NATIONAL CONSTRUCTION CODE REPORT

RESIDENTIAL DEVELOPMENT

12-14 GLADYS AVENUE FRENCHS FOREST

PREPARED FOR 88 REPUBLIC OF GLADYS

24 SEPTEMBER 2024

DESIGN RIGHT CONSULTING

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EXECUTIVE SUMMARY

This report has been prepared to identify the extent of compliance achieved by the assessment of the architectural documentation for the proposed development against the relevant provisions of the National Construction Code, Building Code of Australia (BCA) 2022 and its adopted standards.

The proposed development consists of the construction of a new multi-level, residential apartment building (seniors living housing) with 19 SOU's, two levels of carparking external communal areas spaces located at 12-14 Gladys Avenue Frenchs Forest.

This report will provide a BCA analysis to assist in the process of design development and to assist the consent authority in the determination of the Development Application relating to the works.

The application for Construction Certificate shall be assessed under the relevant provisions of the Environmental Planning & Assessment Act 1979 (As Amended) and the Environmental Planning & Assessment Regulation 2021.

REPORT DETAILS

PROPOSED DEVELOPMENT

The proposed development consists of the construction of a new multi-level, residential apartment building (seniors living housing) with 19 SOU's, two levels of carparking external communal areas spaces located at 12-14 Gladys Avenue Frenchs Forest.

LOCATION

The subject development is located at located at Lot A and B/-/DP393276, known as 12-14 Gladys Avenue Frenchs Forest.

The site is within the jurisdiction of Northern Beaches Council for the purposes of development approvals.

REFERENCED DOCUMENTS

The following documents have been reviewed, referenced and/or relied upon in the preparation of this report.

- National Construction Code, Building Code of Australia (BCA) 2022
- Architectural Plans as prepared Smith and Tzannes (Appendix 1)
- Environmental Planning and Assessment Act 1979
- Environmental Planning & Assessment Regulation 2021

CURRENT LEGISLATION

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979. This Act requires that all new building works must be designed to comply with the BCA. However, the existing features of an existing building need not to comply with the BCA unless an upgrade is required by other clauses of the legislation.

The version of the BCA applicable to the development, is the version that in place at the time of the application of the Construction Certificate.

REPORT PURPOSE

This report has been prepared to identify aspects of the proposed design that require further consideration and to identify aspects of the design that may be altered subsequent to the issue of a Development Consent

This report has been prepared on the basis of an assessment of compliance only and should not be construed as being design advice. Further detailed assessment and design documentation will need to be provided prior to the issue of a Construction Certificate

EXCLUSIONS AND LIMITATIONS

Except as mentioned in the report, the limitations and exclusions of this report are as follows -

- Fire resistance of primary structural elements;
- Compliance with the *Disability Discrimination Act 1992;*
- Local Government Act and Regulations
- Performance Solution Reports
- Any certification works pursuant to the:
  a. Environmental Planning and Assessment Act 1979; and,
  b. Environmental Planning and Assessment Regulation 2021; and,
  c. Building and Development Certifiers Act 2018; and,
  d. Building and Development Certifiers Regulation 2020.
- Preparation of any plans or specifications undertaken by a: architectural structural; hydraulic; mechanical; electrical; fire engineer; fire services engineer and their respective fees;
- Engineering analysis of structural; hydraulic; mechanical; electrical; fire engineering; fire services;
- Any services undertaken by an: access consultant; town planner; architect; registered surveyor; energy consultant; acoustic consultant;
- Demolition or building works;
- Any project management services;
- Any preparations of applications under the Roads Act 1993

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NATIONAL CONSTRUCTION CODE ASSESSMENT

BUILDING DESCRIPTION

Use/Classification	Class 2 – Residential Apartments (Level 0 to Level 5) Class 7a – Carpark (Basement to Level 1 to Level 2) Class 7b – Storage/Service Rooms (Level 2 to Level 3)
Rise in Storeys	Six (6)
Storeys Contained	Six (6)
Floor Area	The maximum floor areas for fire compartments are not applicable to the Class 2 part and Class 7a Sprinkler protected. Class 7a and 7b portions do not exceed the maximum size of fire compartments in part C2D2 of the BCA.
Volume	The maximum volume provisions for fire compartments are not applicable to the Class 2 and Class 7a Sprinkler protected. Class 7a and 7b portions do not exceed the maximum size of fire compartments in part C2D2 of the BCA.
Effective Height	The building will have an effective height greater than 12m. (16m)
Type of Construction (BCA)	The building requires Type A construction throughout
Climate zone	For the purpose of Section J the climate zone is 5

STRUCTURE (SECTION B, BCA)

STRUCTURAL PROVISIONS

The development is to be designed so the structure will resist loads determined:

- AS 1170.0 – 2002 General Principles
- AS 1170.1 – 2002, including certification for balustrades (dead and live loads)
- AS 1170.2 – 2021, Wind loads
- AS 1170.4 – 2007, Earthquake loads
- AS 1288 – 2021, Glass in buildings + B1.4(h)(iii) – To protect against nickel sulphide inclusions.
- AS1530.4–2014, Fire-Resistance Tests on Elements of Construction
- AS/NZS 1664.1 and 2 – 1997, Aluminium construction
- AS/NZS 1684.1, 2 and 3 – 2021, Residential Timber Framing Construction
- AS 1720.1 – 2010, Design of Timber Structure
- AS 1720.4 – 2019, Fire resistance for structural adequacy of timber members
- AS 1720.5 – 2015, Nail plated timber roof structures
- AS 2159 – 2009, Piling
- AS 2047 – 2014, Windows in buildings
- AS 3600 – 2018, Concrete code – Including but not limited to Section 5 Fire Resistance of Concrete
- AS 3700 – 2018, Masonry code – Including but not limited to Section 6 Fire Resistance of Masonry
- AS3666.0-2014 Termite Management
- AS 4100 – 2020, Steel Structures and/or AS 4600 – 2018, Cold formed steel
- AS/NZS4600 - 2018 Cold Steel Formed Structures
- AS5146.1-2015 – Reinforced Autoclave Aerated Concrete Structures
- All other relevant Australian Standards, guidelines and referenced/cross referenced applicable
- standards.
- AS 2327 - 2017 – Composite Steel Construction in Buildings
- Structural engineer to consider Importance Levels in their design declarations.
- BCA Specification 5 – Fire Resistance of Building Elements

Structural Engineering Drawings and Design Certification is required for the new works. Certification and details are to also address FRL's as specified under BCA Spec 5 (for Type A Construction) and nominate all applicable Australian Standards and Importance Levels.

FIRE RESISTANCE AND STABILITY (SECTION C, BCA)

FIRE RESISTANCE

The building is to comply with Clause C2D21 and S5C1 & S5C11 of Specification 5, for a building required to have Type A construction. Refer to Table S5C11 of Specification 5 for the specific Fire Resistance Levels [FRL's].

Structural: the ability to maintain stability and adequate load-bearing capacity as determined by AS 1530.4.
Integrity: the ability to resist the passage of flames and hot gases specified in AS 1530.4.
Insulation: The ability to maintain a temperature on the surface not exposed to the furnace below the limits specified in AS 1530.4.

Class	FRL
Class 2:	90/90/90
Class 7a:	120/120/120
Class 7b:	240/240/240

Where it is proposed to not achieve a minimum 200mm thick reinforced concrete slab throughout the residential levels (when required by AS3600), this will need to be disclosed by the project structural engineer and addressed under a Performance Based Solution by a Registered Fire Safety Engineer.

Where it is proposed to incorporate permanent Polymer Formwork wall type systems such as Dincel/AFS/Ritek etc, the use of these wall/load bearing systems are to be disclosed by the project structural engineer and addressed under a Performance Based Solution by a qualified Fire Safety Engineer.

LIGHTWEIGHT CONSTRUCTION

Where lightweight fire rated construction is proposed for walls, the system must comply with Specification C2D9 of BCA and the manufactures tested specification. Furthermore, the system proposed must be consistent with sound and energy efficiency requirements with Part F6 and Part J of BCA.

Columns protected with lightweight fire rated construction that are subject to mechanical damage must be protected and/or internally filled in accordance with Clause C2D9 (b) of BCA.

NON COMBUSTSBLE BUILDING ELEMENTS

Any proposed Aluminium Composite Panels or any external wall cladding must comply with AS1530.1-1994 the C2D10 BCA with a complying CodeMark Certificate and its required Standards and is to be reviewed and certified by the registered Certifier at Construction Certificate stage.

Any sarking type materials within the external wall construction is to have a flammability index not greater than 5 and have an overall thickness not exceeding 1mm.

The use of any type of render to external wall faces of either masonry is to be non combustible by test under AS 1530.1. NOTE many acrylic renders may not satisfy the requirement for non combustibility and wall type schedules are to identify the material and demonstrate compliance.

FIRE HAZARD PROPERTIES

The wall and floor linings must achieve the fire hazard properties stipulated in BCA Specifications C2D11.

Compliance assumed and will require verification test data for all timber and other combustible linings and materials, including:

- Carpets
- Vinyls (walling and flooring)
- Timber flooring and wall lining
- Veneered wall panelling
- Spray-on insulation material
- Other combustible finishes
- Carpark soffit insulation fire test reports based on 'room fire testing' will be required to meet fire brigade consent conditions if applicable.

COMPARTMENTATIONS AND SEPERATIONS

The key areas for consideration with regards to compartmentation and separation are as follows:

- Each sole occupancy unit within the building, being each individual room or suite of rooms, must be separated by construction achieving an FRL of not less than 90/90/90 for load bearing or -/60/60 for non-load bearing.
- The parking areas must be separated from the remainder of the building by construction having an FRL not less than 120/120/120.
- The storage areas within the level 1 and level 2 carpark must be separated from the remainder of the building by construction having an FRL not less than 240/240/240. (Performance Solution)
- The lift shaft must be constructed with an FRL not less than 120/120/120 to the carpark levels, and 90/90/90 to the residential levels.

Construction of firewalls and openings must comply with Part C3D8, C3D9 and Specification 5 of BCA.

Please note that intervening floors or levels between different classes are required to have a potential increase in FRL, the greater FRL of the two is required in compliance with Clause C3D8, C3D9 of BCA or reduced to FRL's to achieve 120 mins in lieu 240 mins respectively, subject to an performance solution to address the relevant Performance Requirements of the BCA.

Storage areas within Basement level 1 and 2 are to have reduced FRL's to achieve 120 mins in lieu of 240 mins respectively, subject to a performance solution to address the relevant Performance Requirements of the BCA.

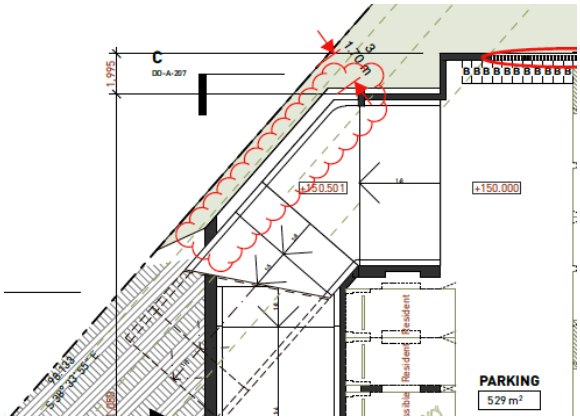
The proposed development is capable of achieving the required FRL's, and is to be confirmed by the structural engineer at the Construction Certificate phase.

VERTICAL SEPARATION OF OPENINGS

Spandrel separation and horizontal slab construction of external openings are required in accordance with Clause C3D7 of BCA, however a concession may apply based on a Sprinkler system proposed throughout the building.
Confirmation of proposed sprinkler system to be provided at CC stage.

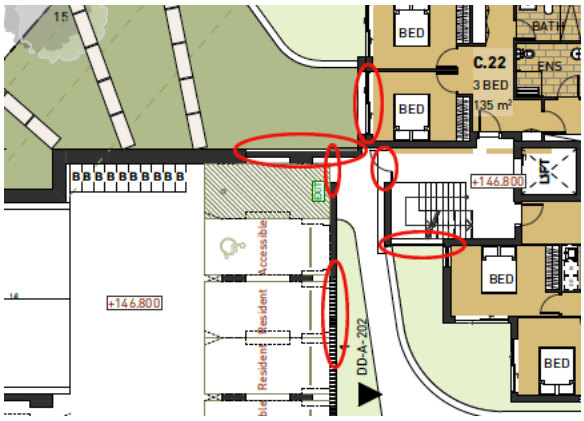
PROTECTION OF OPENINGS

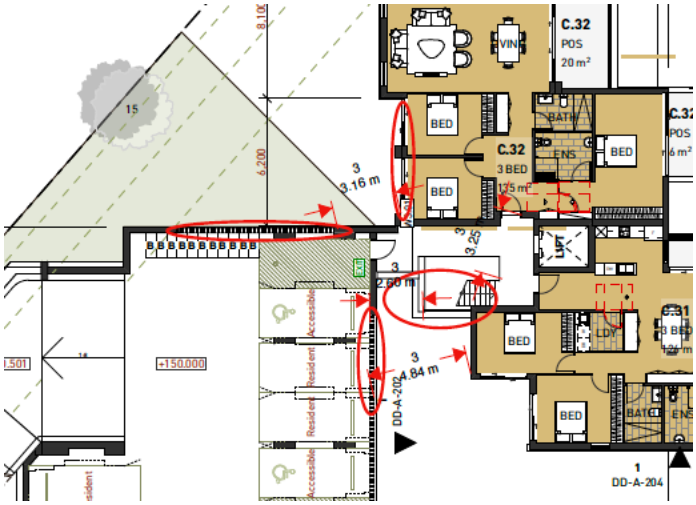
All openings from the driveway is within 3m of the southern boundary (fire source feature) are to be protected in accordance with C4D5 or via an performance solution which is to be prepared and addressed at the Construction Certificate stage.



SEPARATION OF EXTERNAL WALLS AND ASSOCIATED OPENINGS IN DIFFERENT FIRE COMPARTMENTS

The openings between external openings between the Class 2 and Class 7a parts are within 6m which are required to be protected, as per C4D4 and C4D5. The current design does not comply and will be addressed via a performance solution which is to be prepared and addressed at the Construction Certificate stage.





BOUNDING CONSTRUCTION

Bounding construction between residential sole occupant units (SOU), doorway, openings and external walls along the path of travel to an exit, from all levels is to comply with the provisions of Specification 5, and Clause C4D12 of BCA.

All entry doors to residential units must be protected by self-closing -/60/30 fire doors.

FIRE SEALING OF PENETRATIONS

All service penetrations must be sealed to the requirements of Clause C4D13 and C4D15 of BCA

Garbage room and garbage service shafts, (including walls, floors, ceilings. doors and shutters) must be protected in accordance with C4D13 and C4D14 as per BCA with a FRL of 120 minutes.

PROTECTION OF EQUIPTMENT

The following equipment is to be fire separated with construction complying with Clause C3D13 of BCA.

(i) lift motors and lift control panels; or
(ii) emergency generators used to sustain emergency equipment operating in the emergency mode; or
(iii) central smoke control plant; or
(iv) boilers; or
(v) a battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours.

Separation of on-site fire pumps must comply with the requirements of AS 2419.1-2005.

ELECTRICAL SUPPLY SYSTEM

Electrical equipment is to be separated from the building in accordance with Clause C3D14 of BCA

Any substation and/or main switchboard is to be constructed to achieve a fire resistance level of 120/120/120 with the door being -/120/30 fire rated, unless higher FRL's required by electrical providers.

CLASS 2 CORRIDOR LENGTHS

The public corridors do not exceeds 40m in length throughput the building as per C3D15 of the BCA.

ACCESS & EGRESS (SECTION D, BCA)

NUMBER OF EXITS REQUIRED

The minimum number of exits comply on all levels as per D2D3 of the BCA except for the following parts.

WHEN FIRE ISOLATED STAIRWAYS REQUIRED

The building is designed with non-fire isolated exits as per D2D4 throughout as each stair as they do not connect more than 4 storeys in a sprinkler protected building.

The non-fire isolated stair will be required to be designed with 2 handrails, TGSI and non slip nosing's as per D3D22 of the BCA and clause 11 & 12 of AS 1428.1.

EXIT TRAVEL DISTANCE

Exit travel distances to a required exit or a point of choice between exits comply with D2D5 of the BCA except for the following.

- The travel distance to a exit on levels 0 and 1 exceeds 6m permitted (up to 9.5m). (Concession under specification 18 to be applied)
- The travel distance to a exit on level 5 exceeds 6m permitted (up to 9.5m). (Concession under specification 18 to be applied)

Travel distance to an exit or point of choice concessions apply to this Class 2 building as a sprinkler system is to be provided as per Specification 17 and 18.

DISTANCE BETWEEN ALTERNATIVE EXITS

The distance between alternative exits comply with clause D2D6 of BCA.

Travel distance to an exit or point of choice concessions apply to this Class 2 building as a sprinkler system is to be provided as per Specification 17 and 18.

TRAVEL VIA FIRE/NON FIRE ISOLATED EXITS

The non fire-isolated stairway as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided.

DIMENSIONS OF EXITS

Exits and paths of travel to exits are to comply with D2D7, D2D8, D2D9, D2D10, D2D11 of BCA. Minimum dimensions of 1000mm and 2000mm height to be provided within exits, with the paths of travel should provide a minimum width of 1000mm (note that all maintenance access, cat walks, etc. may comply with AS1657 in which case a 600mm clear width is required).

Doorways are permitted to contain a clear opening width of the required width of the exit minus 250mm, with a height of 1980mm as part of egress requirements are to comply with D2D7 of BCA. Access for persons with disabilities however requires a clear doorway opening width of 850mm (i.e minimum 870 mm doors).

ELECTRICAL DISTRIBUTION BOARDS

Electrical distribution boards located in the path of travel to an exit must be enclosed in a non-combustible enclosure and sealed to prevent the escape of smoke as per D3D8 of the BCA.

CONSTRUCTION OF STAIRWAYS

Goings and Risers

Goings and risers are to be designed to comply with the provisions of Clause D4D13 of BCA.

Landings

Landings are to be designed to comply with the provisions of Clause D4D15 of BCA.

Thresholds

Thresholds are to be designed to comply with the provisions of Clause D4D16 of BCA. Please note D4D16 (c), which requires a threshold ramp complying with AS 1428.1-2009.

EGRESS DOORS

All required exit doorways are either swinging or automatic doors complying with the provisions of BCA Clause D3D24.

All doors acting, as exits are required to swing in the direction of egress are also required to be provided with the appropriate hardware in accordance with Clauses D3D25 & D3D26 of the BCA.

BARRIERS TO PREVENT FALLS

Barriers must be provided for all areas where it is possible to fall more than 1m. Barriers are to be designed in accordance with Clauses D3D17, D3D18, D3D19, D3D20 of the BCA.

Balustrades protecting a difference in levels of over 4m must not have horizontal elements between 150mm and 760mm of the floor that facilitate climbing.

ROOF AS OPEN SPACE

If an exit discharges to a roof of a building, the roof must have an FRL of not less than 120/120/120; and 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.

HANDRAILS

Handrails are to be provided to stairways as required by Clause D3D22 of the BCA, including internal stairs within a residential SOU.

OPERATION OF LATCH

The door hardware to the final discharge doors including the main entrance and the all entry/exit doors from each units, are to be installed with D-handles that activate on a single hand, located between 900-1100mm in height from the finished floor level, which complies with D3D26.

SIGNAGE

Signage must be provided to all fire safety doors (except those doorways providing access to sole occupancy units) and to doors leading from enclosed stairways as required Clause D3D28 and D4D7 of the BCA.

PROTECTION OF OPENABLE WINDOWS

Windows in bedrooms where the floor is more than 2 m above the surface beneath require restricted openings or protection in accordance with D3D29 of BCA.
All other parts of the buildings that are not part of the Class 2 portion of the building must also be protected with D3D29 of BCA.

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ACCESS FOR PEOPLE WITH DISABILITIES.

The building will be capable of providing disabled access compliant with Part D4 of the BCA and Access to Premises Standards.

The proposed building is required to comply with the following:

- The Disability Discrimination Act 1992 (Commonwealth);
- The Disability (Access to Premises — Buildings), Standards 2010;
- Part D4 of BCA;
- Australian Standard AS 1428.1-2009.

Buildings and parts of buildings must be accessible as required by D4D2, unless exempted by D4D5, which requires access as follows:

Class 2 – Common areas.

From a pedestrian entrance required to be accessible to at least 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 1 of each type of room or space for use in common by the residents, including a cooking facility, sauna, gymnasium, swimming pool, common laundry, games room, individual shop, eating area, or the like.

Where a ramp complying with AS 1428.1 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

Class 7a – To and within any level containing accessible carparking spaces

Class 7b - To and within all areas normally used by the occupants.

A separate Access report by has been provided on this project by a Access Consultant.

SERVICES AND EQUIPMENT (SECTION E, BCA)

HYDRANT SYSTEMS

The building will be provided with a hydrant system in accordance with the provisions of Clause E1D2 of the BCA and AS 2419.1.

The design of the service will be subject to review by a hydraulic fire service consultant and confirmed compliance prior to the issue of the Construction Certificate stage.

HOSE REEL SYSTEMS

The carparking levels will be provided with a fire hose reel system in accordance with the provisions of Clause E1D3 of the BCA and AS 2441.

Locations of fire hose reels are required to be located 4m from an exit.

The design of the service will be subject to review by a hydraulic fire service consultant and confirmed compliance prior to the issue of the Construction Certificate stage.

SPRINKLER PROTECTION

The entire building will be protected by a sprinkler system throughout complying with Clause E1D4, E1D5 E1D9 and Spec 17 and 18 of the BCA.
Confirmation of proposed sprinkler system to be provided at CC stage.

The design of the service will be subject to review by a hydraulic fire service consultant and confirmed compliance prior to the issue of the Construction Certificate stage.

PORTABLE FIRE EXTINGUISHERS

Fire extinguishers will be provided in accordance the provisions of Clause E1D14 of the BCA and AS2444.

Portable fire extinguishers provided for the apartments must be an ABE type fire extinguisher, a minimum size of 2.5 kg, distributed outside a sole-occupancy unit to serve only the storey at which they are located and positioned so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10m.

PROVISIONS FOR SPECIAL HAZARDS

The batteries contained within electric cars and/or on-site battery storage are likely to be considered a special hazard. This equipment may need to be fire separated from the building.

Where electric car charging points are proposed compliance The Fire Engineer and Fire practitioner will do a Fire Risk Assessment under the Special Hazard Clauses E1D17 and E2D21 with the guidance under the AFAC "Electric Vehicles and EV charging equipment in the building environment" position version 1.0 should be incorporated to the design

Further information required – plans do not currently indicate the proposed provision of electric charging points at this design stage.

SMOKE HAZARD MANAGEMENT

The building will be provided with a smoke management system in accordance with the provisions of Clause E2D5, E2D6 and Specification 20 of the BCA.

The building will require:

- Class 2: An automatic smoke detection and alarm system in accordance with E2D5 and Specification 20 and AS 3786.
- Class 7a: Carpark requires mechanical ventilation system in accordance with AS 1668.2 and Clause D2D13 of AS/NZS 1668.1.
- Class 7b: An automatic smoke detection and alarm system complying with E2D6 and Specification 20
- Occupancy warning system compliant with clause S20C7 of Specification 20 and AS 1670.1-2015 to be provide throughout the entire building.

The design of the service will be subject to review by a fire services consultant.
Evidence with compliance with E2 of BCA is required prior to the issue of the Construction Certificate.

EMERGENCY LIGHTING.

Emergency lighting will be provided throughout the building in accordance with Clauses E4D1 & E4D4 of the BCA and AS2293.1.

The design of the service will be subject to review by the electrical fire services practitioner.

EXIT SIGNS.

Exit signs will be provided throughout the building in accordance with Clauses E4D5, E4D6 & E4D8 of the BCA and AS2293.1.

The design of the service will be subject to review by the electrical fire services practitioner.

LIFTS

The lifts will be required in accordance with Clause E3 of the BCA.

A stretcher facility in the lifts will be required in accordance with Clause E3D3 of the BCA, as the building has an effective height of greater than 12m.

A sign must be provided in accordance with Clause E3D4 of the BCA warning against the use of lifts in a fire. The proposed lifts shall also comply with all requirements nominated by AS1735.12 and Clause E3.6 of the BCA, with regards to facilities for people with disabilities.

The proposed lifts shall also comply with all requirements nominated by AS1735.12 and Clause E3D8 of the BCA, with regards to facilities for people with disabilities.

Architectural details, Lift design details, specifications and design certifications are to be prepared by a suitably qualified design practitioner (Architects & Vertical transport Registered Design Practitioners)

HEALTH AND AMENITY (SECTION F, BCA)

DAMP & WEATHERPROOFING.

Adequate measures will be employed to ensure compliance Part F1 and F3D2 of the BCA is achieved. In terms of weatherproofing, this is to include compliance with F1D5, F2D2 and AS 4654.1 and 2 in respect of waterproofing of external balconies.

The concrete roof proposed is to be protected with an external waterproofing membrane complying with F3D2 (e) and F1D5 or addressed via a performance solution for the building façade prepared by a suitably qualified façade engineer.

External wall cladding must comply with one or a combination of the following based on clause F3D5:

(a) Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700.

(b) Autoclaved aerated concrete: AS 5146.3.

(c) Metal wall cladding: AS 1562.1.

It is advised that the building façade must be designed and prepared by a suitably qualified façade engineer confirming compliance.

The stormwater drainage must comply with AS/NZS 3500.3-2021.

Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must be protected in accordance with F1D4 Section 2.9 of AS 4654.2; and not be located beneath or run through a planter box, water feature or similar part of the building.

SANITARY & OTHER FACILITIES.

Facilities to each SOU's will be provided in accordance with the provisions of F4D2 of the BCA. Each residential SOU will be provided with a kitchen, bathroom, toilet, and shower. Laundry facilities are proposed via a washing machine. Clothes drying will be via dryer or 7.5m of clothes lines on balconies or rear yards.

All sanitary compartments that have proposed in-swinging doors are required to be 1.2m from the WC pan or lift off hinges are provided as per F4D8 of BCA.

Sanitary facilities for persons with a disability serving the retail tenancies and community function area are to be designed accordance with the provisions of F4D6 and AS1428.1 – 2009.

CEILING HEIGHT

The following minimum building ceiling heights must be maintained as per F5D2:

- Common kitchen, laundry or the like – 2.1m
- Corridor, passageway or the like – 2.1m
- Bathroom, shower, sanitary compartment or the like – 2.1m
- Habitable rooms including common areas – 2.4m
- Stairways – 2.0m
- Car parking areas – 2.2m
- Disabled car parks – 2.5m including a 2.3m path of travel height

Confirmation of height compliance to be provided on the construction Architectural Details and Specifications at CC stage.

LIGHTING

Natural lighting to SOU's and artificial lighting must be provided throughout the building in accordance with F6D2, F2D3 of the BCA and AS/NZS1680.0-1998.

Artificial lighting may be provided throughout the remained of the building in accordance with the provisions of Clause F6D5 of the BCA and AS1680.1.

VENTILATION

The building is required to be provided with ventilation in accordance with the provisions of Clause F6D6, F2D7 of the BCA.

Ventilation may be provided by a natural means or a mechanical system complying with AS 1668.2.

SOUND INSULATION

The floor separating as per F7D5 the residential units and separating the sole occupancy units from public areas must achieve a sound insulation rating of Rw+Ctr (airborne) of not less than 50 and an Ln,w+Ci (impact) not more than 62.

Walls separating units as per F7D6 must achieve a sound insulation rating of Rw+Ctr (airborne) of not less than 50.

Walls separating units from plant rooms, lift shafts, stairways corridors or other public areas must have an insulation rating of Rw (airborne) not less than 50.

Walls separating a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room in another or separating a unit from a lift shaft must be of discontinuous construction.

The doorway separating to sole occupancy unit from the public area must have an Rw not less than 30

Soil, waste & stormwater services as per F7D7 must be separated by construction having an Rw+Ctr (airborne) not less than

- 40 if the room is a habitable room
- 25 if the room is a non-habitable room

ANCILLARY PROVISIONS (SECTION G, BCA)

CLEANING OF WINDOWS

As per NSW Clause G1D5 a building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level.

This is satisfied where—

i. the windows can be cleaned wholly from within the building; or
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.

OCCUPIABLE OUTDOOR AREAS

The occupiable outdoor area are required to comply with Part G6 of the BCA. Confirmation of compliance is required at the Construction Certificate stage.

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ENERGY EFFICIENCY CONSTRUCTION (SECTION J, BCA)

It is recommended at the time of obtaining a Construction Certificate that a separate Section J and Basix Report is provided by an Energy Efficiency Consultant.

CLAUSE	ITEM	COMMENT
NSW J1D1	Deemed-to-satisfy provisions	Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements NSW J1P1 to NSW J1P7 are satisfied by complying with— (a) NSW J2D2; and (a) NSW J3D2 to J3D10; and (b) NSW J4D2 to J4D7; and (c) NSW J5D2 to J5D8; and (d) NSW J6D2 to J6D13; and (e) NSW J7D2 to J7D9; and (f) J8D2 to NSW J8D4; and (g) J9D2 to J9D5.
NSW J2D2	Application of Section J	For a Class 3 and 5 to 9 building, Performance Requirement NSW J1P1 is satisfied by complying with— (a) Part J4, for the building fabric; and (b) Part J5, for building sealing; and (c) Part J6, for air-conditioning and ventilation; and (d) Part J7, for artificial lighting and power; and (e) Part J8, for heated water supply and swimming pool and spa pool plant; and (f) J9D3, for facilities for energy monitoring. For a Class 2 to 9 building, Performance Requirement NSW J1P4 is satisfied by complying with J9D4 and J9D5.

RECOMMENDATIONS

Subsequent to our assessment of the proposed development, it is recommended that the following matters are to be addressed to comply with the BCA utilising either as the 'deemed to satisfy' provisions or via an alternate solution under the performance requirements (as advised by the client):

- Storage areas within basement 1 and 2 are to have reduced FRL's to achieve 120 mins in lieu of 240 mins respectively, subject to a performance solution to address the relevant Performance Requirements of the BCA.
- All openings from the driveway is within 3m of the southern boundary (fire source feature) are to be protected in accordance with C4D5 or via an performance solution which is to be prepared and addressed at the Construction Certificate stage.
- The openings between external openings between the Class 2 and Class 7a parts are within 6m which are required to be protected, as per C4D4 and C4D5. The current design does not comply and will be addressed via a performance solution which is to be prepared and addressed at the Construction Certificate stage.
- Exit travel distances to a required exit or a point of choice to exits do not comply with D2D5 of the BCA.
- The building will be provided with a hydrant system in accordance with the provisions of Clause E1D2 of the BCA and AS 2419.1.
- The entire building will be protected by a sprinkler system throughout complying with Clause E1D4, E1D5 E1D9 and Spec 17 and 18 of the BCA. Confirmation of proposed system required at CC stage.
- The concrete roof proposed is to be protected with an external waterproofing membrane complying with F3D2 (e) and F1D5 or addressed via a performance solution for the building façade prepared by a suitably qualified façade engineer.

CONCLUSION

It is the opinion of this office that, on satisfaction of the above recommendation, the proposed building is capable of achieving compliance with the requirements of the National Construction Code, Building Code of Australia (BCA) 2022, and relevant adopted standards without undue modification to the design or appearance of the building.

Whilst the above recommendation have been made as a means of achieving compliance with the various provisions of BCA Performance Requirements their acceptability has not been verified at this time. It will be necessary for the design to be reviewed by an appropriately qualified person prior to the issue of a Construction Certificate for the works.

ALEKS STOJCEVIC
DIRECTOR

DESIGN RIGHT CONSULTING PTY LTD 24 SEPTEMBER 2024.

ALEX MULLIN
BDC1857 - BUILDING SURVEYOR - UNRESTRICTED
DIRECTOR

CONSTRUCTION CERTIFICATION SOLUTIONS PTY LTD 24 SEPTEMBER 2024.

APPENDIX A – DOCUMENTATION

The following documentation was used in the assessment and preparation of this report:

FOR FINAL COORDINATION

REV 06 09 24

DRAWING No.	DESCRIPTION
DD-A-000	TITLE
DD-A-001	NOTES
DD-A-010	SURVEY PLAN
DD-A-011	SITE DETAILS
DD-A-012	SITE PLAN
DD-A-013	DEMOLITION PLAN
DD-A-014	EXCAVATION & FILL PLAN
DD-A-020	CONSTRUCTION MANAGEMENT
DD-A-021	SITE WORKS
DD-A-100	ROOF
DD-A-101	LEVEL 5
DD-A-102	LEVEL 4
DD-A-103	LEVEL 3
DD-A-104	LEVEL 2
DD-A-105	LEVEL 1
DD-A-106	LEVEL 0
DD-A-200	ELEVATIONS - EAST AND SOUTH
DD-A-201	PAVILLION A - WEST
DD-A-202	LOWER PAVILLION B & C ELEVATIONS
DD-A-203	LOWER PAVILLION B & C ELEVATIONS
DD-A-204	LOWER PAVILLION B & C ELEVATIONS
DD-A-205	ENTRY DETAIL ELEVATION
DD-A-206	SECTIONS
DD-A-207	SECTIONS
DD-A-800	AREA CALCULATIONS
DD-A-801	GROSS FLOOR AREA
DD-A-802	SOLAR ACCESS
DD-A-803	CROSS VENTILATION
DD-A-804	STORAGE
DD-A-805	ACCESSIBILITY TO TRANSPORT & TOWN CENT...
DD-A-806	ACCESSIBILITY COMMON OPEN SPACES
DD-A-807	ACCESSIBILITY TYPICAL FLOOR PLATES
DD-A-808	ACCESSIBILITY TYPICAL FLOOR PLATES
DD-A-809	MAX HEIGHT STUDY
DD-A-810	TWO STORIES STUDY
DD-A-850	SHADOWS - WINTER SOLSTICE
DD-A-851	SHADOWS - WINTER SOLSTICE
DD-A-852	SHADOWS - WINTER SOLSTICE

APPENDIX B – DRAFT PROPOSED FIRE SAFETY SCHEDULE

MEASURE	STANDARD OF PERFORMANCE
Access panels to fire-resisting shafts	BCA Clause C4D14, AS 1905.1-2015.
Automatic fail safe devices	BCA 2022 Clause C4D5, D3D26, AS 1670.1 2018
Automatic fire suppression system Wall wetting sprinkler and drencher systems	BCA Clause E1D4, E1D11(2), Specification 17, AS 2118.1-2017 & AS 2118.6-2012,
Automatic fire detection system	E2D2(2)(b)(v), NSW E2D19(3), clause S20C2(c) of Specification 20, S20C4, AS 1670.1-2018.
Emergency lighting	BCA Clause E4D2 & E4D4, AS 2293.1-2018.
Occupancy warning system compliant	BCA Clause S20C7 of Specification 20 and AS 1670.1-2015
Exit signs	BCA Clause E4D5, NSW E4D6, ED4D8, AS 2293.1-2018.
Fire alarm monitoring system - Sprinkler system only.	BCA Clause E1D4, E1D11(2), Specification 17, AS 2118.6-2012, AS 1670.3-2018.
Fire dampers	BCA Clause C4D15(2)(b), AS 1668.1-2015, AS 1682.1-2015.
Fire doors	BCA Clause C3D14, C4D5, C4D9, D2D12, AS 1905.1-2015.
Fire hose reels	BCA Clause E1D3, AS 2441-2005.
Fire hydrant system	BCA Clause E1D4, AS 2419.1-2021.
Fire seals (protecting openings in fire resisting components of the building)	BCA Clause C4D13, C4D15, Specification 13, and manufacturers specifications.
Fire Engineering	Fire Engineer Guidelines (TBA)
Mechanical air handling system	BCA Clause/ Specification E2D4 (Clause 6), AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012 & AS1670.1- 2018 (Clause 7.4 Smoke Control Systems)
Portable fire extinguishers	BCA Clause E1D14, AS 2444-2001
Standby power systems - battery back-up for emergency lifts;	Fire engineering report by I-Fire.
Smoke and Heat Alarms	BCA 2022 Spec E2D4 and AS3786-2014 and Manufacturer's Specification
Warning and operational signs - Fire isolated stairway signs; - Fire isolated stairway notices; - Disabled egress signage; - Fire hydrant and sprinkler signage; - Fire hose reel signage; - Smoke detection signage; - Portable fire extinguisher signage; - Lift signage.	 BCA Clause D3D28 Section 108, *Environmental Planning & Assessment (DC&FS) Reg. 2021*; BCA Clause D4D7, Specification 15, AS 1428.1 – 2009; BCA Clause E1D2, FPAA101H; BCA Clause E1D3, AS 2441-2005; BCA Clause E2D8, Specification 20, S20C4, S20C7, AS 1670.1-2018.; BCA Clause E1D14, AS 2444-2001. BCA Clause E3D4.