Reference: 162154_DA_03

24 November 2021

Thornton Operations Pty Ltd

Level 3, 8 Windmill Street
Millers Point NSW 2000

**Attention: Frank Katsanevas**

**RE: DA Support | Lot 3003, 3004 and 3005 of DP 1184498 | Lord Sheffield Circuit Penrith**

The purpose of this statement is to provide confidence to the Consent Authority that prior to the issue of Development Application (DA) Consent, that the proposed development known as the Lot 3003, 3004 & 3005 of DP 1184498 within the North Penrith Thornton Precinct known as Thornton Central Village (184,192 and 41 Lord Sheffield Circuit Penrith NSW 2750) will be formally assessed by an Accredited C10 Fire Safety Engineer to demonstrate compliance with the Performance Requirements of the Building Code of Australia (BCA), as applicable within New South Wales.

The development is to be split into 2 separate DA (DA01 and DA02) however this advice is provided across both DA due the nature of the united building at the completion of the works and the in order to capture the design holistically form a fire and life safety perspective.

The development is located with street frontages to lord Sheffield Circuit to the north and East, The Penrith train station to the south and Dunshea Street to the west and is a mixed building containing carparking, retail, commercial, childcare facilities and residential apartments. The overall building will contain a single basement level carpark, five level mixed use podium and four separate residential towers extending above.

The united building has a Rise in Storeys of thirty-one (31) and effective height that exceeds 50m. The development will therefore be built to comply with Type A construction provisions and afforded with the full suite of fire safety provisions for a building of this size and nature.

The building design incorporates design features that do not fully meet the prescriptive Deemed-to-Satisfy (DtS) provisions of the BCA. As a result of the design not conforming to the DtS provisions of the BCA, the building solution applied shall be performance based rather than wholly prescriptively based.

In undertaking this review Affinity Fire Engineering has reviewed the Development Application submission architectural drawings prepared by Crone Architects (Project: CA3759, DA Submission plans, Revision A dated 17/11/2021) and the BCA compliance advice provided by BCA Logic (Report Ref: 113686-BCADA01-r3, Revision: DA02-r3, Dated: 22/11/2021 and Report Ref: 113686-BCADA02-r3, Revision: DA02-r3, Dated: 22/11/2021) and have provided fire safety engineering advice through emails, meetings, mark ups and workshops with recommended design changes to be incorporated in order to achieve a level of safety that enables the design to meet the performance provisions of the BCA.

Based on these documents, Affinity Fire Engineering's review and advice confirms that the proposed design incorporates features that have been identified to not meet the prescriptive Deemed-to-Satisfy (DtS) provisions of the BCA. As a result of the design not conforming to the DtS provisions of the BCA, the building solution applied shall be performance based rather than wholly compliant with the BCA.

In particular, the fire safety strategy and fire engineering design shall focus on the following site critical design issues in order to confirm compliance with the Performance Requirements of the BCA:-

- Occupant egress in the event of a fire emergency and the maintenance of tenable conditions for occupant evacuation and fire brigade intervention;
- Fire and smoke spread throughout the building and its impact on occupant egress;
- Site access and fire services design to facilitate fire brigade intervention.

Amongst other matters which may be established through the full design development stages, the fire safety strategy and associated reports shall incorporate assessment of the following performance solutions to assess compliance with the Performance Provisions of the BCA:-

- There are locations in the basement car park levels where the form of fire separation between the Class7a car park and the Class 6 retail shall utilise drencher protected glazing in lieu of a tested system to achieve the required FRL as defined in BCA Clause C1.1. The assessment shall address the Performance Solution CP2.
- Allowances for wet area set downs to achieve 60/60/60 FRL in lieu of the BCA required FRL of 90/90/90 as set out in BCA Clause C1.1.
- Assessment of the corridor lengths that exceed 40m to not be provided with a smoke door as required by BCA Clause C2.14 and addressing Performance solution EP2.2
- Determining a suitable degree of protection to service penetrations in the 240/240/240 FRL firewall separating the Waste Loading Dock compartment – BCA Clause C3.15 and addressing Performance Requirements CP2 and CP8.
- Review the provision of unprotected openings within 3m of the southern boundary - BCA Clause C3.2 and C3.4 and addressing Performance Requirements CP2.
- Allowance of a single exit to minor retail, residential entry lobbies and the like at the lower levels, in lieu of the BCA required 2 exits under BCA Clause D1.2 and addressing BCA Clause DP4 and EP2.2.
- Rationalising travel distances within the carpark areas where they exceed the prescriptive BCA DtS limitations of 20m to a point of choice, 40m to the nearest exit and more than 60m

between alternative exits (approx. measurement is to 30m, 60m and 90m respectively – Note plenums are to comply with distance to a point of choice)– BCA Clauses D1.4 and D1.5 and addressing Performance Requirements DP4 and EP2.2.

- Rationalising travel distances within the retail and loading dock parts where they exceed the prescriptive BCA DtS limitations of 20m to a point of choice, 40m to the nearest exit and more than 60m between alternative exits (approx. measurement is to 30m, 50m and 90m respectively)– BCA Clauses D1.4 and D1.5 and addressing Performance Requirements DP4 and EP2.2.
- Assessing travel distances within the residential levels that exceed the prescriptive BCA DtS limitation of 6m to a point of choice (approx. measurement is up to 12m) – BCA Clause D1.4 and addressing Performance Requirements DP4 and EP2.2.
- Rationalising travel distances within the communal external terraces where they exceed the prescriptive BCA DtS limitations of 20m to a point of choice, 40m to the nearest exit and more than 45m between alternative exits (approx. measurement is to 30m, 60m and 80m respectively)– BCA Clauses D1.4 and D1.5 and addressing Performance Requirements DP4 and EP2.2.
- Assessing travel distances within the residential levels that are less than the prescriptive BCA DtS limitation of 9m between exits (approx. measurement of 4.5m) – BCA Clause D1.5 and addressing Performance Requirements DP4 and EP2.2.
- Allowance of a childcare located on a level that is above ground floor at Level 1 – BCA Clause D1.18.
- Determining the suitability of the fire-isolated stairs discharge location into a covered area that are not open 2/3 of its permitter or that require travel past openings in the same building – BCA Clause D1.7 and addressing Performance Requirements DP5.
- Allowance of the fire isolated stairs to not be provided with 2 smoke doors at the point of convergence between the rising and the descending stair flights (I smoke door on the basement side stair to be provided) as required by BCA Clause D2.4
- Through consultation with Fire & Rescue NSW, determine suitable location and access provisions for the combined fire hydrant and sprinkler system infrastructure, valve room, the booster assembly and the Fire Control Room – BCA Clause E1.3 and E1.5, and addressing Performance Requirements EP1.3 and EP1.4.
- Allow the use of the combined sprinkler system in accordance with AS2118.1-6 which references an old sprinkler standard. _BCA Clause E1.5
- The retail supermarket and associated entrance shall be afforded with a performance-based smoke exhaust system that is commensurate with eth occupant egress provisions of the spaces in lieu of the strict smoke exhaust system outlined in BCA Clause E2.2b. The assessment shall address DP4 and EP2.2.
- A rationalisation of the zone smoke control requirements for parts where the pressure differential can not be achieved due to be adjacent to a car park of a significantly open part of the building - BCA Clause E2.2 and addressing Performance Requirements EP2.2.
- Due to the carpark levels forming one fire compartment and the difficulty in achieving an airflow of 1m/s across the doorways without increasing the force for door operation past 110N

a rationalised stair pressurisation system is proposed through fire engineering – BCA Clause E2.2a and addressing Performance Requirements EP2.2.

Unless identified above all other matters are expected to achieve compliance with the BCA. Design change may be required to achieve this.

The identified list of deviations from the prescriptive BCA provisions is a non-exhaustive list as result of the limited services design input at this concept design phase, which may be increased once full services design input is received.

The subject design for the mixed use retail and multi apartment residential development known as the Lot 3003, 3004 & 3005 of DP 1184498 within the North Penrith Thornton Precinct known as Thornton Central Village is considered by Affinity Fire Engineering to not compromise the expected fire safety strategy, fire brigade intervention or conformance with the building regulations. Hence, Affinity Fire Engineering anticipate that the fire safety engineering assessment to be conducted as part of the Construction Certificate stage will achieve compliance with the Performance Requirements of the BCA.

It is noted that this document should not be used for Construction Documentation as the formal fire engineering process and assessment is required to be completed prior.

We trust that the above information is sufficient for Consent Authority's needs with respect to fire safety design and compliance with the relevant building regulations in this regard. Should any further information be required for a determination to be made please contact the undersigned on 02 9194 0590.

Yours faithfully

[redacted]

**Thomas O'Dwyer**

Director,

Affinity Fire Engineering

Certifier - Fire Safety Engineer - BDC 0766

M: 0499 977 202