

Introduction

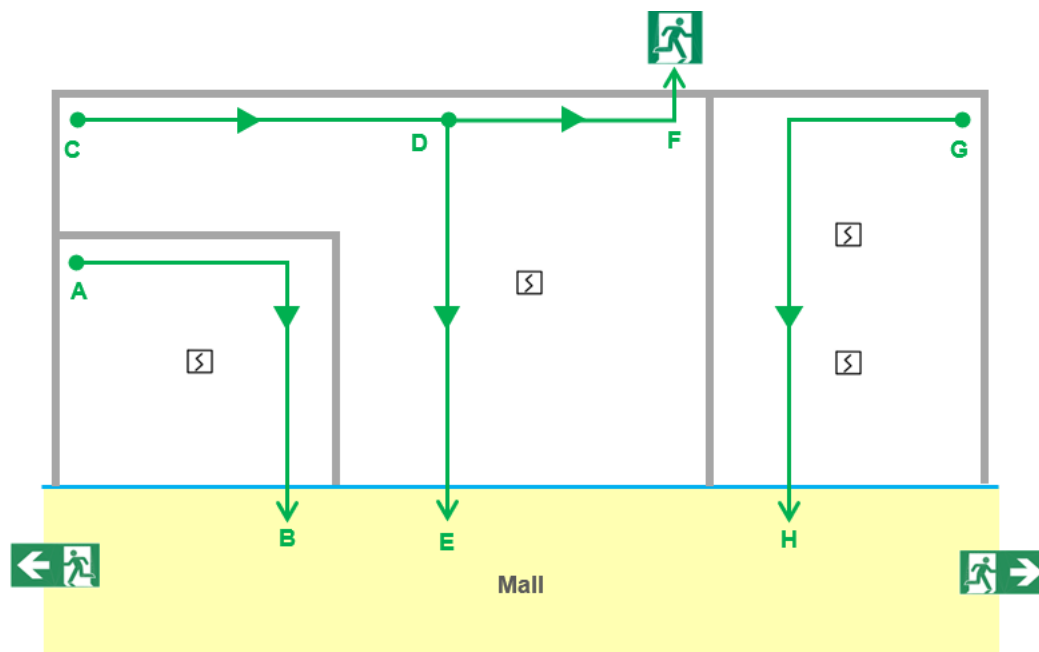
Chatswood Chase is subject to several fire engineering reports (FERs) which include essential fire safety measures relating to the fire-rated structure, fire and smoke separation, evacuation provisions, smoke hazard management, and firefighting provisions.

The fire safety measures outlined below are intended to provide guidance for typical tenancies. This does not provide a comprehensive list of all fire safety measures required to achieve compliance with the National Construction Code or aspects of the FERs.

Before undertaking tenancy fitout works it is essential that the tenancy design is reviewed to confirm consistency with the applicable FERs. This review should be undertaken by an appropriately qualified building surveyor or fire safety engineer.

Exits

1. The following maximum travel distances – including fitout – apply to shops <1000 m² opening onto the enclosed mall – see Figure below:
 - a. 20 m to a single exit into the mall.
 - b. 20 m to a point of choice between alternative exits within the tenancy, in which case the maximum distance to one of those exits must not exceed 40 m. One of the exits may be the main entry of the tenancy, the other must be a required exit as defined by the NCC.
 - c. 30 m to a single exit into the mall if additional smoke detectors spaced not more than 10 m apart and not more than 5 m from any wall, bulkhead or partition are provided.
2. The unobstructed exit width from each specialty tenancy (<1000m²) to the mall must be not less than 1 m.
3. Shops which are only provided with a single exit to the mall must not be fitted with roller shutters unless the shop has an area of less than 200 m² allowable under clause D3D24 of the NCC.



Maximum travel distances:

AB = <20 m

CD = <20 m, CDE = <40 m, CDF = <40 m

GH = 20 to 30 m Note: additional smoke detection required

Travel distance requirements for tenancies <1000m²

Smoke hazard management

4. Smoke detection must be provided in accordance with Clause S20C6 of the NCC which requires detectors to be spaced:
 - a. not more than 20 m apart and not more than 10 m from any wall, bulkhead or smoke curtain within tenancies; and
 - b. not more than 15 m apart and not more than 7.5 m from any wall, bulkhead or curtain with mall areas

Note: At least one smoke detector must be provided per tenancy.
5. Continuous smoke proof construction is to be provided between the specialty tenancies and the mall above the mall ceilings – note standard height of shopfront bulkheads to be confirmed.
6. Smoke walls, smoke baffles, and smoke proof shopfronts as identified in smoke zone plans are to be maintained to the underside of the set ceiling or floor slab above (smoke zone plans to be included in FER).
7. Smoke doors incorporated into smoke proof walls must comply with the following:
 - a. The leaves must be solid-core and at least 35 mm thick, or are capable of withstanding smoke at 200 °C for 30 minutes.
 - b. The leaves must be fitted with medium temperature smoke seals.
 - c. The leaves must be self-closing or automatically closing. Any automatic closing operation must be initiated by smoke detectors installed in accordance with the relevant provisions of AS 1670.1-2018, located on each side of the doorway at a horizontal distance of not more than 1.5 m from the doorway.
 - d. Any glazing incorporated into the doors must comply with AS 1288.
8. Shopfront entries to retail tenancies at locations that coincide with smoke zone boundaries should be avoided where practical. If such entries – ie glass sliding doors – are provided, the following will apply:
 - a. The doors must be self-closing or automatically closing upon fire trip
 - b. The doors must be of solid smokeproof construction.
 - c. The height of the door must be kept below the smoke baffle height.
 - d. Smoke detection is to be provided within the tenancy.
9. Any service penetrations through smoke walls must be appropriately sealed to maintain the integrity of the wall.

Commentary on smoke hazard management strategy for tenancies:

- *The smoke hazard management system serving the mall is primarily intended to maintain a tenable environment in the mall which serves as the primary path of travel for evacuating occupants, particularly during trading hours where the building is occupied by the public.*
- *The use of baffles is limited to circulation areas where it is not practical to provide a full height wall – for example across malls, around voids in malls and major tenancy openings. All baffles are maintained at not more than 3 m above finished floor level and not less than 600 mm below the adjoining ceiling level (where solid) as per the requirements of the FER.*
- *A fire occurring in a specialty tenancy which adjoins a smoke zone boundary can potentially spread smoke into multiple zones. The intent of the strategy is to channel the smoke toward the closest exhaust point via the open shopfront, and to have a smoke proof wall to the other zone.*
- *This is why in some instances for the same tenancy, certain areas of the shopfront are required to be smokeproof whilst other areas may be open. In the fire scenario outlined above, a high-level baffle around the tenancy of fire origin would be ineffective in containing smoke spread to a single zone.*

- *It is assumed that specialty tenancies comprise either:*
 - *Set ceilings with walls continuing to the underside of the ceiling; or*
 - *For tenancies with no ceilings, walls are full height to the underside of the slab.*
- *No minimum shopfront smoke opening requirements apply for tenancies <1,000 m² located on levels ground to level 2. For a fire occurring within a tenancy after hours smoke spread to the mall may be limited by the shopfront. However, if the shopfront includes openings, or if the glazing were to fail due to fire exposure, the smoke hazard management system serving the mall would still operate as intended.*

Sprinklers

10. All sprinkler heads must be quick response. Concealed, recessed or flush-mounted sprinkler heads must not be used. Semi-recessed sprinkler heads are considered acceptable provided they achieve a quick response rating.
11. Kiosks with canopies or high-level obstructions below the mall ceiling must be provided with sprinkler coverage in accordance with AS 2118.1-2017. This may require the provision of additional sprinklers below the canopies / obstructions.