian entrances of the building. Access is not provided to the Lower Building from the main point of pedestrian entry at the allotment boundary, the Upper Building, or an accessible carparking space. The design team have advised that this	PS

Clause		Comments	Assessment
		will be justified by a Performance Solution prepared by a suitably qualified access consultant.	
D3.3	Parts of buildings to be accessible	Parts of the buildings must comply with the relevant requirements of this Clause. The Lower Building does not incorporate accessways compliant with Clause D3.3 and AS 1428.1-2009. The design team have advised that this will be justified by a Performance Solution prepared by a suitably qualified access consultant.	PS
D3.4	Exemptions	No part of the building is exempt under this Clause.	Noted
D3.5	Accessible carparking	**Upper Building** Based on the building having 22 rooms (including the caretakers unit), being required to have two (2) accessible rooms, and having 11 carparking spaces, one (1) accessible carparking space is required to be provided. **Lower Building** Based on the building having 39 rooms, being required to have two (2) accessible rooms, and having 20 carparking spaces, one (1) accessible carparking space is required to be provided. The Upper Building is provided with two (2) accessible carparking spaces and the Lower Building is not provided with any accessible carparking spaces. The design team have advised that the provision of two (2) accessible carparking spaces to the Upper Building in lieu of providing one (1) accessible carparking space to each building will be justified by a Performance Solution prepared by a suitably qualified access consultant.	Noted Noted PS
D3.6	Signage	Braille and tactile signage must be provided in accordance with this Clause and Specification D3.6. Where illuminated exit signage is provided to an exit door, a braille and tactile sign complying with this Clause must be provided stating “Exit” and “Level XX” (XX being the relevant floor level number, descriptor, or a combination of both).	CRA
D3.8	Tactile indicators	Tactile Ground Surface Indicators (TGSIs) must be provided to warn people that they are approaching a stairway, ramp and/or overhead obstruction in accordance with the requirements of this Clause and AS 1428.4.1-2009.	CRA
D3.11	Ramps	On an accessway, a series of connected ramps must not have a combined vertical rise of 3.6m or more. Also, a landing for a step ramp may not overlap a landing for another step ramp or ramp.	CRA
D3.12	Glazing on an accessway	On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, and any glazing capable of being mistaken for a doorway or opening must be clearly marked in accordance with AS/NZS 1428.4.1-2009.	CRA
Specification D3.6 – Braille and tactile signs			
1	Scope	This Specification sets out the requirements for the design and installation of braille and tactile signage as required by Clause D3.6.	Noted
2	Location of braille and tactile signs	Braille and tactile signage must be located in accordance with this Clause.	CRA
3	Braille and tactile sign specification	Braille and tactile signage must have characters in accordance with this Clause.	CRA
4	Luminance contrast	The luminance contrast of the signage must comply with this Clause.	CRA
5	Lighting	Braille and tactile signage must be illuminated to ensure the luminance contrast requirements are met at all times during which the sign is required to be read.	CRA
6	Braille	The braille characters are to comply with Clause.	CRA

SECTION E – SERVICES AND EQUIPMENT			
Clause		**Comments**	**Assessment**
Part E1 – Fire fighting equipment			
E1.0	Deemed-to-Satisfy Provisions	Information only.	Noted
E1.3	Fire hydrants	The Upper and Lower Buildings must be served by a fire hydrant system compliant with AS 2419.1-2005.	CRA
E1.4	Fire hose reels	The basement storeys of the Upper and Lower Buildings must be protected by a fire hose reel system in accordance with this Clause and AS 2441-2005.	CRA
E1.6	Portable fire extinguishers	The building must be provided with portable fire extinguishers. Within the Class 3 parts, a 2.5kg ABE powder extinguisher must be located within 10m of all unit entry doors.	CRA
E1.9	Fire precautions during construction	In a building under construction, not less than one (1) fire extinguisher to suit Class A, B and C, and electrical fires must be provided on each storey adjacent to each required exit or temporary stairway or exit.	CRA
Specification E2.2a – Smoke detection and alarm systems			
1	Scope	This Specification describes the installation and operation of automatic smoke detection and alarm systems.	Noted
2	Type of system	The Class 3 parts of the buildings and Class 7a part of the Upper Building must be provided with a smoke detection system complying with Clause 4 of Specification E2.2a.	CRA
4	Smoke detection system	A smoke detection system must comply with this Clause.	CRA
7	Building occupant warning system	The smoke alarm or detection system must activate a building occupant warning system in accordance with this Clause.	CRA
8	System monitoring	The smoke detection systems serving the Class 3 parts of the buildings must be connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre in accordance with AS 1670.3-2018.	CRA
Specification E2.2d – Residential fire safety systems			
1	Application	Clause 3 describes requirements for connecting residential sprinkler systems in Class 2 and 3 buildings or a residential care building, to a fire station or other approved monitoring service.	Noted
3	Connection of residential sprinkler systems to a fire station or other approved monitoring service	(a) Connection to monitoring service: (i) Connection of a residential sprinkler system to a fire station or other approved monitoring service must be via a sprinkler alarm switch, connected to alarm signalling equipment. The connection from the alarm signalling equipment must be in accordance with AS 1670.3-2018. (ii) The alarm signalling equipment must be installed— (A) in a secure, accessible position; and (B) in a weatherproof housing, if located externally; and (C) not more than 500 mm from the system flow switch. (b) Indication at the fire indicator panel — the fire signal from the alarm signalling equipment must be mimicked by an audible and visible signal at the fire indicator panel.	CRA
Part E3 – Lift installations			
E3.0	Deemed-to-Satisfy Provisions	Information only.	Noted
E3.1	Lift installations	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification E3.1.	CRA
E3.3	Warning against use of lifts in fire	Warning signage stating – DO NOT USE LIFTS IF THERE IS A FIRE must be provided in accordance with this Clause.	CRA
E3.5	Landings	Access and egress to and from the liftwell landing must comply with Section D. Review of this requirement has been undertaken with the assessment of Part D3 in this Report.	N/A
E3.6	Passenger lifts	**Upper Building**	

Clause		Comments	Assessment
		The lift car has been measured to scale as having internal dimensions of 1,400mm (wide) x 1,600mm (deep), which complies with the requirements of this Clause. **Lower Building** The lift car has been measured to scale as having internal dimensions of 1,400mm (wide) x 1,600mm (deep), which complies with the requirements of this Clause. The lift must be provided with features in accordance with Table E3.6b that comply with AS1735.12-1999.	Complies Complies CRA
Specification E3.1 – Lift Installations			
1	Scope	This Specification contains requirements for electric passenger lift installations and electrohydraulic passenger lift installations	Noted
2	Lift cars exposed to solar radiation	A lift car exposed to solar radiation directly, or indirectly through re-radiation, must comply with this Clause.	CRA
3	Lift car emergency lighting	A lift car must have emergency lighting complying with this Clause.	CRA
4	Cooling of lift shaft	While in service, a lift shaft must have cooling in accordance with this Clause.	CRA
5	Lift foyer access	Where there is a security foyer in a building, access may be via locked security doors provided measures are in place in accordance with this Clause.	CRA
6	Emergency access doors in a single enclosed lift shaft	Emergency access doors in a single enclosed lift shaft must be in accordance with this Clause.	CRA
Part E4 – Visibility in an emergency, exit signs and warning systems			
E4.0	Deemed-to-Satisfy Provisions	Information only.	Noted
E4.2	Emergency lighting requirements	The building must be provided with emergency lighting in accordance with this Clause.	CRA
E4.3	Measurement of distance	Information only.	Noted
E4.4	Design and operation of emergency lighting	The emergency lighting system must comply with AS 2293.1-2005.	CRA
E4.5	Exit signs	The building must be provided with exit signage in accordance with this Clause.	CRA
E4.6	Direction signs	Where required, the building must be provided with exit direction signage in accordance with this Clause.	CRA
E4.7	Class 2 and 3 buildings and Class 4 parts: Exemptions	The requirements of Clause E4.5 do not apply to an entrance door of a sole-occupancy unit in a Class 3 building.	CRA
E4.8	Design and operation of exit signs	The exit lighting system must comply with AS 2293.1-2005.	CRA
Specification E4.8 – Photoluminescent exit signs			
1	Scope	This Specification contains the requirements for photoluminescent exit signs	Noted
2	Application	A photoluminescent exit sign must comply with Section 6 and Appendix D of AS 2293.1-2005, except as varied by this Specification.	Noted
3	Illumination	Photoluminescent exit signage must comply with this Clause.	CRA
4	Pictorial elements	Photoluminescent exit signage must comply with this Clause.	CRA
5	Viewing distance	Photoluminescent exit signage must comply with this Clause.	CRA
6	Smoke control systems	Photoluminescent exit signage must comply with this Clause.	CRA

SECTION F – HEALTH AND AMENITY

Clause		Comments	Assessment
Part F1 – Damp and weatherproofing			
F1.0	Deemed-to-Satisfy Provisions	Information only.	Noted

Clause		Comments	Assessment
F1.1	Stormwater drainage	Stormwater drainage for the building must comply with AS/NZS 3500.3-2015.	CRA
F1.4	External above ground membranes	Waterproofing membranes for external above ground use, such as balconies and roofs, must comply with AS 4654.1-2012 and AS 4654.2-2012.	CRA
F1.5	Roof coverings	The roof covering must be in accordance with this Clause.	CRA
F1.6	Sarking	Sarking-type materials used for weatherproofing of roofs and walls must comply with AS 4200.1-1994 and AS 4200.2-1994.	CRA
F1.7	Waterproofing of wet areas in buildings	Waterproofing of the wet areas in the building must comply with this Clause and AS 3740-2010.	CRA
F1.9	Damp-proofing	Damp-proofing is to be provided in accordance with this Clause. Where a damp-proof course is provided, the material must comply with AS/NZS 2904-1995 or, for impervious termite shields, AS 3660.1-2014.	CRA
F1.10	Damp-proofing of floors on the ground	Damp-proofing of floors on the ground must be in accordance with this Clause. Where required the vapour barrier is to comply with AS 2870-2011.	CRA
F1.11	Provision of floor wastes	The bathrooms and laundries located above a sole-occupancy unit or public space mush have a floor waste, and the floor must be graded to the floor waste to permit the drainage of water.	CRA
F1.12	Subfloor ventilation	Where provided, sub-floor ventilation is to be in accordance with this Clause.	CRA
F1.13	Glazed assemblies	Glazed assemblies in external walls or roofs must comply with AS 2047-2014 or AS 1288-2006 as required by this Clause and NCC Clause B1.4.	CRA
Part F2 – Sanitary and other facilities			
F2.0	Deemed-to-Satisfy Provisions	Information only.	Noted
F2.1	Facilities in residential buildings	The provision of facilities throughout the buildings complies.	Complies
F2.2	Calculation of number of occupants and facilities	Determination of the occupant capacity of the building must be in accordance with Clause D1.13.	Noted
F2.3	Facilities in Class 3 to 9 buildings	The Caretaker Unit on the Ground Floor of the Upper Building is provided with a sanitary compartment containing a shower, closet pan, and washbasin.	Complies
F2.4	Accessible sanitary facilities	The accessible sanitary facility compartments contained within U.55, U.56, U.57, and U.58 have been measured to scale off the plans as having dimensions of approximately 2,300mm (wide) x 2,700mm (long). These compartments are capable of being fitted out in accordance with the requirements of Section 15 of AS 1428.1-2009.	CRA
F2.5	Construction of sanitary compartments	All sanitary compartments must be provided with clearance in accordance with NCC Figure F2.5, or the door to these compartments must open outwards, slide, or be readily removable from outside the sanitary compartment (provided with lift-off hinges).	CRA
Part F3 – Room heights			
F3.0	Deemed-to-Satisfy Provisions	Information only.	Noted
F3.1	Height of rooms and other spaces	The height of all spaces and rooms must comply with the requirements of this Clause.	CRA
Part F4 – Light and ventilation			
F4.0	Deemed-to-Satisfy Provisions	Information only.	Noted
F4.1	Provision of natural light	Natural light must be provided to all habitable rooms within the Class 3 parts.	CRA
F4.2	Methods and extent of natural light	The method and extent of natural light provided to all habitable rooms within the Class 3 parts must be in accordance with the requirements of this Clause.	CRA

Clause		Comments	Assessment
F4.3	Natural light borrowed from adjoining room	Natural light can be borrowed (where required) in accordance with the requirements of this Clause.	CRA
F4.4	Artificial lighting	Artificial lighting must be provided throughout the building in accordance with the requirements of AS 1680.0-2009.	CRA
F4.5	Ventilation of rooms	All occupiable spaces throughout the building must be provided with natural or mechanical ventilation.	CRA
F4.6	Natural ventilation	Where natural ventilation is utilised, a ventilating area of no less than 5% of the floor area must be provided.	CRA
F4.7	Ventilation borrowed from adjoining room	Ventilation can be borrowed from an adjacent room in accordance with the requirements of this Clause.	CRA
F4.8	Restriction on location of sanitary compartments	The location of sanitary compartments complies with this Clause (units do not include kitchens and/or pantries).	Complies
F4.11	Carparks	The carpark must have a system of mechanical ventilation complying with AS 1668.2-2012.	CRA
Part F5 – Sound transmission and insulation			
F5.0	Deemed-to-Satisfy Provisions	Information only.	Noted
F5.1	Application of Part	This Part applies to Class 2, 3 and 9c buildings.	Noted
F5.2	Determination of airborne sound insulation ratings	A form of construction required to have an airborne sound insulation rating must comply with this Clause.	CRA
F5.3	Determination of impact sound insulation ratings	Building elements required to have an impact sound insulation rating must comply with this Clause.	CRA
F5.4	Sound insulation rating of floors	A floor in a Class 2 or 3 building must have a $R_w + C_{tr}$ (airborne) of not less than 50 and a $L_{n,w} + C_l$ (impact) of not more than 62 if it separates sole-occupancy units (SOUs) or a SOU from plant, a lift shaft, a stairway, etc., or parts of a different classification in accordance with this Clause.	CRA
F5.5	Sound insulation rating of walls	Walls must be sound insulated in accordance with this Clause.	CRA
F5.6	Sound insulation rating of internal services	Ducts and waste or water supply pipes that pass through more than one SOU must be separated by construction with an $R_w + C_{tr}$ (airborne) in accordance with this Clause.	CRA
F5.7	Sound isolation of pumps	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.	CRA
Specification F5.2 – Sound insulation for building elements			
1	Scope	This Specification contains details of common forms of construction and their designated DTS weighted sound reduction index.	Noted
2	Construction Deemed-to-Satisfy	Information only.	Noted
Specification F5.5 – Impact sound – Test of equivalence			
1	Scope	This Specification describes a method of test to determine the comparative resistance of walls to the transmission of impact sound	Noted
2	Construction to be tested	Information only.	Noted
3	Method	Information only.	Noted

SECTION G – ANCILLARY PROVISIONS

Clause		Comments	Assessment
Part G1 – Minor structures and components			
G1.0	Deemed-to-Satisfy Provisions	Information only.	Noted
NSW G1.101	Provision for cleaning windows	(a) The building must provide for a safe manner of cleaning any windows located three (3) or more storeys above ground level. (b) The building satisfies (a) where - (i) the windows can be cleaned wholly from within the building; or	CRA

Clause	Comments	Assessment
	(ii) provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act. provision for the cleaning of the windows by a method complying with the WH&S Act 2001 and regulations made under that Act.	

SECTION J – ENERGY EFFICIENCY

A separate Section J Report must be obtained to confirm compliance with this Section.

This can be undertaken at a later design stage/CC stage.

Please contact Credwell Energy on 02 9281 8555 or at info@credwell.com.au for further information regarding obtaining a Section J Report.