PRIVATE CERTIFIERS AUSTRALIA

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Building Code of Australia

Design Compliance Report

New Mixed Use Building

Client :Wolski Coppin Architects

Project Address : 21 Whistler Street Manly

Revision History & Quality Management

DATE	REVISION	STATUS	AUTHOR	SIGNATURE
25/9/2018	V1	draft	Grant Harrington	
28/9/2018	V2	Final	Grant Harrington	

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1 Introduction

1.1 Background / Proposal

Private Certifiers Australia Pty Ltd (PCA) has been commission by Wolski Coppin Architects to provide a BCA Compliance Report. The proposal if for Demolition of Existing building and construction of a mixed use commercial and residential building is basement car parking.

The architect has indicated that they are to pursue the following alternate solutions for the site given the tight boundaries.

1) Protection of openings within 3m of the boundary – C3.4 Cp2
2) Deletion of smoke lobby ground floor between lift lobby and FIS discharge D1.7 DP5
3) Swing of final exit door not in the direction of egress D2.20 DP4
4) Single exit out of basement D1.2 DP4

PCA has identified the appropriate performance clauses that must be demonstrated for compliance to be met. The BCA is a performance document and any performance solution should be prepared by a C10 Fire Engineer. I cursory review of the Architects submission on the above it would not be unreasonable to accept the performance solution should it be appropriately submitted in accordance with the principals of the International Fire Engineering Guidelines IFEG.

The apart from the above the building is capable of complying with the performance

1.2 Aim

The purpose of this report is to provide a BCA Compliance Report for the submission of the Development Application.

1.3 The Project Team

The following PCA team members have contributed to this report:

- Grant Harrington, Director, Grade A1 Unrestricted BPB 0170

1.4 Documentation

The following documentation has been reviewed, referenced and/or replied upon in the preparation of this report

- BCA 2016
- Guide to the BCA 2016
- Architectural plans prepared by Wolski Coppin Architects DA01-DA15 dated 28 September 2018

1.5 Regulatory Framework

Pursuant to clause 145 of the Environmental Planning and Assessment (EPA) Regulation 200 all new building work must comply with the current BCA however the existing features of an existing building need not comply with the BCA unless upgrade is required by other clauses of the legislation.

Clause 143(3) of the EPA Regulation 2000 prevents a certifying authority from issuing a construction certificate if the proposed new work will result in a reduction to the fire protection and structural capacity of the building.

1.6 Limitation & Exclusions

The limitations and exclusions of this report are as follows:

- The following assessment is based upon a review of the architectural documentation.
- No assessment has been undertaken with respect to the Disability Discrimination Action (DDA) 1992. The building owner should be satisfied that their obligations under the DDA have been addressed.

The report does not address matters in relation to the following:

1.6.1.1.1 Local Government Act and Regulations.

a) NSW Public Health Act 1991 and Regulations
b) Occupation Health and Safety (OH&S) Act and Regulations
c) Work Cover Authority requirements.
d) Water, drainage, gas, telecommunications and electricity supply authority requirements.

- PCA do not guarantee acceptance of this report by Local Council, NSW Fire Brigades or other approval authorities.
- No part of this document may be reproduced in any form or by any means without written permission from PCA. This report is based solely on client instructions, and therefore, should not be used by any third party without prior knowledge of such instructions.

1.7 Terminology

Alternative Solution

A building solution which complies with the Performance Requirements other than by reason of satisfying the DtS Provisions.

Building Code of Australia (BCA)

Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW (NSW) under the provisions of the EPA Act and Regulation. Building regulatory legislation stipulates that compliance with the BCA Performance Requirements must be attained and hence this reveals BCA's performance based format.

1.8 Construction Certificate

Building Approval issued by the Certifying Authority pursuant to Part 4A of the EP&A Act 1979.

Construction Type

The construction type is a measure of a buildings ability to resist a fire. The minimum type of fire resisting construction of a building must be that specified in Table C1.1 and Specification C1.1 except as follows for:

1.8.1.1.1 certain Class 2, 3 or 9c buildings in C1.5; and
1.8.1.1.2 a Class 4 part of a building located on the top storey in C1.3(b); and
1.8.1.1.3 open spectator stands and indoor sports stadiums in C1.7.

Note: Type A construction is the most fire-resistant and Type C the least fire-resistant of the types of construction.

Climatic Zone

Is an area defined in BCA Figure A1.1 and in Table A1.1 for specific locations, having energy efficiency provision based on a range of similar climatic characteristics

Deemed to Satisfy Provisions (DtS)

Provisions which are deemed to satisfy the Performance Requirements.

Effective Height

The height to the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units) from the floor of the lowest storey providing direct egress to a road or open space.

Fire Resistance Level (FRL)
The grading periods in minutes for the following criteria:
a) structural adequacy; and
b) Integrity; and
c) Insulation,
and expressed in that order.

Fire Source Feature (FSF)
The far boundary of a road which adjoins 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.

National Construction Code Series (NCC)
The NCC was introduced 1 May 2011 by the Council of Australian Governments. The BCA Volume One (Class 2 to 9 Buildings) is now referenced as the National Construction Code Series Volume One – BCA.

Occupation Certificate
Building Occupation Approval issued by the Principal Certifying Authority pursuant5 to Part 4A of the EPA Act 1979.

Open Space
A space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.

Performance Requirements of the BCA
A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance Requirement states the level of performance that a Building Solution must meet.

Compliance with the Performance Requirements can only be achieved by:

a) Complying with the DtS Provisions; or
b) Formulating and Alternative Solution which –
   (i) Complies with the Performance Requirements; or
   (ii) Is shown to be at least equivalent to the DtS Provisions; or
c) A combination of a) and b).

Sole Occupancy Unit (SOU)
A roof or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes a dwelling.

2 Building Characteristics

2.1 Building Classification

The following table presents a summary of relevant building classification items of the proposed building development:

• BCA Classification:	Class 2, Class 6 retail Class 7a Car parking,
• Proposed Use:	Retail, Residential
• Rise in Storeys:	Rise in storeys of four (5)
• Effective Height:	13.1m
• Type of Construction:	Type A Construction
• Climate Zone:	Zone 5
• Maximum Floor Area/Volume:	Relevant only to the 7a & 5 parts. See below
• Planning Zoning	Unknown

2.2 Floor Area / Volume

Maximum size of fire compartment is:

Classification		Type A
7a , 5	Max floor area	5,000m^2
	Max volume	30,000m^3

2.3 Fire Source Feature

The distances from the nearest Fire Source Features are:

Boundary	Distance to Fire Source Feature
North	Zero setback to northern boundary
South	Zero setback to southern boundary
East	Zero setback to eastern boundary
West	Zero setback to western boundary

3 BCA Assessment

3.1 BCA Deemed to Satisfy Compliance Issues

The following comments have been made in relation to the relevant BCA provisions relating to the compliance issues associated with the proposed new mixed use residential building.

3.1.1 Section A – Classification of Building & Structures

3.1.1.1 Clause A3.1 – Principles of Classification

The classification of a building or part of a building is determined by the purpose for which it is designed, constructed or adapted to be used.

3.1.1.2 Clause A3.3 – Multiple Classification

Each part of a building must be classified separately and where these parts have different purposes – if not more than 10% of the floor area of a storey – being the minor use, is used for a purpose which is a different classification applying to the major use, may apply to the whole storey.

Note 1: This provision does not apply to certain minor uses as set out in this clause, such as Class 3 or a laboratory.

Note 2: a plant room, lift room, boiler room or the like must take the classification of the part of the building in which it is situated.

Comments: Noted

3.1.2 Section B – Structure

3.1.2.1 Part B1 – Structural Provisions

Structural engineering details prepared by an appropriately qualified structural engineer to be provided to demonstrate compliance with Part B1 in relation to the new structural elements of the building.

Comments: Details are to be provided confirming that the design achieves compliance with the following is required at the time of S109R Certification, inclusive of reference to the following Australian Standards (where relevant):

1. AS 1170.0-2002 General Principles
2. AS1170.1-2002, including certification for balustrading (dead and live loads)
3. AS1170.2-2002 Wind loads
4. AS1170.4-2007 Earthquake loads
5. AS3700-2001 Masonry code
6. AS3600-2009 Concrete code
7. AS4100-1998 Steel Structures and/or
8. AS4600-2005, Cold formed steel
9. AS2047-1999 Windows in buildings
10. AS1288-2006 Glass in buildings

3.1.3 Section C – Fire Resistance

Part C1 Fire Resistance and Stability

3.1.3.1 Clause C1.1 – Type of Construction Required

The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1 except as allowed for in this clause.

Comments: Type A construction is required.

3.1.3.2 Clause C1.2 – Calculation of Rise in Storey

The rise in storeys of a building is the sum of the greatest number of storeys at any part of the external walls of the building and any storeys within the roof space calculated in accordance with the requirements set out in this clause.

3.1.3.3 Clause C1.3 – Building of Multiple Classifications

In a building of multiple classifications, the type of construction required for the building is the most fire-resisting type resulting from the application of Table C1.1 on the basis that the classification applying to the top storey applies to all storeys. This clause also contains exceptions in relation to Class 4 parts.

Comments: Type A construction is required.

3.1.3.4 Clause C1.10 – Fire Hazard Properties

The fire hazard properties of the following linings, materials and assemblies in a Class 2 to 9 building must comply with Specification C1.10 and the additional requirements of the NSW Provision of the Code.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building fixtures and finishes prior to the issue of the CC for consideration by the Certifying Authority.

Part C2 Compartment and Separation

3.1.3.5 Clause C2.1 – Application of Part

C2.2, C2.3 & C2.4 do not apply to a carpark provided with a sprinkler system complying with Specification E1.5, an open deck carpark or an open spectator stand.

Comments: The carpark is not provided with a sprinkler

3.1.3.6 Clause C2.6 – Vertical Separation of Openings in External Walls

If in a building of Type A construction, any part of a window or other opening in an external wall is above another opening in the storey next below and its vertical projection falls no further than 450mm outside the lower opening (measured horizontally), the openings must be separated by a horizontal or vertical spandrel with an FRL of 60/60/60, and for the purposes of C2.6, window or other opening means that part of the external wall of a building that does not have an FRL of 60/60/60 or greater.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. It is noted that there is some openings on the balconies and adjacent areas to the front living rooms elevations which will need attention to comply with this clause. Further details will be required to demonstrate compliance or a performance solution can be prepared subject to compliance with the applicable clauses of the NCC

Figure C2.6(2)

EXAMPLE SHOWING USE OF SLAB OR HORIZONTAL CONSTRUCTION TO SEPARATE EXTERNAL WINDOW OPENINGS

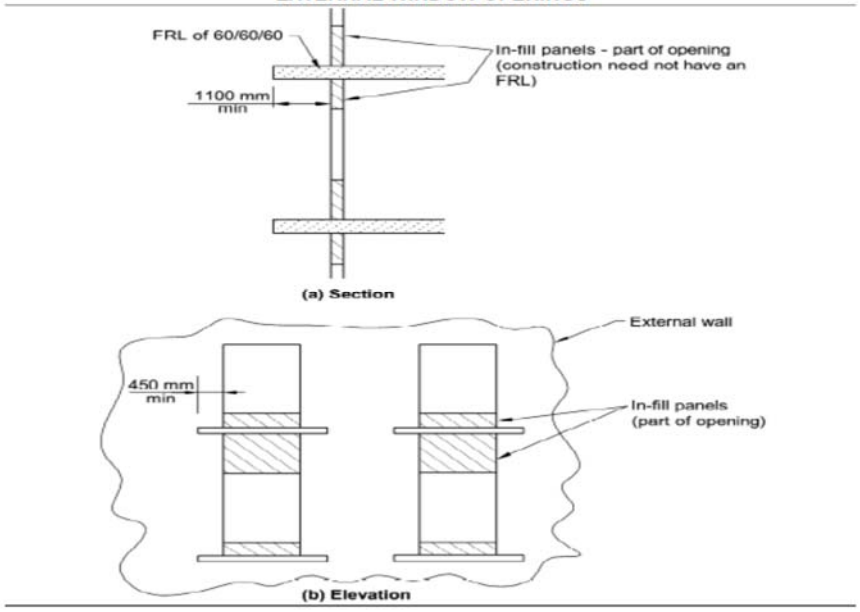


DIAGRAM 1

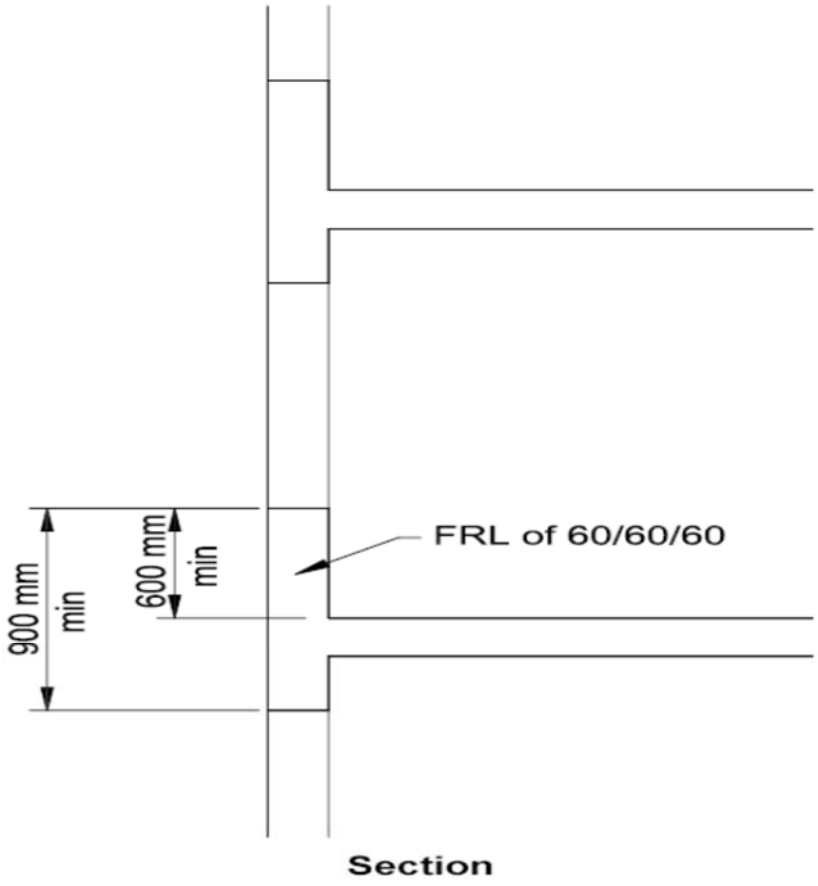


DIAGRAM 2

3.1.3.7 Clause C2.8 – Separation of Classifications in the Same Storey

If a building has parts of different classifications located alongside one another in the same storey, each element must have the required higher FRL for the classifications concerned.

Alternatively, the parts must be separated by a fire wall having the higher FRL for the classifications prescribed in Table 3 or 4 of BCA Specification C1.1 (for Type A or Type B Construction), or Table 5 for Type C Construction.

Concessions are available for some carparks.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. The FRL required for the retail space is "FRL 180, it is noted that the Fire Isolated stair discharges to the ground floor and this will require further consideration and FRL's

3.1.3.8 Clause C2.9 – Separation of Classification in Different Storeys

Separation between parts of a building which are of a different classification situated one above another, to minimise the risk of a fire in one classification causing the failure of building elements in another classification in a different storey.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. The FRL of the slab for the retail space is to be FRL 180.

3.1.3.9 Clause C 2.10 – Separation of Lift Shafts

Applies to all classes of buildings and specifies the protection requirements for openings for lift shafts and lift landing doors.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. The FRL of the lift and stair shafts is 120/120/120. The lift and stair shafts are separated

3.1.3.10 Clause C2.12 – Separation of Equipment

Comments: Equipment as listed below must be separated from the remainder of the building with construction that achieves and FRL of 120/120/120 and doorways being self-closing -/120/30 fire doors.

- Lift motors and lift control panels; or
- Emergency generators used to sustain emergency equipment operating in the emergency mode; or
- Central smoke control plant; or
- Boilers; or
- 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.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. PCA is of the opinion that the building will required a hydrant system as the floor area is over 500 sqm therefore hydrant pumps may be required, the basement has a pump room and hence the separation of the stair and pump room will have to achieve the above FRL of 120/120/120. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.3.11 Clause C2.13 – Electricity Supply System

Confirmation is to be provided for respective fire ratings, and also for the design of the required electrical services, as follows:

The following areas are to fire separated from the remainder of the building by construction that achieves a FRL of 120/120/120:

- An electricity substation located within a building.
- A main switchboard which sustains emergency equipment operating in the emergency mode.
- If electrical conductors located within a building supply a substation (located within the building) which also supplies the main switchboard; or they supply the main switchboard itself must be fire separated by a construction that achieves 120/120/120 or alternatively:
  - Have a classification in accordance with AS/NZS 3013 of not less than –
  - If located in a position that could be subject to damage by motor vehicles – WS53W; or
  - Otherwise – WS52W.

- Where emergency equipment is required in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment switchgear is separated from the non-emergency equipment switchgear by metal partitions designed to minimise the spread of fault from the non-emergency equipment switchgear, eg:
  - Fire hydrant booster pumps.
  - Pumps for automatic sprinkler systems, water spray, chemical fluid suppression systems or the like.
  - Pumps for fire hose reels where such pumps and fire hose reels form the sole means of fire protection in the building.
  - Air handling systems designed to exhaust and control the spread of fire and smoke.
  - Emergency lifts.
  - Control and indicating equipment.
  - Sound systems and intercom systems for emergency purposes.

Comments: PCA is unsure if the building will require the above electrical supply system.

Part C3 Protection of Openings

3.1.3.12 Clause C3.2 – Protection of Opening in External Walls

Openings in an external wall that is required to have an FRL must –

- If the distance between the opening and the fire-source feature to which it is exposed is less than -
  - 3m from a side or rear boundary of the allotment; or
  - 6m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or
  - 6m from another building on the allotment that is not a Class 10, be protected in accordance with C3.4 and if wall-wetting sprinklers are used, they are located externally; and
- If required to be protected they must not occupy more than 1/3 of the area of the external wall of the storey in which it is located unless they are in a Class 9b building used as an open spectator stand.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. The development has windows and balcony openings that are within 3m and will require protection in accordance with C3.4 or a performance solution to address the non-compliance.

3.1.3.13 Clause C3.4 – Acceptable Methods of Protection

Where protection is required, doorways, windows and other openings must be protected as follows:

- Doorways –

- Internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or
- -/60/30 fire doors that are self-closing or automatic closing.

- Windows –
  - Internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or
  - -/60/- automatic closing fire shutters.
- Other Openings –
  - Excluding voids – internal or external wall-wetting sprinklers, as appropriate; or
  - Construction having FRL not less than -/60/-.

Comments: This clause is applicable to address the non-compliance is Clause 3.2 where by the windows/ doors and openings and openings are within 3m of the boundary. It is noted on the western elevation and also the northern elevation contains openings that require protection.

3.1.3.14 Clause C3.8 – Openings in Fire-isolated Exits

C3.8 specifies that the doorways that open into fire-isolated exits must be protected by -/60/30 fire doors that are self-closing or automatic. This clause also details the deemed to-satisfy methods of activation. This does not apply to doors opening to a road or open space.

A window in the external walls of fire-isolated exits must be protected in accordance with C3.4 if it is within 6m of and exposed to a window or other opening in a wall of the same building other than in the same fire-isolated enclosure.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. It is noted on the ground floor the fire stair discharges into a lobby which also contains a lift which is not permissible, some form of doors are shown on the lobby level between the FIS stair and the lift. Further investigation is to be undertaken for compliance with regard to this.

3.1.3.15 Clause C3.9 – Service Penetrations in Fire-isolated Exits

Fire isolated exists must not be penetrated by any services other than electrical wiring as permitted by D2.7 (e), ducting associated with a pressurisation system or water supply pipes for fire services.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. Special attention is to be given to the ground floor fire escape where by the mail boxes are located in the discharge point as this is a non- compliance.

3.1.3.16 Clause C3.11 – Bounding Construction: Class 2, 3 & 4 Buildings

Protection is required to the bounding walls of sole-occupancy units or public corridors in Class 2 & 3 buildings and Class 4 portions of buildings of Types A, B & C Construction. Namely:

- Doorways must be protected if providing access from an SOU to a
  - Public corridor;
  - A room not within a SOU; or
  - The landing of an internal non-fire isolated stairway that serves a required exit; or
  - Another SOU
- A Doorway must be protected if it provides access from a room not within and SOU to a public corridor or the like; or to the landing on a non-fire isolated stairway that serves as a required exit.
- Protection of the doorway must be -/60/30 self -closing fire door in Type A Construction, and a self-closing tight fitting solid core door in Type B and Type C Construction.
- Note: Concessions are available for some Class 3 building.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. The FRL for the doors is -/60/30

3.1.3.17 Clause C3.13 – Openings in Shafts

This clause specifies that in buildings of Type A Construction, openings in shafts must be protected (generally with 1 hour fire rated shafts and doors).

Comments: Note – the plans do not show any garbage chutes but shows a service riser between units along the party walls.

3.1.3.18 Clause C3.15 – Openings for Service Installations

The clause details the requirements for protection of service openings in building elements that have an FRL, to prevent the spread of fire. C3.15 only applies to an element required to have an FRL with respect to integrity or insulation.

Specification C3.15 prescribes materials and methods of installation for services that penetrate walls, floors and ceilings required to have an FRL. Where the mechanical ventilation system penetrates floors or walls that require an FRL the installation is to comply with AS/NZS 1668.1.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4 SECTION D – ACCESS & EGRESS

Part D1 Provision for Escape

3.1.4.1 Clause D1.2 – Number of Exits Required

This clause requires the provision of sufficient exits to enable safe egress in case of an emergency. D1.2 provides that all buildings must have at least one exit from each storey as sets out circumstances in which more than one exit may be required.

Comments: This clause is applicable; The building does not comply within the basement, where the vertical rises more than 1.5m two exits must be provided. Given that the site is tight and there is little space to provide an additional exit from the basement, the architects have indicated that a performance solution will be applied for to manage the inherent non-compliance with D1.2

Level	Designated Exits
Basement	Only has one exit – requires 2 exits
Levels GF – level 4	Only has one exit

3.1.4.2 Clause D1.3 – When Fire-isolated Stairways & Ramps are required.

This clause indicates when fire isolated stairways and ramps are required to enable safe egress from a building in the case of a fire, setting out the limits to which non-fire isolated exits can be used in Class 2, 3, 5, 6, 7, 8 and 9 buildings. Particular exceptions apply to Class 9a patient care and also class 9c aged care buildings.

Class 5 – and exit stair must be fire isolated when it connects or passes by more than 2 consecutive stories. Whist the plans show that the main stair is “broken “and not continuous, the BCA does not permit that this can occur.
I am of the view that this design will require either of the following;

a) Redesigning to comply with the DTS provisions and provide a complaint fire isolated stair
b) Seek an alternate building solution which addresses D1.3, DP4 and CP2.2

Comments: This clause is applicable. The egress stair is shown as being fire isolated but the discharge at ground is non complaint with D1.7 where by a smoke lobby is not provided. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.3 Clause D1.4 – Exit Travel Distances

This clause specifies the permitted travel distances allowable from Class 2 to Class 9 buildings, specifying the maximum distances to be taken into account for the various uses in each Class of building.

The following applies:

- In a Class 2 or 3 building
  - The entrance of any SOU must not be more than:
    - 6m form an exit or from a point which travel in 2 different directions to 2 exits is available; or
    - 20m from a single exit serving the storey and the level of egress to a road or open space.
  - No point on the floor of a room which is not within a SOU must be more than 20m to an exit, or a point from which travel in different directions to 2 exits is available.
- In a Class 5, 6 and 7a building:
  - No point on the floor must be more than 20m to an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40m;
  - For the class 5 and 6, the distance to a single exit serving a storey at the level of access to a road or open space may be increased to 30m.

Comments: This clause is applicable; The building complies.

3.1.4.4 Clause D1.5 – Distances Between Alternative Exits

- Exits required as alternative exits must be –
  - Distributed uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas; and
    - not less than 9m apart; and
    - not more than –
      - in a Class 2 or 3 building – 45m apart; or
      - in a Class 9a health-care building, if such required exit serves a patient care area – 45m apart; or
      - In all other cases – 60m apart.
- Located so that the alternative paths of travel do not converge such that they become less than 6m apart.

Comments: This clause applies. No alternate exits have been identified unless another exit is provided from the basement to address D1.2 non-compliance.

3.1.4.5 Clause D1.6 – Dimensions of Exits

Sets out in detail the minimum dimensions such as height and width of paths of travel for Class 2 to 9 buildings. It also specifies the minimum dimensions of doorways from the various compartments and the width of exit doors from buildings depending on the uses and functions carried out within them.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.6 Clause D1.7 – Travel via Fire Isolated Exits

Sets out the requirements for safe discharge from various compartments and areas within a building, into a fire isolated stairway or passageway or ramp.

Where a path of travel from the point of discharge of a fire isolated exit necessitates passing within 6m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have –

- An FRL of not less than 60/60/60; and
- Any openings protected internally in accordance with BCA Clause C3.4,
- For a distance of 3m above and below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser?

Comments: This clause is applicable. The building has a non-compliance on the ground floor FIS where it discharges to the lobby fire tunnel. The doors leading from the lift lobby do not contain a smoke lobby as the access to the FIS is not from a compliant an area as per D1.7 (a) (I,ii,iii) The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. If a smoke lobby cannot be provided then a performance solution may be presented to demonstrate compliance.

3.1.4.7 Clause D1.9 – Travel by Non-fire-isolated Stairways or Ramps

A non-fire isolated stairway or ramp serving as a required exit must provide a continuous means of travel by its own flights and landings form every storey served to the level at which egress to a road or open space is available. This clause sets out the prescribed travel distances to be provided in required exits of Class 2 to 9 buildings and Class 4 parts of buildings, and also maximum total distances to be taken into account for the various uses in each Class of building.

Class 2 building – maximum total distance travelled in a Type a Construction building is 60m. Maximum distance to a door leading to open space from the stair is 15m (or 30m to one of 2 such doorways if travel to each of them from the stair or ramp is in opposite directions.

Comments: N/A

3.1.4.8 Clause D1.10 – Discharge From Exits

Requires that an exit must not be blocked at the point of discharge. Barriers such as bollards must be installed to prevent vehicles from blocking the discharge from exits.

Comments: This clause is applicable; the exit from the basement and FIS are capable of complying subject to compliance with D2.20 as currently the doors swing inwards. The GF doors if left as per will swing over the council footpath if swung as per D2.20. Further discussion and or re designing.

3.1.4.9 Clause D1.11 – Horizontal Exits

Horizontal exits must not be counted as an exit

Comments: N/A

3.1.4.10 Clause D1.12 – Non- required stairways, ramps or escalators

Requires that a non-required stairway not connect more than two stories, in a Class 5. It is noted that the BCA states that these stairs cannot be used as an exit stair.

Comments: N/A

3.1.4.11 Clause D1.13 – Number of person accommodated

PCA generally calculated per floor per square meter and generally the building has around 180 sqm of retail space.

Comments: This clause is applicable; The population of the GF retail is approximately 1 person per 10 sqm. The total occupant based on this is 18 persons. Should the GF areas be used for Food and Drink premises then the density will increase. It is noted that there is no bathroom facilities have been provided on the plans.

3.1.4.12 Clause D1.14 – Measurement of distances

Comments: This clause is applicable; Noted

3.1.4.13 Clause D1.15 – Method of Measurement

Comments: This clause is applicable; Noted

3.1.4.14 Clause D1.16 – Plant rooms, Lift machine rooms and electricity network substations; Concessions

Comments: This clause is applicable; Noted

3.1.4.15 Clause D1.17 – Access to Lift Pits

This clause provides the requirements for access to lift pits not more than 3m deep and the requirements of construction of access for lift pits that are more than 3m deep. The requirement for signage to lift pits is also set out.

Comments: Provide further details about the lift pits prior to commenting. Information may be given at the Construction Certificate stage.

PART D2 CONSTURCTION OF EXITS

3.1.4.16 Clause D2.2 – Fire-isolated Stairways & Ramps

A stairway or ramp, including landings that are required to be within a fire-resisting shaft must be constructed of non-combustible material to protect the structural integrity of the shaft.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.17 Clause D2.7 – Installations in Exits & Paths of Travel

This clause restricts the installation of certain services in fire-isolated exits, non-fire-isolated exits and certain paths of travel to exits. It prescribes which services shall not be installed as well as the circumstances in which certain services may be installed in fire isolated and non-fire-isolated exits.

If installed in a path of travel to an exit, Electrical distribution boards, Communication cupboards and the like containing motors, etc. are to be enclosed with non-combustible construction, and doors are to be provided with smoke seals to the perimeter.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.18 Clause D2.8 – Enclosure of Space under Stairs & Ramps

A space below a required fire-isolated stairway or ramp in a fire-isolated shaft must not be enclosed to form a cupboard or other enclosed space. If the required stairway or ramp is non-fire-isolated, *including an external stairway) any cupboard underneath must have a FRL of 60/60/60, with self-closing -/60/30 door.

Comments: This clause is applicable. No enclosures were present within the FIS.

3.1.4.19 Clause D2.13 – Goings & Risers

This clause sets out the detailed requirements for the construction and geometry of the goings and risers in required stairways. These details are set out in sub-clauses (a) to (c) and Table D2.13 Riser and Goings Dimensions.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.20 Clause D2.14 – Landings

The dimensions and gradients of landings in stairways are set out in this clause; the configuration will depend on the proposed use of a building.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.21 Clause D2.15 – Thresholds

The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless the door opens on to a road or open space, external stair landing or external balcony; and the door sill is not more than 190mm above the finished surface of the external level.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. Please ensure that the thresholds are disabled complaint to AS1428.1 for the Class 2 apartment lobby and also the retail shops.

3.1.4.22 Clause D2.16 – Balustrades or Other Barriers

This clause details where balustrades are required to be provided and sets out in specific detail the construction requirements. Typically the following will apply to a Class 2 building:

- Balustrades are required where the fall to the level below is more than 1m in height. The minimum height of a balustrade is 1m above the floor of the landing, walkway or the like; and 865mm above the floor of a stairway or a ramp.
- For a fall of more than 4m to the surface level below, a window sill must be a minimum of 865mm in height above of the floor surface.
- Where the floor is more than 4m above the surface beneath the balustrade any horizontal or near horizontal members between 150mm and 760mm above the floor must not facilitate climbing.
- Balustrades must be constructed so as to not permit a sphere of 125mm diameter to pass through. The exception to this is within fire isolated exits within the building, or within a Class 7 or 8 building, where the rails can be positioned a maximum of 460mm apart, so long as a bottom rail is located so a sphere of 150mm cannot pass through the opening between the nosing of the stair treads and the rail or between the floor of the landing, balcony or the like.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.23 Clause D2.17 – Handrails

This clause sets out the requirements regarding the location, spacing and extent of handrails required to be installed in buildings.

Handrails are required within stairs and ramps in the building. Handrails are also required to any stair or ramp located within a Class 2, 3 or Class 4 Par SOU, located along at least one side.

Handrails are required to be not less than 865mm in height vertically above the nosing's of the stair tread.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. The basement stair is not showing a handrail

3.1.4.24 Clause D2.19 – Doorways & Doors

This clause applies to all doorways and refers to the types of doors that cannot be used in buildings of prescribed uses, the use of power operated doors and the force required to operate sliding doors.

A doorway in a required exit (e.g. the doors leading to a fire isolated exit, or the doors leading directly to open space must not be fitted with a sliding door unless it leads to a road or open space; and the door is able to be opened manually under a force of not more than 110N. If the door is also power operated, it must be opened manually under a force of not more than 110N if there is a malfunction or failure to the power source; or upon the activation of a fire or smoke alarm anywhere in the fire compartment served by the door.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority. No roller shutters are shown on the drawings for the exits or shops.

3.1.4.25 Clause D2.20 – Swinging Doors

A swinging door *in a required exit* or *forming part of a required exit* must swing in the direction of egress and must not otherwise impede egress. In addition, the door must not encroach at any part of its swing by more than 500mm on the required width of the exit (with the exception of airlocks and sanitary compartments, and with the exception of buildings or building parts that are less than 200m^2). This clause does not apply to other doorways – see notes in the Guide to the BCA.

Comments: This clause is applicable. It is noted that the GF FIS exit door to road is swinging inward which is a non-compliance. The door must be recessed or another alternate design be undertaken to allow the door to swing in the direction of egress. The building is capable of compliance at Construction Certificate stage. Amended details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.26 Clause D2.21 – Operation of Latch

A door in a required exit or forming part of a required exit and in a path of travel to a required exit must be readily operate without a key from the side that faces a person seeking egress, by a single downward action or pushing action on a single device which is located between 900m & 1.1m from the floor. This clause prohibits the use of devices such as deadlocks and knobs (rather, lever latches are required). D2.21 also sets out exceptions in relation to buildings where special security arrangements are required in relation to the uses carried out.

Where fitted with a fail-safe device which automatically unlocks the3 door upon the activation of a sprinkler system or detection system, the above need not apply.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

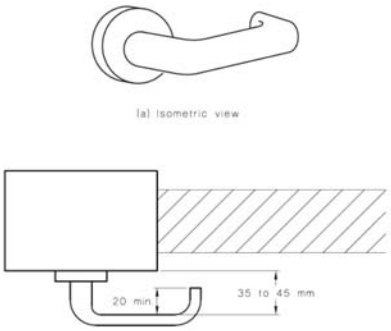
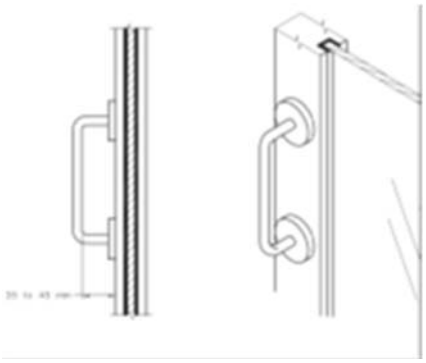


DIAGRAM 3



DIAGRAMS 4

3.1.4.27 Clause D2.2 – Re-entry from Fire Isolated exits

Doors of a fire-isolated exit must not be locked from the inside in a Class 9a health-care building, a Class 9c aged care building and in a fire-isolated exit serving a storey above 25m effective height throughout the exit.

This clause details the exceptions to the above requirements if the doors are fitted with an automatic failsafe device that automatically unlocks the door upon the activation of a fire alarm as follows:

- On at least every fourth storey, the doors are not able to be locked and a sign is fixed on such doors stating that re-entry is available; or
- An intercommunication system, or an audible or visual alarm system, operated from within the enclosure is provided near the doors and a sign is fixed adjacent to such doors explaining its purpose and met5hod of operation.

Comments: N/A

3.1.4.28 Clause D2.23 – Signs on Doors

This clause requires the use of signs to alert persons that the operation of smoke doors and dire doors and doors discharging form fire isolated exits, must not be impaired and must be installed where they can be readily seen.

Comments: N/A

Any new self-closing fire and/or smoke doors leading into the fire stair or forming part of a Horizontal Exit or smoke compartment are to be provided with signage as follows:

Any new automatic closing fire and/or smoke doors which are held on hold open devise that leads into the fire stair or forming part of a Horizontal Exit or smoke compartment are to be provided with signage as follows:

FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN

FIRE SAFETY DOOR DO NOT OBSTRUCT

In addition to the above, the doors which provide access to the fire isolated exits must have signage provided adjacent to the entry doorway which states the following (ref Clause 183 of EP&A Reg 2000):

OFFENCES RELATING
TO FIRE EXITS

By virtue of the regulations under the Environmental Planning and Assessment Act 1979, it is an office:

(a) To place anything in this exit that may impede the free passage of persons, or
(b) To interfere with or cause obstruction or impediment to, the operation of the doors providing access to this exit, or
(c) To remove, damage or otherwise interfere with this notice.

PART D3 ACCESS FOR PEOPLE WITH A DISABILITY

3.1.4.29 Clause D3.1 – General Building Access Requirements

The extent of access required depends on the classification of the building. Buildings and parts of buildings must be accessible as set out in Table D3.1 unless exempted by Clause D3.4

Residential parts. In a building required to be accessible, access for persons with disabilities must be provided from a pedestrian entrance required to be accessible to a minimum of 1 floor and to the entrance doorway of each SOU on that level and any other common room used by the residents. Notwithstanding, where a passenger lift is installed, access must be provided to every level served by the lift. However, we note that access is *not required* to the ancillary carpark part of the residential building (i.e. this being a Class 7a, which is not required in Table D3.5 to be accessible as it is ancillary to a Class 2).

Retail parts. Access is required to and within all areas normally used by the occupants, including the ancillary Class 7a part.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.30 Clause D3.2 – General Building Access Requirements for People with Disabilities

Access ways are to be provided to accessible buildings from the main points of pedestrian entry at the allotment boundary and any accessible car parking space or accessible associated buildings connected by a pedestrian link.

Access must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances (including the principal pedestrian entry).

In addition, as the building is greater than 500m^2, the non-accessible entrance must not be greater than 50m from an accessible entrance.

The minimum width of an accessible doorway must have a clear opening width of not less than 850mm in accordance with AS1428.1.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.4.31 Clause D3.3 – Parts of the Building to be Accessible

This part specifies the requirements for access ways within buildings which must be accessible.

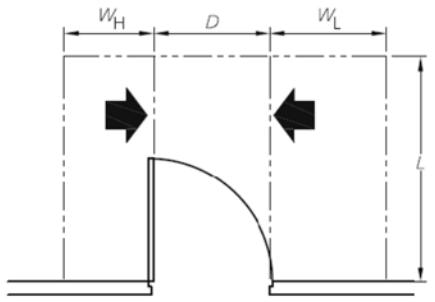
Comments: The following is a summary of some of the key matters which will need to be considered:

Access for persons with disabilities must be provided, at a minimum, to and within all areas normally used by the occupants. This includes to and within all parts of the commercial tenancies, and to all common areas of the Class 6 parts.

The minimum width of an accessible doorway must have a clear opening width of not less than 850mm in accordance with AS1428.1.

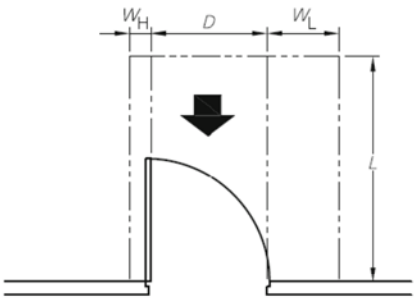
All new doorways on a continuous path of travel shall have a minimum luminance contrast of 30% provided between: door leaf and door jamb; or door leaf and adjacent wall; or architrave and wall; or door leaf and architrave; or door jamb and adjacent wall.

The minimum width of the area of luminance contrast shall be 50mm.
Circulation space to the new doorways that are required to be accessible are to comply with Section 13 of AS1428.1-2009, including as follows:



Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1670	660	900
900	1670	610	900
950	1670	560	900
1000	1670	510	900

(g) Either side approach, door opens towards user

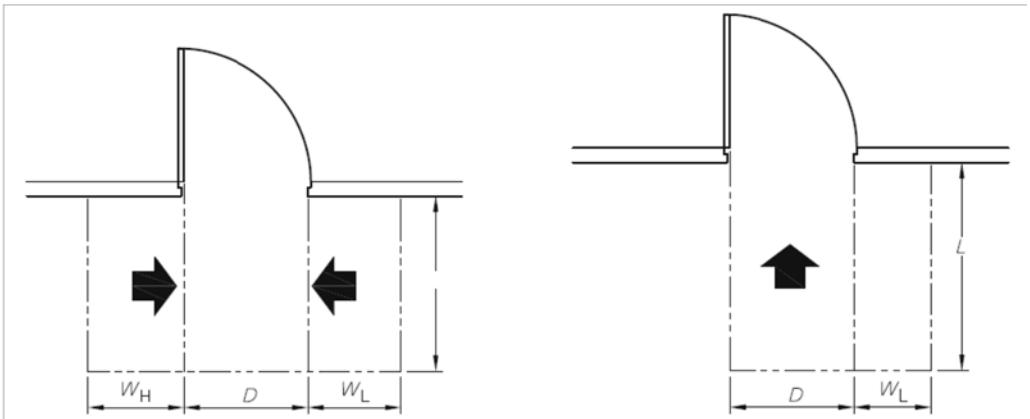


Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1450	110	530
900	1450	110	530
950	1450	110	530
1000	1450	110	530

(h) Front approach, door opens towards user

DIAGRAM 5

DIAGRAM 6



Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1240	560	660
900	1210	510	660
950	1175	460	660
1000	1155	410	660

(c) Either side approach, door opens away from user

Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1450	0	510
900	1450	0	510
950	1450	0	510
1000	1450	0	510

(d) Front approach, door opens away from user

Stairways

- Every common area stairway (excluding the fire isolated stairs of Building A) must be constructed in accordance with Clause 11 of AS1428.1.
- Where the stair is at an intersection of an internal corridor the stair shall be set back so that the handrails do not extend beyond the line of the intersecting corridor (as indicated below.

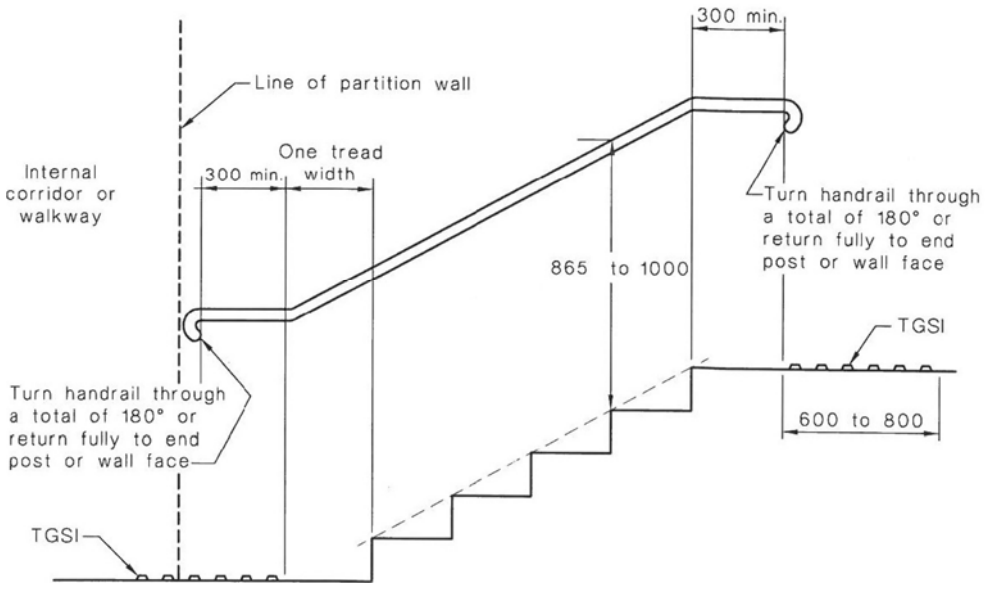
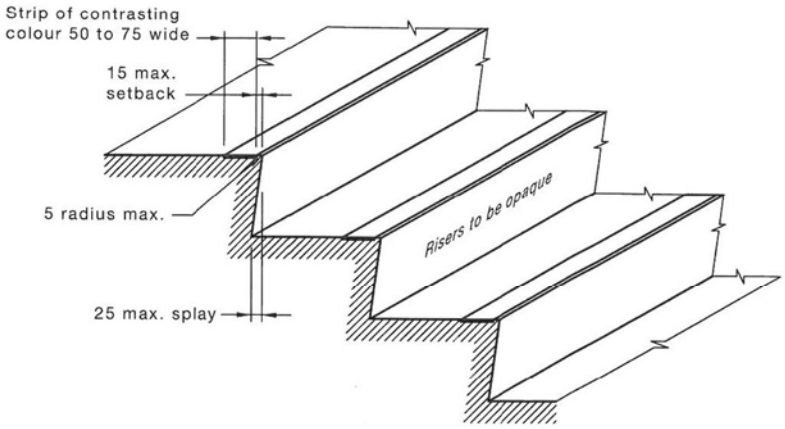


DIAGRAM 7

- Stairs shall have opaque risers (i.e. Solid)
- Stair nosing's shall comply with the following diagram, which achieve a colour contrast luminance of 30% to the background (tread):



NOTE: A chamfered nosing 5 × 5 mm may be used.

DIMENSIONS IN MILLIMETRES

FIGURE 27(A) A TYPICAL STAIR NOSING PROFILE WITH NOSING STRIP

DIAGRAM 8

- Stairways will need to be served by Tactile Ground Surface Indicators in accordance with AS1428.4.1.

Handrails

- Handrails shall be installed along stairways (excluding the enclosed fire isolated stairs to Building A) as follows:
  - Shall be continuous through the flight and where practicable, around landings and have no obstruction on or above up to a height of 600mm,
  - Shall be constructed to comply with Clause 12 of AS1428.1,
  - Installed along both sides of the stairway (giving consideration also to 1m unobstructed width),
  - Handrails must not contain any vertical sections,
  - Handrails shall terminate in accordance with the following diagrams:

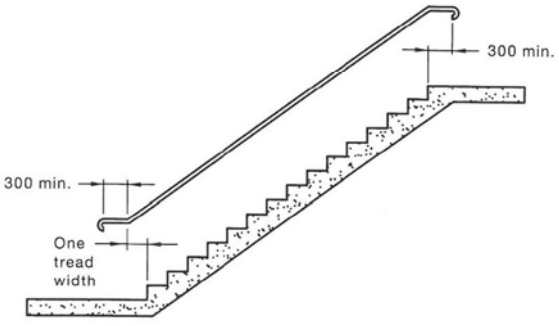


DIAGRAM 9

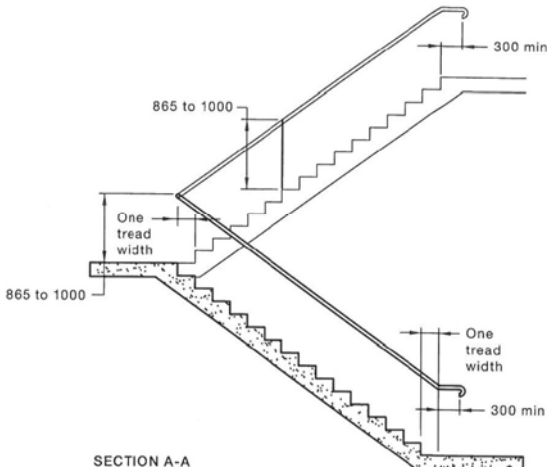


DIAGRAM 10

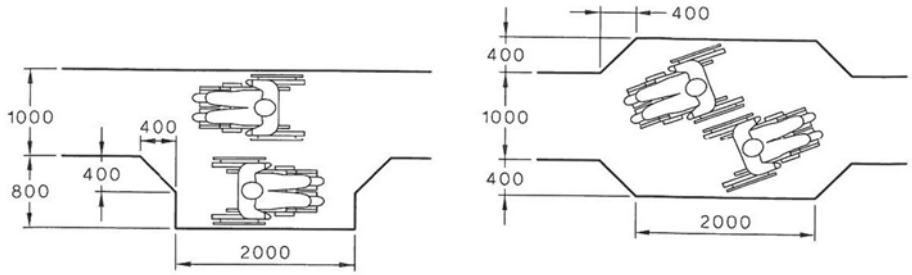
Accessible Ramps (AS1428.1-2009 Section 10.3):
AS1428.1 defines an accessible ramp as an inclined surface on a continuous accessible path of travel between two landings with a gradient steeper than 10 but not steeper than 1:14.

Handrails are required both sides of all accessible ramps as follows:

- Shall be continuous through the flight and where practicable, around landings and have no obstruction on or above up to a height of 600mm,
- Installed along both sides of the stairway (giving consideration also9 to the required 1m unobstructed width).
- Handrails must not contain any vertical sections.

Access ways/corridors (including common area corridors in the Class 3 residential parts) must be constructed in accordance with the following:

- Passing spaces complying with the following diagram at 20m intervals on those parts of the access way/corridor, where a direct line of sight is not available.

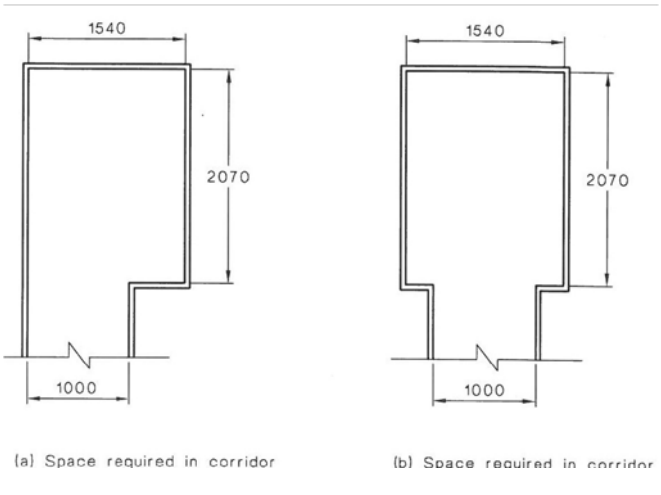


DIMENSIONS IN MILLIMETRES

FIGURE 3 EXAMPLES FOR PASSING SPACE FOR WHEELCHAIRS

DIAGRAM 11

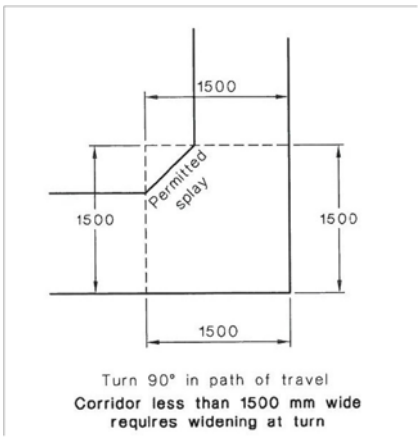
- Turning Spaces provided (in accordance with the following diagram) within 2m of the end of an access way where it is not possible to continue travelling along the access way.



(a) Space required in corridor

(b) Space required in corridor

DIAGRAM 12



Turn 90° in path of travel
Corridor less than 1500 mm wide requires widening at turn

DIAGRAM 13

3.1.4.32 Clause D3.4 – Exemptions

This part provides details on buildings or parts of buildings not required to be accessible under the BCA whee providing access would be inappropriate because of the nature of the area or the tasks undertaken. Access need not be provided to:

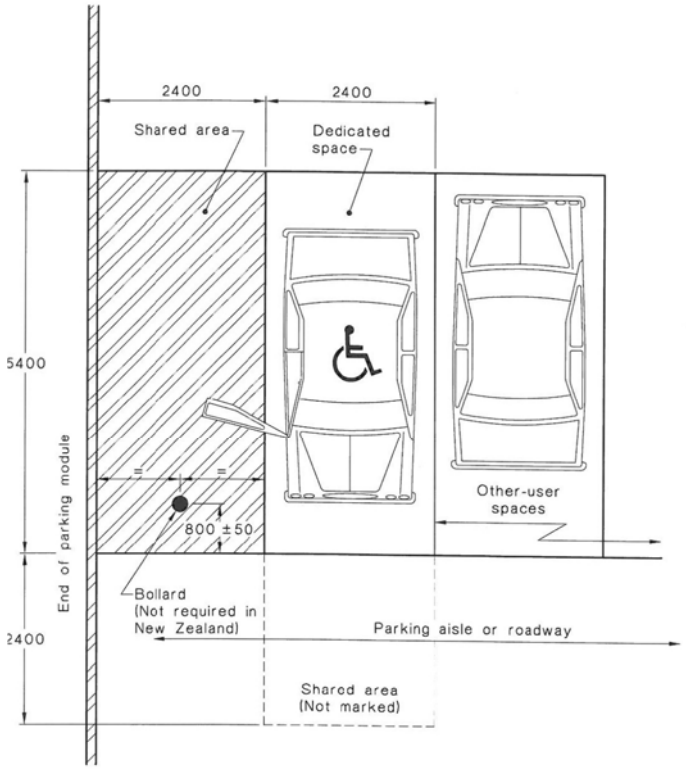
- An area where access would be inappropriate because of the particular purpose for which the area is used.
- An area that would pose a health or safety risk for people with a disability.
- Any path of travel providing access only to an area exempted by (a) or (b).

Comments: Noted

3.1.4.33 Clause D3.5 – Assess Car parking

This part provides details of the number of accessible car parking spaces required in a carpark depending on the classification of the building. In this regard the commercial and retail tenancies will require parking for people with disabilities.

Comments: No disabled car parking has been allocated



DIMENSIONS IN MILLIMETRES

FIGURE 2.2 EXAMPLE OF AN ANGLE PARKING SPACE WITH SHARED AREA ON ONE SIDE ONLY—DIMENSIONS FOR AUSTRALIA ONLY*

DIAGRAM 14

3.1.4.34 Clause D3.8 – Tactile Indicators

This clause provides for installation of tactile indicators in buildings required to be accessible and must be provided to warn people who are blind or have a vision impairment that they are approaching a stairway, escalator, passenger conveyor, ramp, overhead obstruction or an access way meeting a vehicular way, except for areas exempted by D3.4.

Comments: Noted

3.1.4.35 Clause D3.12 – Glazing on an Access way

This part requires the provision of a contrasting strip, chair rail, handrail or transom across all frameless or fully glazed doorways and surrounding glazing capable of being mistaken for an opening.

Comments: N/A

3.1.5 SECTION E – SERVICES AND EQUIPMENT

PART E1 FIRE FIGHTING EQUIPMENT

3.1.5.1 Clause E1.3 – Fire hydrants

A fire hydrant system must be provided to serve a building having a total floor area greater than 500m2 and where a fire brigade is available to attend a building fire, installed in accordance with the provision of AS2419.1-2005. In the regard, a single hydrant booster assembly can serve both buildings if they are on the same allotment.

The hydrant booster assembly and any external fire hydrants are required to be located greater than 10 metres from an external wall of the building, or affixed to the external wall and protected by a radiant heat shield that has a FRL of 90/90/90 located 2 metres either side and 3 metres above the outlets.

Any gas meter must be located a minimum of 10 metres from the hydrant booster outlet.

A required fire services pump room is required to be accessible directly from the road or open space, or from a door opening from a fire isolated exit. Internal Hydrants are to be located within each required Fire Isolated Exit (or alternatively the external stairs in lieu of a fire isolated exit).

Note 1: Fire Hydrants located in the required exit stairs passageways must not encroach on the required 1 metre clear exit width.

Note 2: Hydrant booster assembly must be within sight of the main entrance of buildings, otherwise an application to FR NSW can be made in order to receive an exemption from this requirement in the circumstances.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority It is noted that the pump room is located within the basement and normally this is the subject of a Clause 188 exemption to the Australian Standards. Please note the clauses about where by the booster is required to be protected. The plans do not show any booster at the road level and discussions should be had with relation to booster location.

3.1.5.2 Clause E1.4 – Fire hose reels

A fire hose reel system must be provided to serve a building where one or more internal fire hydrants are installed or in a building with a floor area greater than 500m2 and for the purposes of this clause, the following Classes of a building are exempt from the Fire Hose Reels provision, Class 2, 3 building or a Class 4 part, Class 8 and Class 9c

Fire Hose Reels are to be located within 4m of an exit, or located adjacent to an internal hydrant (other than one within a fire isolated exit). When system coverage is not achieved by the above, additional FHR may be located in paths of travel to an exit.

Comments: This clause is applicable. The ground floor class 6 shops and basement Class 7a is still required to have FHR coverage. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.5.3 Clauses E1.6 – Portable fire extinguishers

Portable fire extinguishers must be provided as listed in Table E1.6 and must be selected, located and disturbed in accordance with Sections 1, 2, 3 and 4 of AS2444 and also PFE are required to be positioned within 10m of the Door to the Sole Occupancy unit

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.5.4 Clause E1.9 – Fire precautions during construction

In buildings under construction at least one fire extinguisher to suit Class A, B and C fires and electrical fires must be provide at all times on each storey adjacent to a required exit and if the building has reached an effective height of 12m the required hydrant and hose reel systems must be installed, as set out in (b) (ii) and be operational and any required booster connections must be installed.

Comments: Once a building reaches 12m in effective height the hydrant system and hose reel system must be installed. Additionally portable fire extinguishers are required throughout construction regardless of height.

PART E2 SMOKE HAZARD MANAGEMENT

3.1.5.5 Clause E2.2 – General Requirements

Class 2 to 9 buildings must comply with the provisions of this clause to remove smoke during a fire, to control the operation of air handling systems and to prevent the spread of smoke between compartments.

The Class 5 part of the building is required to be provided with an automatic smoke detection and alarm system complying with Specification E2.2a.

Comments: This clause is applicable. The Design Team will have to determine if a Spec E2.2 Clause 3 or 4 system is used. A BOWS will be required to clause 6. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

PART E3 LIFT INSTALLATIONS

3.1.5.6 Clause E3.2 Stretcher facility in lifts

a. a stretcher facility in accordance with (b) must be provided –
   (i) in a least one emergency lift *required* by E3.4: or
   (ii) where an emergency lift is not *required*, if passenger lifts are installed to serve any storey above an *effective height* of 12m, in at least one of those lifts to serve each floor served by the lifts.
b. A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm x 2000 mm long x 1400 mm high above the floor level.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.5.7 Clause E3.3 Warning against use of lifts in fire

A warning sign must-

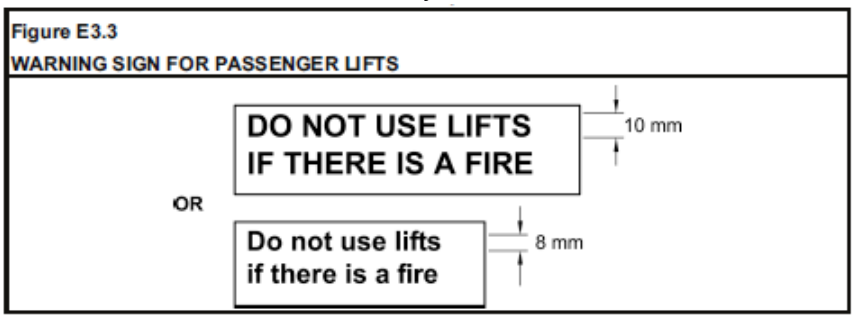
a. be displayed where it can be readily seen-
   (i) near every call button for a passenger lift or group of lifts throughout the building; except

(ii) a small lift such as a dumb-waiter or the like that is for the transport of goods only: and

b. comply with the details and dimensions of Figure E3.3 and consist of-
   (i) incised, inlaid or embossed letters on a metal, wood, plastic or similar plate securely and permanently attached to the wall; or
   (ii) letters incised or inlaid directly into the surface of the material forming the wall.

Deemed-to-Satisfy Provisions

Figure E3.3
WARNING SIGN FOR PASSENGER LIFTS



Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.5.8 Clause E3.4 Emergency Lifts

a. At least one emergency lift complying with (d) must be installed in-
   (i) a building which has an *effective height* of more than 25 m; and
   (ii) a Class 9a building in which *patient care areas* are located at a level that does not have direct egress to a road or *open space*
b. An emergency lift may be combined with a passenger lift and must serve those *storeys* served by the passenger lift so that all *storeys* of the building served by passenger lifts are served by a least one emergency lift.
c. Where two or more passenger lifts are installed and serve the same *storeys*, excluding a lift that is within an *atrium* and not contained wholly with a *shaft*-
   (i) at least two emergency lifts must be provided to serve those *storeys*; and
   (ii) if located within different *shafts*, at least one emergency lift must be provided in each *shaft*.
d. An emergency lift must-
   (i) be contained with a *fire-resisting shaft* in accordance with C2.10; and
   (ii) in a Class 9a building serving a *patient care area*-
      (A) have minimum dimensions, measured clear of all obstructions, including handrails, etc complying with Table E3.4; and
      (B) be connected to a standby power supply system where installed; and
   (iii) if the building has an *effective height* of more than 75 m, have a rating of at least-
      (A) 600 kg if not provided with a stretcher facility; or
      (B) 900 kg if provided with a stretcher facility

Deemed-to-Satisfy Provisions

Table E3.4 MINIMUM EMERGENCY LIFT DIMENSIONS IN CLASS 9a BUILDINGS

Minimum depth of car	2280 mm
Minimum width of car	1600 mm
Minimum floor to ceiling height	2300 mm
Minimum door height	2100 mm

Minimum door width	1300 mm

Comments: N/A

3.1.5.9 Clause E3.6 – Passenger Lifts

In an accessible building, every passenger lift must be one of the types identified in Table E3.6a, have accessible features in accordance with Table E3.6b and not rely on a constant pressure device for its operation if the lift car is fully enclosed.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.5.10 Clause E3.7 – Fire Service Controls

In passenger lifts designed in accordance with AS 1735 Parts 1 and 2, all lift cars serving any storey above an effective height of 12m must be provided with fire service controls.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

PART 4 EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS

3.1.5.11 Clause E4.2 – Emergency Lighting Requirements

This clause details when emergency lighting must be installed in Class 2 to 9 buildings. The requirements for building and parts of buildings are detailed in sub-clauses (a) to (i) and each sub-clause must be considered as more than one may apply to any single building.

Comments: Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.5.12 Clause E4.5 / 4.6 – Exit Signs

An exit sign must be clearly visible to persons approaching the exit and must be installed on, above or adjacent to each door providing egress from a building.

Comments: Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.6 SECTION F – HEALTH & AMENITY

PART F1 DAMP AND WEATHERPROOFING

3.1.6.1 Clause F1.1 – Stormwater drainage

Stormwater drainage must comply with AS/NZS 3500.3.

Comments: Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.6.2 Clause F1.7 – Waterproofing of Wet Areas

This clause requires that wet areas in Class 2 to 9 buildings must be waterproofed. It prescribes the standards to which the work must be carried on the construction of room's sanitary compartments and laundries.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.6.3 Clause F1.1 – Provision of Floor Wastes

In a Class 2 or 3 building or Class 4 part of building, the floor of each bathroom and laundry located above a sole-occupancy unit or public space must be graded to permit drainage to a floor waste.

Comments: Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

3.1.6.4 Clause F1.13 – Glazed Assemblies

Glazed assemblies in an external wall must comply with AS2047 required for resistance to water penetration for windows, sliding doors with a frame, adjustable louvres, shop fronts and windows with one piece framing.

*Comments:*This clause is applicable. The building is capable of compliance at Construction Certificate stage.

PART F2 SANITARY AND OTTHER FACILITIES

3.1.6.5 Clause F2.1 – Facilities in Residential Buildings

Each residential sole occupancy unit is required to be provided with a kitchen sink with facilities for cooking, a bath or shower, a closet pan and washbasin, a washtub and a space for a washing machine and drier.

Given each building (A and B) contains more than 10 sole occupancy unit5s, a closet pan and washbasin is required to be provided at or near Ground level for employees.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

3.1.6.6 Clause F2.2 / F2.3 – Calculation of Number of Occupants & Facilities

This clause sets out the requirements for the calculation of the number of occupants and the number of sanitary facilities required to be installed in Class 2 to 9 buildings.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

3.1.6.7 Clause F2.4 – Accessible Sanitary Facilities

Accessible unisex sanitary compartments must be provided, in accordance with Table F2.4 (a) and unisex showers must be provided in accordance with Table F2.4 (b) in building or parts that are required to be accessible.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

3.1.6.8 Clause F2.5 – Construction of Sanitary Compartments

Other than in an early childhood centre sanitary compartments must have doors and partitions that separate adjacent compartments and extend –

- From floor level to the ceiling in the case of a unisex facility; or

- A height of not less than 1.5m above the floor if primary school children are the principal users; or
- 1.8 above the floor in all other cases.

The door to a fully enclosed sanitary compartment must open outwards; or slide: or be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2m, measured in accordance with Figure F2.5 between the closet pan within the sanitary compartment and the doorway.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

PART F3 ROOM HEIGHTS

3.1.6.9 Clause F3.1 Height of Rooms and Other Spaces

The floor to ceiling heights in the Class 3 Residential part of the building must not be less than 2.4 metres in habitable rooms and 2.1 metres in kitchens, laundries, and bathrooms.

In addition, the floor to ceiling heights car parking areas must be not less than 2.1 metres. Having regards to the Sections provided compliance can be achieved.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

PART F4 LIGHT AND VENTILATION

3.1.6.10 Clause F4.1 – Provision of Natural Light

Natural lighting must be provided in:

- Class 2 buildings and Class 4 parts of buildings – to all habitable rooms.
- Class 3 buildings – all bedrooms and dormitories
- Class 9a and 9c buildings – all rooms used for sleeping purposes.
- Class 9b buildings – to all general purpose classrooms in primary or secondary schools and all playrooms and the like for the use of children in an early childhood centre.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

3.1.6.11 Clause F4.2 – Methods & Extent of Natural Lighting

This clause sets out the requirement that natural light must be provided by windows and the size and location of such windows (i.e. the glazed area of the window is to be no less than 10% of the floor area of the room). Natural light can also be provided by the use of roof lights.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

3.1.6.12 Clause F4.4 – Artificial Lighting

Artificial lighting is required where it is necessary to minimise the hazard to occupants during an emergency evacuation. This Clause sets out the places where artificial lighting is always required in all classes of buildings and the standard to which it must be installed.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

3.1.6.13 Clause F4.5 – Ventilation of Rooms

A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have natural ventilation complying with F4.6 or a mechanical or air-conditioning system complying with AS1668.2 and AS/NZS 3666.1

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage.

PART F5 SOUND TRANSMISSION AND INSULATION

3.1.6.14 Clause F5.1 – Application of Part

The Deemed-to-Satisfy Provisions of this Part apply to Class 2 and 3 buildings and Class 9c aged care buildings.

3.1.6.15 Clause F5.3 – Determination of Impact Sound Insulation Ratings

The walls within the Class 3 Residential part of the building that are required to have an impact sound insulation rating must be of discontinuous construction.

Note: Discontinuous construction means a wall having a minimum 20mm cavity between 2 separate leaves, and for masonry, wall ties are of a resilient type. For all other construction there is no mechanical link between leaves except at the periphery.

It is recommended that the proposed design be reviewed from an acoustic consultant prior to the issue of the Construction Certificate to ensure that it can meet the requirements of Part F5.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.6.16 Clause F5.4 – Sound Insulation Rating of Floors

The floors separating the sole occupancy unit in the Class 3 part of the building are required to have an airborne sound insulation rating of not less than 50 and an impact sound pressure level of not more than 62.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.6.17 Clause F5.5 – Sound Insulation Rating of Walls

A wall separating a sole occupancy unit from another part of the building must have an airborne sound insulation rating of not less than 50 and be provided with discontinuous construction if it separates a bathroom, sanitary compartment, laundry, kitchen in another sole occupancy unit or a plant room or lift shaft.

A door that separates a sole occupancy unit form a public corridor must have a weighted sound reduction index of not less than 30.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.6.18 Clause F5.6 – Sound Insulation Rating of Services

Where a duct, soil, waste or water supply pipe passes through more than one sole occupancy unit, the duct or pipe must be separated from the rooms of a sole occupancy unit by construction having an airborne sound insulation rating of not less than 40 if the adjoining room is habitable or 25 if it is a kitchen or non-habitable room.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

3.1.6.19 Clause 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.

Comments: This clause is applicable. The building is capable of compliance at Construction Certificate stage. Details demonstrating compliance with this clause are to be submitted in the specification for the building prior to the issue of the CC for consideration by the Certifying Authority

SECTION G – ANCILLARY PROVISIONS

PART G1 MINOR STRUCTURES AND COMPONENTS

3.1.6.20 NSW Clause G1.101 – Provision for Cleaning of Windows

A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level.

A building satisfies this requirement where the windows can be cleaned wholly from within the building; or provision is made for the cleaning of the windows by a method complying with the Occupational Health & Safety Act 2000 and regulation made under the Act.

Comments: windows can be cleaned externally

SECTION J – ENERGY EFFICIENCY

NSW Part J (A) 1 – Building Fabric – This part only applies where the development consent or an environmental planning instruments specifies that insulation is to be provided as part of the development consent.

NSW Part J (A) 2 – Building Sealing – The following national provisions are applicable:

- Clause J3.3 – Roof lights (we note that no roof lights are proposed to this development).
- Clause J3.4 – External windows and doors
- Clause J3.5 – Exhaust fans
- Clause J3.6 – Construction of roofs, walls and floors.

NSW Part J (A) 3 – Air Conditioning and Ventilating Systems – The following nation provisions are applicable:

- Clause J5.2 – Air-conditioning and ventilating systems
- Clause J5.3 – Time switch
- Clause J5.4 – Heating and cooling systems
- Clause J5.5 – Ancillary exhaust systems

NSW Part J (A) 4 – Hot Water Supply

- Clause J7.2 – Hot water supply

NSW Part J (A) 5 – Access for Maintenance

- Details and design certification are required.

For 6 parts of the building the following energy efficiency design measures will be implemented into the 'new' building design to satisfy the requirements under BCA Parts J1, J2, J3, J5, J6, J7 and J8 for Climate Zone 5 as follows;

- Building fabric
- External glazing
- Building sealing to doors, exhaust vents and windows
- Efficiency of the running of air conditioning systems and mechanical ventilation systems with respect to insulation of ductwork, timer switches, etc.
- Performance of glazing
- Artificial lighting and power controls (interior and exterior lighting)
- Hot water systems
- Access and maintenance of energy efficiency systems.

It is understood that the services of an ESD consultant may be engaged to provide specialist advice and cost effective recommendations for compliance, together with a report which will be required to be submitted prior to issue of the Construction Certificate, which details how compliance is to be achieved.

4 Conclusion

This report contains an assessment of the referenced architectural documentation for the proposed new building containing commercial tenancies at the subject address.

Various issues pertaining to egress arrangements and protection of openings will need to be further assessed by the fire safety engineer at Construction Certificate stage or amend the design to comply with the DTS. Likewise the access consultant will need to prepare alternative solutions as required.

Arising from the review, it is considered that the proposed development can readily achieve compliance with the relevant Performance Provisions of the BCA with any design changes being of a nature that will not result in the need to modify the development consent.

5 Appendix 1

The following fire safety measures are required for the main building:

Essential Fire and Other Safety Measures	Standard of Performance
Access Panels, Doors & Hoppers	BCA Clause C3.13 & B, AS1530.4-2005
Automatic Fire Detection & Alarm System Clause 3 or 4 system	BCA Spec E2.2a & AS 1670.1–2004
Hydrant Systems	BCA E1.3 AS 2419.1
Emergency Lighting	BCA Clause E4.4 & AS 2293.1-2005
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8 and AS2293.1-2005
Fire Doors	BCA Clause, C3.4, C3.11, C3.8, and AS1905.1-2005
Smoke lobbies	D1.7
Fire Seals	BCA Clause C3.15 & AS1530.4-2005 and AS 4072.1-2005
Paths of Travel	EP&A Regulation Clause 186
Portable Fire Extinguishers	BC Clause E1.6 & AS2444-2001
Warning & Operational Signs	Section 183 of the EP&A Regulations 2000, AS 1905.1-2005, BCA Clause D2.23, E3.3.
Protection of openings within 3m of side boundaries	BCA C3.4
Lightweight Construction	Spec C1.1 Clause 2.7 – enclosure of shafts Spec C1.1 3.1 (c) Class 2 ceiling top floor

Notes:

The measures included and the stands of performance nominated above may vary as a result of any proposed fire engineered alternative solution.

6 Appendix 2

Building element	Class of building – FRL : (in minutes)			
	Structural adequacy / Integrity / Insulation			
	2 part	7a	6	7b
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any fire-source feature to which it is exposed is -				
For *loadbearing* parts -				
Less than 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3m	90/60/60	120/90/90	180/180/120	240/240/180
3m or more	90/60/30	120/60/30	180/120/90	240/180/90
For non-loadbearing parts -				
Less than 1.5m	-/90/90	-/120/120	-/180/180	-/240/240
1.5 to less than 3m	-/50/60	-/90/90	-/180/120	-/240/180
3m or more	-/-/-	-/-/-	-/-/-	-/-/-
EXTERNAL COLUMN not incorporated in an external wall -				
For loadbearing columns -				
	90/-/-	120/-/-	180/-/-	240/-/-
For non-loadbearing columns -				
	-/-/-	-/-/-	-/-/-	-/-/-
COMMON WALLS and FIRE WALLS	90/90/90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS -				
Fire-resisting lift and stair shafts -				
Loadbearing	90/90/90	120/120/120	120/120/120	240/120/120
Non-loadbearing	-/90/90	-/120/120	-/120/120	-/120/120
Bounding *public corridors*, public lobbies and the like -				
Loadbearing	90/90/90	120/-/-	180/-/-	240/-/-
Non-loadbearing	-/60/60	-/-/-	-/-/-	-/-/-
Between or bounding sole-occupancy units -				
Loadbearing	90/90/90	120/-/-	180/-/-	240/-/-
Non-loadbearing	-60/60	-/-/-	-/-/-	-/-/-
Ventilating, pipe, garbage and like *shafts* not used for the discharge of hot products or combustion				
Loadbearing	90/90/90	120/90/90	180/120/120	240/120/120
Non-loadbearing	-/90/90	-/90/90	-/120/120	-/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES				
And Columns -	90/-/-	120/-/-	180/-/-	240/-/-
Floors	90/90/90	120/120/120	180/180/180	240/240/240
Roofs	90/60/30	120/60/30	180/60/30	240/90/60

Notes:

1.1.1.1.1.1.1 The concession granted under clause 3.5 of Specification C1.1 results in the roof of the building not being required to be fire rated if the building is a class 2 and less than 25m in effective height, or if the building is provided throughout with sprinklers). The roof must be non-combustible covering.

1.1.1.1.1.1.2 Where a combustible material is used as a finish or lining to a wall or roof, or sunscreen, or awning, to a building element required to have an FRL the material must be exempted or complies with the fire hazard properties prescribed under C1.10 and does not otherwise constitute an undue risk of fire spread via the façade of the building.

1.1.1.1.1.1.3 Lift shafts are required to be enclosed at the top of the shaft with fire rated construction having an FRL of 90/90/90.

1.1.1.1.1.1.4 Fire isolated exits are to be provided with a fire rated "lid" that achieves an FRL of 90/90/90.

1.1.1.1.1.1.5 Where roof lights are proposed they are required to be located not less than 3 metres from a roof light in an adjoining fire separated part; and must not be more than 20% of the area of the roof.

Note: the location of the roof lights is not to be less than 3m apart.

1.1.1.1.1.1.6 Any loadbearing internal wall or loadbearing fire walls are to be masonry or concrete.

1.1.1.1.1.1.7 A non-loading wall that is required to be fire resisting must be non-combustible construction.

1.1.1.1.1.1.8 External walls must be non-combustible construction (i.e. no timber frame). Non-loadbearing parts of an external wall that are more than 3m from a fire source feature need not be fire rated.

1.1.1.1.1.1.9 Internal columns in this building (being less than 25m in effective height) that are in the storey immediately below the roof can be constructed of an FRL of 60/60/60.

1.1.1.1.1.1.10 The walls to fire rated shafts must achieve the fire rating from both directions i.e. from inside and outside the shaft. Services shafts are required to be enclosed at the top of the shaft with fire rated construction having an FRL similar to the shaft.

1.1.1.1.1.1.11 Any lintels within any walls required to be fire rated will achieve the same fire rating as the walls within which they are located. This is not applicable if the opening is less than 3m wide and the masonry is non-loadbearing or less than 1.8m wide of the masonry is loadbearing.

*** END OF REPORT ***

Energy Efficiency Assessment Report

Proposal to construct a mixed use building

Prepared for Urban Partners

21 Whistler Street
MANLY NSW

Report 2018/09097

Dated 20 September 2018

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Document Control Sheet

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1 Introduction

This report has been prepared on behalf of Urban Partners, seeking to construct a mixed use building with attached basement carpark on land known as 21 Whistler Street, Manly.

1.1 Summary

The proposed building is to be located at 21 Whistler Street, Manly. This is situated within climate zone 5 and less than 300 metres AHD.

The proposed building comprises the following parts:

Class 2 — a building containing two or more sole-occupancy units each being a separate dwelling.

Class 6 — a shop or other building for the sale of goods by retail or the supply of services direct to the public, including—

(a) An eating room, café, restaurant, milk or soft-drink bar, or
(b) A dining room, bar, shop or kiosk part of a hotel or motel; or
(c) A hairdresser's or barber's shop, public laundry, or undertaker's establishment; or
(d) Market or sale room, showroom, or service station

Class 7 — a building which is--

(e) **Class 7a** - A carpark; or
(f) **Class 7b** – for storage, or display of goods or produce for sale by wholesale.

The building is considered able to comply with the Deemed to Satisfy provisions of the Building Code of Australia and as such achieve compliance with Performance Requirement JP1.

As there is a Class 2 portion of the development, this will be addressed in the BASIX certificate which forms part of the Development Application.

2 Basis for Assessment

2.1 Building Description

The proposed building is comprised of a retail tenancy, basement carpark and residential units. The subject building is to be located at 21 Whistler Street, Manly, situated within climate zone 5 and comprising the following parts:

- Class 2 a building containing 2 or more sole occupancy units each being a separate dwelling;
- Class 6 A shop or other building for the sale of goods by retail or the supply of services direct to the public, including an eating room, café, restaurant, milk or soft-drink bar;
- Class 7 a building which is--

  Class 7a - A carpark; or
  Class 7b – for storage, or display of goods or produce for sale by wholesale.

The proposed development will incorporate a residential unit building, with basement carparking over one level and a ground floor retail tenancy. Due to the similar building materials they will be assessed together wherever possible.

The residential buildings will be assessed using the NatHERS protocol for residential dwellings and this report only refers to the Commercial section of the proposed development.

2.2 Construction Materials

The materials listed below were used as the basis for this assessment. These materials were determined from the architectural drawings and information provided by the proponent.

Should these materials be altered, it may require a re-assessment of the proposed structure against the deemed to satisfy provisions of the BCA.

2.2.1 Flooring and Required Insulation

Construction System	Concrete		
Coverings	Ceramic Tiles	None	Carpet
Sub-Floor	Above garage		
Insulation	Nil		

2.2.2 External Wall and Required Insulation

Construction System	As indicated
Cladding types	As indicated
Colour	Medium – SA 0.475-0.7 Light – SA 0.1-0.475
Insulation	As indicated

2.2.3 Roof, Ceiling and Required Insulation

Roofing Material	Concrete
Colour	Medium – SA 0.475-0.7
Roof Insulation	R3.0 (Only in areas as indicated)
Ventilation	Not required
Ceiling Material	Plasterboard
Ceiling Insulation	Nil

2.2.4 Window Glazing

Manufacturer	Generic
Glazing Type	As per requirements
Window Frame	Aluminium

2.2.5 Air Conditioning System

Small package air-conditioner units are proposed for the retail tenancy. Energy requirements and outputs are to be consistent with the provisions of the BCA.

2.2.6 Artificial Lighting

Generic individual lighting is identified later in the report. Figures are established from industry standard average Watts.

2.2.7 Hot Water Supply

As per Australian Standard 3500.4

3 Assessment under Deemed to Satisfy Provisions

3.1 Building Fabric

Where required, insulation must comply with AS/NZS 4859.1 and be installed so that it:

(i) abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must butt against the member; and

(ii) forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and

(iii) does not affect the safe or effective operation of a service or fitting.

Where required, reflective insulation must be installed with:

(i) the necessary airspace to achieve the required R-Value between a reflective side of the reflective insulation and a building lining or cladding; and

(ii) the reflective insulation closely fitted against any penetration, door or window opening; and

(iii) the reflective insulation adequately supported by framing members; and

(iv) each adjoining sheet of roll membrane being:

(A) overlapped not less than 50 mm; or
(B) taped together.

Where required, bulk insulation must be installed so that:

(i) it maintains its position and thickness, other than where it compresses between cladding and supporting members, water pipes, electrical cabling or the like; and

(ii) in a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50 mm.

A roof that:

(i) is required to achieve a minimum Total R-Value; and
(ii) has metal sheet roofing fixed to metal purlins, metal rafters or metal battens; and
(iii) does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens

must have a thermal break, consisting of a material with an R-value of not less than R0.2, installed between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens.

Roof, ceiling, wall and floor materials, and associated surfaces are deemed to have the thermal properties listed in Specification J1.2 of the BCA unless otherwise stated by manufacturer.

3.1.1 Roof and Ceiling Construction

External Concrete Roofing

Description	R Value	Required R-Value
Outdoor Airfilm (7 m/s)	0.04	
Waterproof membrane, rubber synthetic (4mm, 961 kg/m^3)	0.03	
Solid Concrete (150mm, 2400 kg/m^3)	0.10	
Ceiling airspace (100mm to 300mm, non reflective)	0.22	
Bulk Insulation	3.50	
Plasterboard, gypsum (10mm, 880kg/m^3)	0.06	
Indoor air film (Still air)	0.16	
Total	**4.11**	**3.95**

The above Ceiling/Roof insulation requirements are only for the areas of the roof/ceiling which are not adjacent to the residential units above.

The required R value has been increased by 0.75 as identified in Section 3.14 of this report.

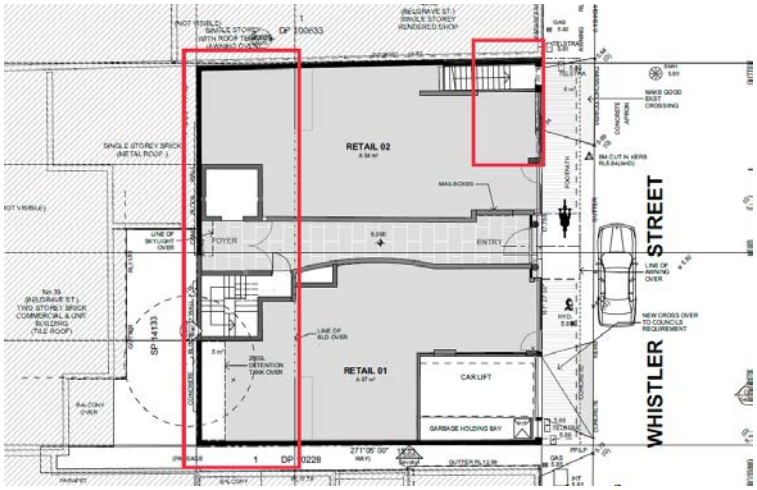

Figure 1 - Identified areas with no adjacent residential units

The ceiling/roof between the commercial space and the Class 2 building above does not require insulation as per the provisions of the NCC.

3.1.2 Roof Lights

No skylights are proposed as part of the building.

3.1.3 Wall Construction

Brick Veneer

Description	R Value	Maximum Required R-Value
Outdoor Airfilm (7m/s)	0.04	
150mm Minimum solid reinforced concrete	0.10	
Permiwall or similar	1.49	
Plasterboard, gypsum (10mm, 880kg/m^3)	0.06	
Indoor Air Film (still air)	0.12	
Total	**1.81**	**1.40**

Wall Orientation	R-Value Required
N	R1.4
E	R1.4
S	R1.4
W	R1.4

Internal walls between conditioned space and unconditioned space is to have a minimum total construction R-Value of R1.0.

3.1.4 Floors

Concrete Flooring

Description	R Value	Required R-Value
Indoor air film (still air)	0.16	
Flooring Tiles	0.01	
Waterproof membrane, rubber synthetic (4mm, 961 kg/m^3)	0.03	
Solid Concrete (250mm, 2400 kg/m^3)	0.18	
Indoor air film (still air)	0.16	
Total	**0.54**	**0.50**

The level of floor insulation has been reduced by 0.5, with 0.75 added to the required R value of the external ceiling as per the provisions of Part J1.6.(b).

3.2 External Glazing

The proposed glazing is based upon the requirements of the Building Code of Australia. The U-Value and solar heat gain co-efficient (SHGC) are identified in the glazing calculator forming Appendix A.

The proposed external glazing is considered to be consistent with the deemed to satisfy provisions for Part J2. A Glazing calculator demonstrating this is attached as Appendix A.

3.3 Building Sealing

3.3.1 Chimneys and Flues

None proposed as part of the development.

3.3.2 Roof Lights

No roof lights are proposed as part of the development.

3.3.3 Windows and Doors

A seal to restrict air infiltration must be fitted to each edge of any door, openable window or the like, forming part of the envelope of a conditioned space, except where:

(i) any window complying with AS 2047; or
(ii) a fire door or smoke door; or
(iii) a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security.

Any required seal for the bottom edge of an external swing door, must be a draft protection device; and for the other edges of an external door or the edges of an openable window or other such opening, may be a foam or rubber compressible strip, fibrous seal or the like.

3.3.4 Exhaust Fans

Any exhaust fan, such as a bathroom or domestic kitchen exhaust fan, must be fitted with a sealing device such as a self-closing damper or the like when serving a conditioned space

3.3.5 Construction of Roofs, Walls and Floors

Roofs, ceilings, walls, floors and any opening such as a window frame, door frame or the like must be constructed to minimise air leakage by being:

(i) enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or
(ii) sealed by caulking, skirting, architraves, cornices or the like.

The above requirements do not apply to openings, grilles and the like required for smoke hazard management.

3.3.6 Evaporative Coolers

No evaporative coolers are proposed.

3.4 Air Conditioning and Ventilation Systems

3.4.1 Air Conditioning Systems

Air conditioning unit or systems must –

(i) be capable of being deactivated when the sole-occupancy unit, building or part of the building served is not occupied; and

(ii) Where the air-conditioning unit or system has motorised outside air and return dampers, close the dampers when the air-conditioning unit or system is deactivated; and

(iii) Have any supply and return ductwork sealed and insulated in accordance with Specification J5.2 of the BCA; and

(iv) Other than where a packaged air-conditioning unit is used, have a variable speed fan when its supply air quantity is varied; and

(v) Be designed so that the total fan motor power of the air-conditioning supply air and return air fans in the building, divided by the floor area served by those fans is, in accordance with the following table

Air-conditioning sensible heat load (W/m^2 of the floor area of the conditioned space)	Maximum fan motor power (W/m2 of the floor area of the conditioned space)	
	For an air-conditioning system serving not more than 500 m^2	For an air-conditioning system serving more than 500 m^2
Up to 100	5.3	8.3
101 – 150	9.5	13.5
151 – 200	13.7	18.3
201 – 300	22.2	28.0
301 - 400	30.7	37.0

It is considered that the air-conditioning units proposed are able to achieve the deemed-to-satisfy provisions of the BCA 2016

3.4.2 Mechanical Ventilation System

No mechanical ventilation system proposed.

3.4.3 Exhaust Systems

Any miscellaneous exhaust system with an air flow rate of more than 1000 L/s, that is associated with equipment having a variable demand such as a stove must be designed to minimise the exhausting of conditioned air and have the means for the operator to:

a. reduce the energy used, such as by a variable speed fan, and

b. stop the motor when the system is not needed.

The restrictions above do not apply where the air flow must be maintained for safe operation.

3.5 Artificial Lighting and Power

As per the proposed summary table (full calculation details are provided as Appendix B), the total allowable Illumination Power Load for the building is 5,556 Watts. The proposed aggregate Design Illumination Power Load is 5,400 Watts.

As per the provisions of Part J6.2 these are an allowable Design illumination Power Load.

3.6 Hot Water Supply

Any hot water system, other than a solar hot water system, will be designed and installed in accordance with Section 8 of AS 3500.4.

3.7 Access for Maintenance

Services to be mounted in an accessible area to allow access in accordance with Part I2 of the BCA

4 Conclusion

The above report shows that the proposed development demonstrably complies with the Deemed to Satisfy Provisions of Section J of the Building Code of Australia.

This report demonstrates that the proposal is consistent with the DTS provisions of the BCA in regard to energy efficiency and is anticipated to satisfy the objective of Section J, to reduce greenhouse gas emissions by efficiently using energy.

Appendix A

ABCB Glazing Calculator

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

Building name/description: **21 Whistler Street MANLY**

Application: **shop display**

Climate zone: **5**

Storey: **1**

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A									
Option B			**56.1m²**						*n/a*

Glazing area (B) 27.3m²

Number of rows preferred in table below: **3** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS									SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	**Retail 01**		**E**	**3.10**	**3.70**		**6.7**	**0.70**	**1.800**	**3.100**	0.58	0.00	0.65	0.60	11.47	42% of 99%
2	**Retail 02 W01**		**E**	**3.10**	**3.00**		**6.7**	**0.70**	**1.800**	**3.100**	0.58	0.00	0.65	0.60	9.30	34% of 99%
3	**Retail 02 D01**		**E**	**3.10**	**2.10**		**6.7**	**0.70**	**1.800**	**3.100**	0.58	0.00	0.65	0.60	6.51	24% of 99%

if inputs are valid

IMPORTANT NOTICE AND DISCLAIMER IN RESPECT OF THE GLAZING CALCULATOR

The Glazing Calculator has been developed by the ABCB to assist in developing a better understanding of glazing energy efficiency parameters.
While the ABCB believes that the Glazing Calculator, if used correctly, will produce accurate results, it is provided "as is" and without any representation or warranty of any kind, including that it is fit for any purpose or of merchantable quality, or functions as intended or at all.
Your use of the Glazing Calculator is entirely at your own risk and the ABCB accepts no liability of any kind.

Appendix B

ABCB Electrical Lighting Calculator

Main Menu

LIGHTING CALCULATOR FOR USE WITH J6.2(b) VOLUME ONE (First issued with NCC 2014)

Multiple Lighting Systems Calculator | Help screen

Building name/description: 21 Whistler Street, Manly

Classification: Class 6

Number of rows preferred in table below: 2 *(as currently displayed)*

ID	Description	Floor area of the space	Perimeter of the space	Floor to ceiling height	Design Illumination Power Load	Space	Adjustment Factor One				Adjustment Factor Two				OVERALL DESIGN PASSES	
							Adjustment Factor One	Dimming Percentages		Design Lumen Depreciation Factor	Adjustment Factor Two	Dimming Percentages		Design Lumen Depreciation Factor	System Illumination Power Load Allowance	Lighting System Share of % of Aggregate Allowance Used
							Adjustment Factors	% Area	% of full power		Adjustment Factors	% Area	% of full power			
1	Retail 01	87.0 m²	47 m	3.0 m	2600 W	Retail space including a museum and gallery whose purpose is the sale of objects									2696 W	**48% of 97%**
2	Retail 02	91.0 m²	52 m	3.0 m	2800 W	Retail space including a museum and gallery whose purpose is the sale of objects									2860 W	**52% of 97%**
				Total	5400 W									***Total***	5556 W	

IMPORTANT NOTICE AND DISCLAIMER IN RESPECT OF THE LIGHTING CALCULATOR

The Lighting Calculator has been developed by the ABCB to assist in developing a better understanding of lighting energy efficiency parameters. While the ABCB believes that the Lighting Calculator, if used correctly, will produce accurate results, the calculator is provided "as is" and without any representation or warranty of any kind, including that it is fit for any purpose or of merchantable quality, or functions as intended or at all. Your use of the Lighting Calculator is entirely at your own risk and the ABCB accepts no liability of any kind.

if inputs are valid

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1 INTRODUCTION

Acoustic Logic Consultancy (ALC) has been engaged to conduct an acoustic assessment of potential noise impacts associated with the proposed development of 21 Whistler Street, Manly.

This document addresses noise impacts associated with the following:

- Noise intrusion to project site from adjacent roadways.
- Noise emissions from mechanical plant to service the project site.

ALC have utilised the following documents and regulations in the noise assessment of the development;

- Northern Beaches Council – Manly Development Control Plan 2013;
- Australian Standard AS 2107:2016 *'Recommended design sound levels and reverberation times for building interiors'*
- NSW Department of Environment and Heritage, Environmental Protection Agency document – *Noise Policy for Industry* (NPI) 2017

This assessment has been conducted based on the architectural drawings provided by *Wolski Coppin Architecture* for this project (Project Number 21806, Revision CI01, dated 16th August 2018).

2 SITE DESCRIPTION

The proposed development comprises of one level of underground parking with ground floor retail tenancies and four levels of residential apartments above. In total, there is two retail tenancies and 8 residential apartments proposed to be constructed on the site.

Investigation has been carried out by this office in regards to the existing properties and noise impacts surrounding the proposed development, which is detailed below:

- Existing residential development bounding the site to the north, south and west with addresses on Belgrave Street.
- Whistler Street to the east, further this is a residential flat building
- Belgrave Street to the west. The proposed development is screened from noise by existing development with frontage to Belgrave Street.
- Energy Australia Manly Zone Substation (No. 15009) located at 34 Whistler Street. Both noise logging data and site attendance indicate that any noise from the substation is not impacting on the development.

Whistler Street carries a light volume of predominantly passenger vehicles, Belgrave Street carries a moderate volume of passenger and heavy vehicle traffic. It is noted that both of these roads are not identified on SEPP maps for the purpose of noise assessment.

The nearest noise receivers around the site include:

- R1: Residential Receiver 1 – Residential development immediately bounding the site to the north, south and west, located at 33-40 Belgrave Street, Manly.
- R2: Residential Receiver 2 - Multi storey residential apartments to the east, located at 32 Whistler Street.

A site map, measurement description and surrounding receivers are presented in Figure 1 below.

Project Site

Residential Receivers

Figure 1 - Project Site
Source: NSW Six Maps

Attended Measurements

Unattended Noise Monitor

3 NOISE DESCRIPTORS

Environmental noise constantly varies. Accordingly, it is not possible to accurately determine prevailing environmental noise conditions by measuring a single, instantaneous noise level.

To accurately determine the environmental noise a 15-20 minute measurement interval is utilised. Over this period, noise levels are monitored on a continuous basis and statistical and integrating techniques are used to determine noise description parameters.

In analysing environmental noise, three-principle measurement parameters are used, namely L_{10}, L_{90} and L_{eq}. The L_{10} and L_{90} measurement parameters are statistical levels that represent the average maximum and average minimum noise levels respectively, over the measurement intervals.

The L_{10} parameter is commonly used to measure noise produced by a particular intrusive noise source since it represents the average of the loudest noise levels produced by the source.

Conversely, the L_{90} level (which is commonly referred to as the background noise level) represents the noise level heard in the quieter periods during a measurement interval. The L_{90} parameter is used to set the allowable noise level for new, potentially intrusive noise sources since the disturbance caused by the new source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the L_{90} level.

The L_{eq} parameter represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the 15 minute period. L_{eq} is important in the assessment of environmental noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of environmental noise.

4 AMBIENT NOISE SURVEY

NSW EPA's Rating Background Noise Level (RBL) assessment procedure requires determination of background noise level for each day (the ABL) then the median of the individual days as set out for the entire monitoring period.

Appendices in this report present results of unattended noise monitoring conducted at the project site. Weather affected data was excluded from the assessment. The processed RBL (lowest 10th percentile noise levels during operation time period) are presented in Table 1.

4.1.1 Measurement Position

One unattended noise monitor was located along the western boundary of 21 Whistler Street. Logger had a full view of traffic movements along Whistler Street and was located approximately 3m from the kerb. Refer to Figure 1 for detailed location.

4.1.2 Measurement Period

Unattended noise monitoring was conducted from Tuesday 28th of August to Wednesday 5th of September. Attended noise measurements were undertaken between the hours of 12:00pm and 1:00pm on 5th of August 2018.

4.1.3 Measurement Equipment

Equipment used consisted of an Acoustic Research Laboratories Pty Ltd noise logger. The logger was set to A-weighted fast response and was programmed to store 15-minute statistical noise levels throughout the monitoring period. The monitor was calibrated at the start and end of the monitoring period using a Rion NC-73 calibrator. No significant drift was noted. Noise logger data is provided in Appendix 1.

4.1.4 Summarised Rating Background Noise Levels

Summarised rating background noise levels for the project site and immediate surroundings are presented below.

Table 1 – Measured Noise Levels

Time of day	Rating Background Noise Level $dB(A)_{L90(Period)}$
Day (7am – 6pm)	51
Evening (6pm – 10pm)	46
Night (10pm – 7am)	42

5 EXTERNAL NOISE INTRUSION ASSESSMENT

Site investigation indicates that the major external noise sources around project site are from traffic movements along Whistler Street and Belgrave Street.

5.1 NOISE INTRUSION CRITERIA

A noise intrusion assessment has been conducted based on the requirements of the following acoustic noise criteria and standards;

- Northern Beaches Council – Manly Development Control Plan 2013;
- Australian Standard AS 2107:2016 *'Recommended design sound levels and reverberation times for building interiors'*

5.2 NORTHERN BEACHES COUNCIL – MANLY DEVELOPMENT CONTROL PLAN 2013

Manly DCP 2013 has no specific controls in relation to noise intrusion from traffic at the project site. Internal noise level criteria will be determined from Australian Standard AS2107:2016.

5.2.1 Australian Standard AS2107:2016 – *Recommended Design Sound Levels and Reverberation Times for Building Interiors*

Australian Standard AS 2107-2016: Recommended design sound levels and reverberation times for building interiors specifies allowable internal noise levels for internal spaces within residential and commercial buildings. Table 2 presents the sound levels applicable to the proposed redevelopment.

Table 2 – Recommended Design Sound Levels of AS2107:2016

Space /Activity Type	Recommended Maximum Design Sound Level
Residential – Living Areas	40 dB(A)L_{eq}
Residential – Sleeping Areas (night time)	35 dB(A)L_{eq}
Small Retail Stores (General)	< 50 dB(A)L_{eq}

5.2.2 Summarised External Noise Intrusion Criteria

Summarised internal noise criteria adopted for each internal space is summarised below.

Table 3 – Adopted Internal Noise Levels

Space / Activity Type	Required Internal Noise Level
Residential Living Areas (7am – 10pm)	40 dB(A) $L_{eq\ (15hr)}$ ***AS2107:2016***
Residential Sleeping Areas (night time) (10pm – 7am)	35 dB(A) $L_{eq\ (9hr)}$ ***AS2107:2016***
Small Retail Stores (General)	< 50 dB(A) L_{eq} ***AS2107:2016***

5.3 EXTERNAL NOISE MEASUREMENTS

This section of the report details noise measurements conducted at the site to establish surrounding environmental noise levels impacting the development.

5.3.1 Measurement Equipment

Attended short term measurements of traffic noise were undertaken by this office to supplement the unattended noise monitoring. Measurements were conducted using a Norsonic 140 Sound Analyser. The analyser was set to fast response and calibrated before and after the measurements using a Norsonic Sound Calibrator type 1251. No significant drift was noted.

Unattended noise monitoring was conducting using one Acoustic Research Laboratories Pty Ltd noise logger. The logger was programmed to continuously store statistical noise levels as well as audio files throughout the monitoring period. The equipment was calibrated at the beginning and the end of each measurement using a Rion NC-73 calibrator; no significant drift was detected. All measurements were taken on A-weighted fast response mode.

5.3.2 Measurement Location

One unattended noise monitor was located along the western boundary of 21 Whistler Street. Logger had a full view of traffic movements along Whistler Street and was located approximately 3m from the kerb. Refer to Figure 1 for detailed location.

Attended measurements were taken at the following locations;

- Whistler Street, Manly – Attended noise measurement conducted on Whistler Street near the boundary of project site. Sound level meter had an unobstructed view of traffic and was approximately 3m from the kerb. Refer to Figure 1 for detailed location.

- Belgrave Street, Manly - Attended noise measurement conducted on Belgrave Street near the boundary of project site. Sound level meter had an unobstructed view of traffic and was approximately 3m from the kerb. Refer to Figure 1 for detailed location.

5.3.3 Measurement Period

Unattended noise monitoring was conducted from Tuesday 28th of August to Wednesday 5th of September. Attended noise measurements were undertaken between the hours of 12:00pm and 1:00pm on 5th of August 2018.

5.3.4 Attended Noise Measurements

Attended noise measurements have been summarised below for each location.

Table 4 – Attended Noise Measurements

Location	Measure Noise Level dB(A) $L_{Aeq\ (15hour)}$
Whistler Street, Manly Measurement was conducted 3m from kerb of Whistler Street	59 dB(A)$L_{eq(15min)}$
Belgrave Street, Manly Measurement was conducted 3m from kerb of Belgrave Street	67 dB(A)$L_{eq(15min)}$

5.3.5 Summarised External Noise Levels

The following noise levels for the site have been established based on short term attended measurements and long term noise monitoring.

Table 5 – Measured Traffic Noise Levels

Location	Time of Day	Noise Level – L_{eq}
Whistler Street (3m from kerb)	Daytime 7am – 10pm	59 dB(A) $L_{eq\ (15hr)}$
	Night Time 10pm – 7am	56 dB(A) $L_{eq\ (9hr)}$
Belgrave Street (3m from kerb)	Daytime 7am – 10pm	67 dB(A) $L_{eq\ (15hr)}$
	Night Time 10pm – 7am	64 dB(A) $L_{eq\ (9hr)}$

5.4 RECOMMENDED CONSTRUCTIONS

Assessment of façade requirements to achieve required indoor noise levels has been undertaken. Dimensions of rooms, setbacks from roadways, window openings and floor areas have been used.

5.4.1 Glazed Windows and Doors

The following constructions are recommended to comply with the project noise objectives. Aluminium framed/sliding glass doors and windows will be satisfactory provided they meet the following criteria. All external windows and doors listed are required to be fitted with Q-lon type acoustic seals. (**Mohair Seals are unacceptable**).

Thicker glazing may be required for structural, safety or other purposes. Where it is required to use thicker glazing than scheduled, this will also be acoustically acceptable. The recommended constructions are detailed in Table 6.

Table 6 - Recommended Glazing Construction

Façade	Area	Glazing Thickness	Acoustic Seals
Eastern Façade (Facing Whistler Street)	Bedrooms	10.38mm Laminated	Yes
	Living Spaces	6.38mm Laminated	Yes
Western Façade (Facing Belgrave Street)	Bedrooms	10.38mm Laminated	Yes
	Living Spaces	6.38mm Laminated	Yes
Retail Spaces Facing Whistler Street	All	6mm Float / Toughened	Yes

It is recommended that only window systems having test results indicating compliance with the required ratings obtained in a certified laboratory be used where windows with acoustic seals have been recommended.

In addition to complying with the minimum scheduled glazing thickness, the R_w rating of the glazing fitted into open-able frames and fixed into the building opening should not be lower than the values listed in Table 7 for all areas. Where nominated, this will require the use of acoustic seals around the full perimeter of open-able frames and the frame will need to be sealed into the building opening using a flexible sealant.

Table 7 - Minimum R_w of Glazing Assembly (with Acoustic Seals)

Glazing Assembly	Minimum R_w of Installed Window
6mm Float / Toughened	29
6.38mm Laminated	31
10.38mm Laminated	35

5.4.2 Entry Doors

Entry doors will be via internal corridors and subject to BCA requirements.

5.4.3 External Wall Construction

External walls are of masonry construction and acoustically acceptable without any further treatment. In the event any penetrations are required through the external lining of any of the system for other building services, gaps should be filled with acoustic sealant to ensure compliance with acoustic criteria stipulated within this report.

5.4.4 External Roof & Ceiling Construction

Roof is of masonry construction and acoustically acceptable without any further treatment. In the event any penetrations are required through the external lining of any of the system for other building services, gaps should be filled with acoustic sealant to ensure compliance with acoustic criteria stipulated within this report.

5.4.5 Mechanical Ventilation

With respect to natural ventilation of a dwelling, the NSW Department of Planning document *Development near Busy Roads and Rail Corridors - Interim Guideline* dictates that:

- *"If internal noise levels with windows or doors open exceed the criteria by more than 10dB(A), the design of the ventilation for these rooms should be such that occupants can leave windows closed, if they so desire, and also to meet the ventilation requirements of the Building Code of Australia."*

With windows open, the allowable internal noise goal is permitted to be 10dB(A) higher than when the windows are closed (i.e. – allowable level in bedrooms becomes 45dB(A) $L_{eq(9hr)}$, and 50dB(A) $L_{eq(15hr)}$ in living rooms).

- Both the eastern and western façades of the development will be able to have windows or doors open to 5% of floor area and achieve required internal noise levels.

Mechanical consultant to confirm if any supplementary ventilation system is required. Any supplementary ventilation system proposed to be installed should be acoustically designed to ensure that the acoustic performance of the acoustic treatments outlined above is not reduced and does not exceed Council criteria for noise emission to nearby properties.

6 NOISE EMISSION CRITERIA

The noise emission from the project site shall comply with the requirements of the following documents;

- Northern Beaches Council – Manly Development Control Plan 2013;
- NSW Department of Environment and Heritage, *Environmental Protection Agency document – Noise Policy for Industry (NPI) 2017*.

6.1 NORTHERN BEACHES COUNCIL – MANLY DCP 2013

3.4.2.3 Acoustical Privacy (Noise Nuisance)

See also Noise Guide for Local Government prepared by NSW Department of Environment, Climate Change and Water in 2010

a) Consideration must be given to the protection of acoustical privacy in the design and management of development;

b) Proposed development and activities likely to generate noise including certain outdoor living areas like communal areas in Boarding housed, outdoor open space, driveways, plant equipment including pool pumps and the like should be located in a manner which considers the acoustical privacy of neighbours including neighbouring bedrooms and living areas;

Although guidelines and general considerations for noise emissions are contained in the above document, there is no specific criteria for noise emissions from the development. On this basis, the NSW EPA Noise Policy for Industry will be referenced as a guide to limitations on future noise.

6.2 NSW EPA NOISE POLICY FOR INDUSTRY (NPI) 2017

The EPA NPI has two criteria which both are required to be satisfied, namely Intrusiveness and amenity. The NPI sets out acceptable noise levels for various localities. The policy indicates four categories to assess the appropriate noise level at a site. They are rural, suburban, urban and urban/industrial interface. Under the policy the nearest residential receivers would be assessed against the rural criteria.

Noise levels are to be assessed at the property boundary or nearby dwelling, or at the balcony or façade of an apartment.

6.2.1 Intrusiveness Criterion

The guideline is intended to limit the audibility of noise emissions at residential receivers and requires that noise emissions measured using the L_{eq} descriptor not exceed the background noise level by more than 5dB(A). Where applicable, the intrusive noise level should be penalised (increased) to account for any annoying characteristics such as tonality.

Background noise levels adopted are presented in Table 1. Noise emissions from the site should comply with the noise levels presented below when measured at nearby property boundary.

6.2.2 Project Amenity Criterion

The guideline is intended to limit the absolute noise level from all noise sources to a level that is consistent with the general environment.

The EPA's NPI sets out acceptable noise levels for various localities. The recommended noise amenity area is based upon the measured background noise levels at the sensitive receiver. Based on the measured background noise levels detailed in Table 1, the Noise Policy for Industry suggests the adoption of the 'urban' categorisation.

The NPI requires project amenity noise levels to be calculated in the following manner;

$$L_{Aeq,15min} = \textit{Recommended Amenity Noise Level} - 5\ dB(A) + 3\ dB(A)$$

The amenity levels appropriate for the receivers surrounding the project site are presented in Table 8

Table 8 – EPA Amenity Noise Levels

Type of Receiver	Time of day	Recommended Noise Level dB(A)$L_{eq(period)}$	Project Amenity Noise Level dB(A)$L_{eq(period)}$
Residential – Urban	Day	60	58
	Evening	50	48
	Night	45	43
Commercial premises	When in use	65	63
Industrial premises	When in use	70	68

The NSW EPA Noise Policy for Industry (2017) defines;

- Day as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
- Evening as the period from 6pm to 10pm.
- Night as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays

6.2.3 Sleep Arousal Criteria

The Noise Policy for Industry recommends the following noise limits to mitigate sleeping disturbance:

> *Where the subject development / premises night -time noise levels at a residential location exceed:*
>
> - *$L_{Aeq,15min}$ 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or*
> - *L_{AFmax} 52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater,*
>
> *a detailed maximum noise level even assessment should be undertaken.*

Table 9 - Sleep Arousal Criteria for Residential Receivers

Receiver	Rating Background Noise Level (Night) dB(A)L_{90}	Emergence Level
Residences Surrounding Site Night (10pm – 7am)	42 dB(A) L_{90}	47 dB(A)$L_{eq,\ 15min}$; 57 dB(A)L_{Fmax}

6.3 SUMMARISED NOISE EMISSION CRITERIA

Table 10 – EPA NPI Noise Emission Criteria (Residents Surrounding Project Site)

Time Period	Assessment Background Noise Level dB(A)L_{90}	Project Amenity Criteria dB(A) L_{eq}	Intrusiveness Criteria $L_{eq(15min)}$	NPI Criteria for Sleep Disturbance
Day	51	58	56	N/A
Evening	46	48	51	N/A
Night	42	43	47	47 dB(A)$L_{eq,\ 15min}$; 57 dB(A)L_{Fmax}

Table 11 – EPA NPI Noise Emission Criteria (Non-Residential)

Receiver	Time of Day	Amenity Criteria dB(A) L_{eq}
Commercial	When in use	63
Industrial	When in use	68

7 NOISE EMISSION ASSESSMENT

7.1 NOISE FROM RETAIL TENANCIES

Use of retail tenancies is not yet known, and as such, detailed assessment cannot be completed. General retail spaces (retail shops, convenience stores, etc) will be acceptable without any additional acoustic treatments.

Should retail tenancy 1 or 2 be leased as a café or restaurant, an awning may be required between any outdoor dining area and the apartments above (although significant acoustic treatment is unlikely).

In the event that café / restaurant tenants propose late night use of outdoor dining areas, we assume this would be part of a separate development application where detailed review of operating times and patron numbers (and the associated noise generated) would be assessed with reference to Council and (if necessary) Liquor and Gaming NSW acoustic criteria.

7.2 NOISE FROM MECHANICAL PLANT WITHIN PROPOSED SITE GENERALLY

Detailed plant selection and location has not been undertaken at this stage. Satisfactory levels will be achievable through appropriate plant selection, location and if necessary, standard acoustic treatments such as duct lining, acoustic silencers and enclosures.

The carlift and turntable proposed for access to basement levels of the carpark additionally have the potential for intermittent peak noise events, particularly during the night time period. Acoustic assessment of the proposed car stacker is recommended to ensure that noise emissions to neighbouring residents are controlled to acceptable levels.

Noise emissions from all mechanical services to the closest residential receiver should comply with the requirements of Section 6.3.

Detailed acoustic review should be undertaken at CC stage to determine acoustic treatments to control noise emissions to satisfactory levels.

8 CONCLUSION

This report presents an acoustic assessment of noise impacts associated with the development to be located at 21 Whistler Street, Manly.

Provided that the recommendations presented in Section 5.4 are adopted, internal noise levels for residential apartments & retail spaces of the proposed development will comply with the acoustic requirements of the following documents:

- Northern Beaches Council – Manly Development Control Plan 2013;
- Australian Standard AS 2107:2016 *'Recommended design sound levels and reverberation times for building interiors'*

External noise emissions criteria have been established in this report to satisfy the requirements from the following documents;

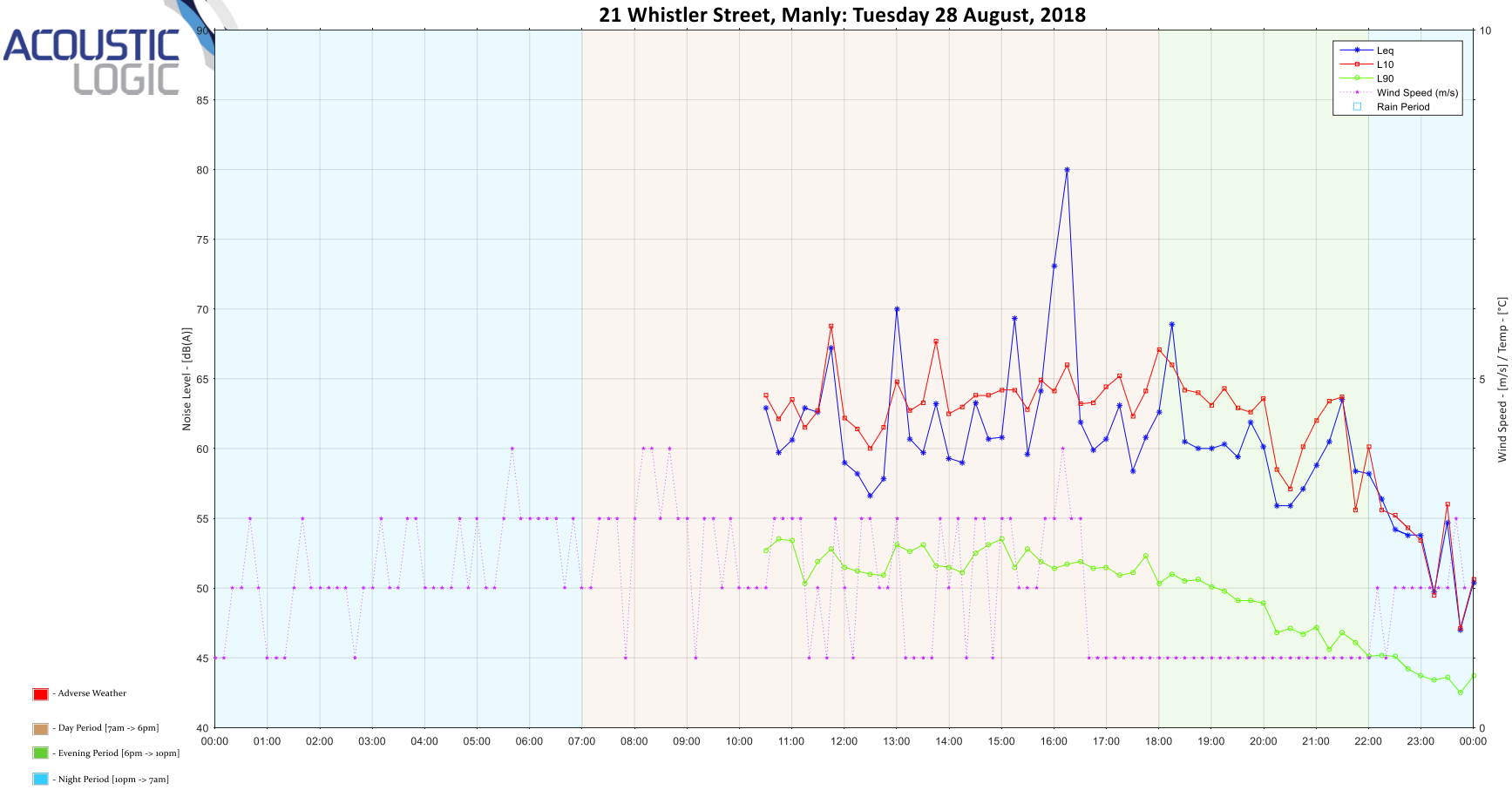
- Northern Beaches Council – Manly Development Control Plan 2013;
- NSW Department of Environment and Heritage, Environmental Protection Agency document – *Noise Policy for Industry* (NPI) 2017

Please contact us should you have any further queries.

Yours faithfully,

Acoustic Logic Consultancy Pty Ltd
Alex Washer

APPENDIX ONE – UNATTENDED NOISE MONITORING DATA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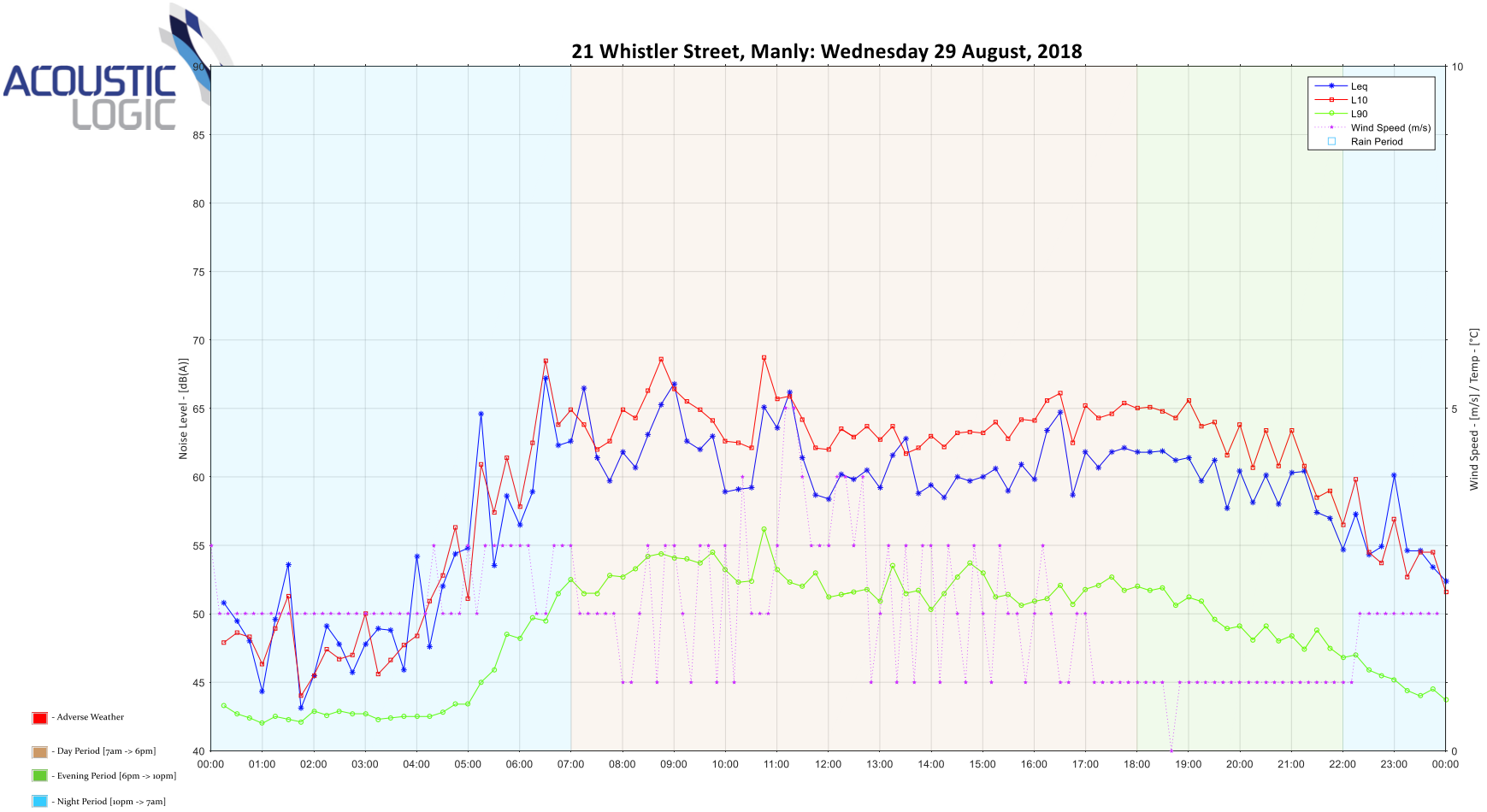
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]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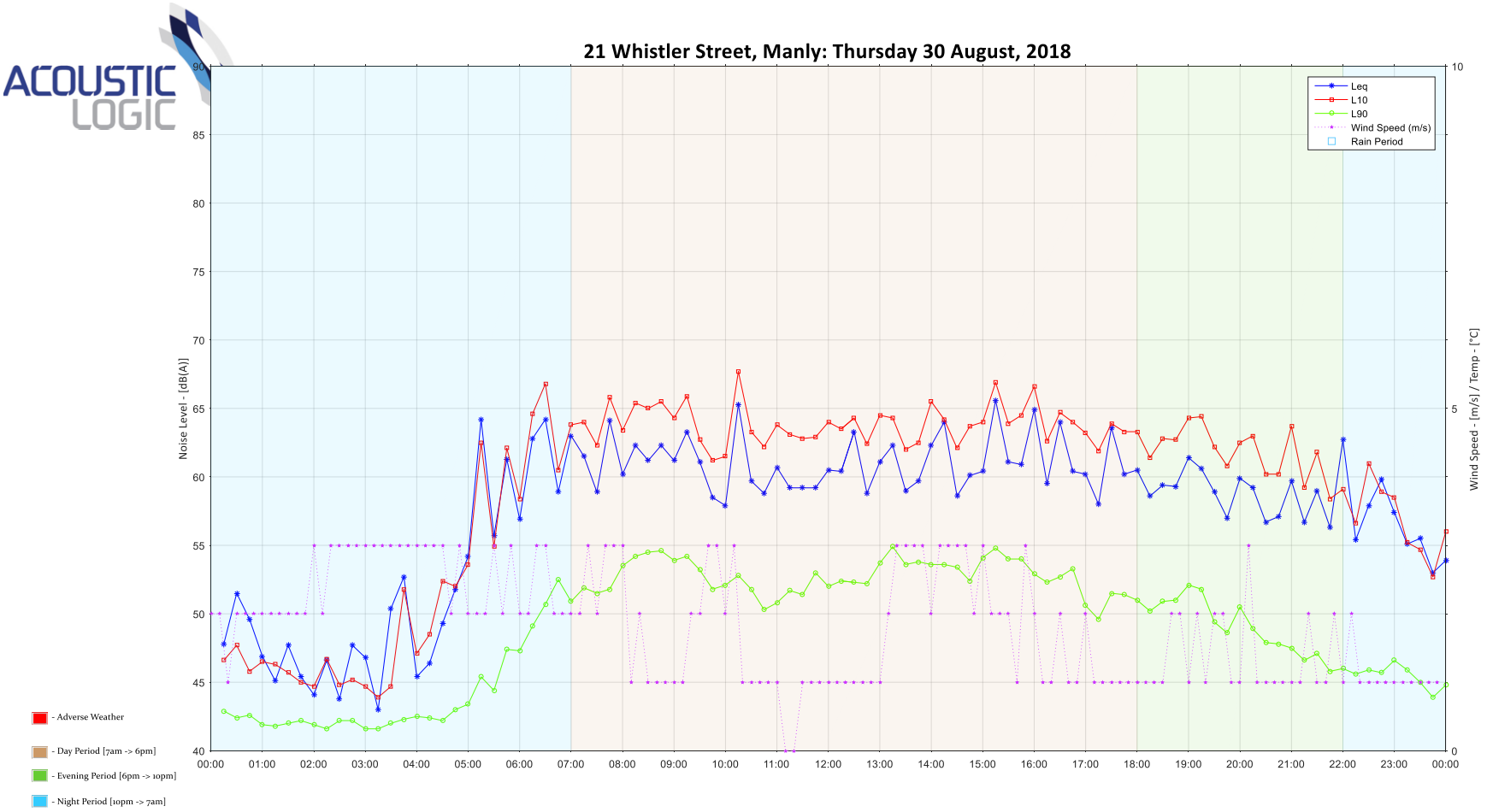
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]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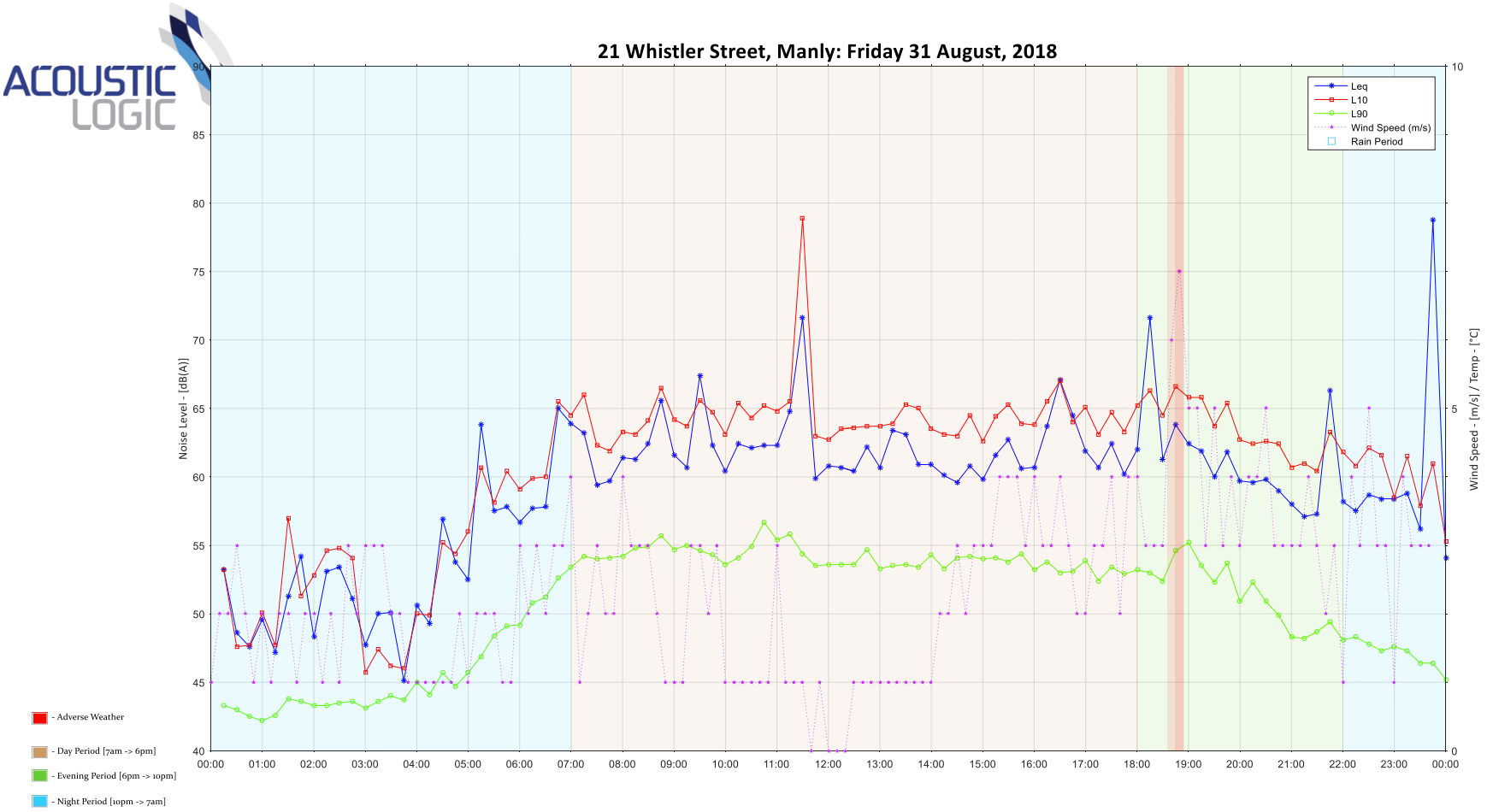
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]


21 Whistler Street, Manly: Friday 31 August, 2018
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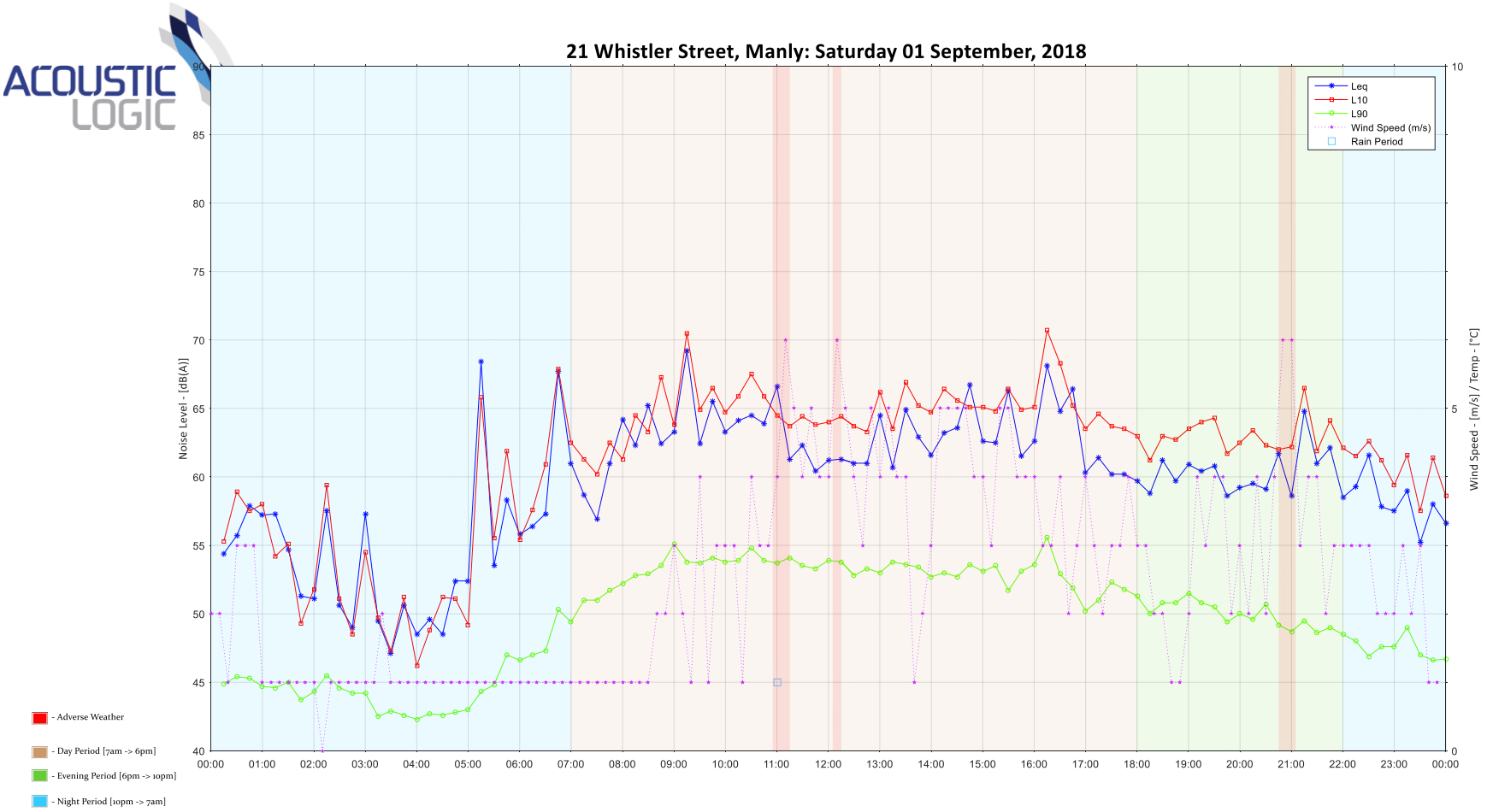
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]


21 Whistler Street, Manly: Saturday 01 September, 2018
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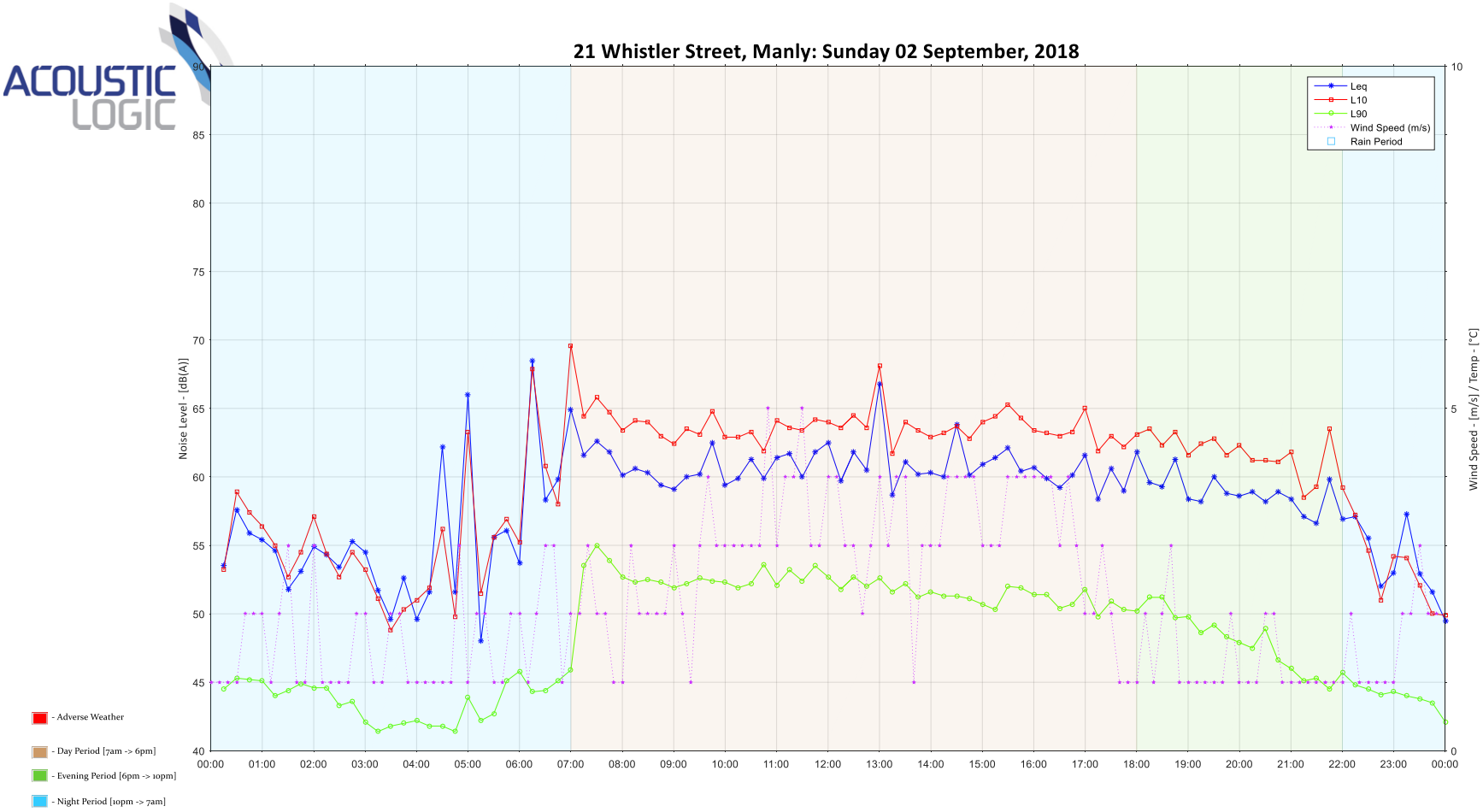
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]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L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
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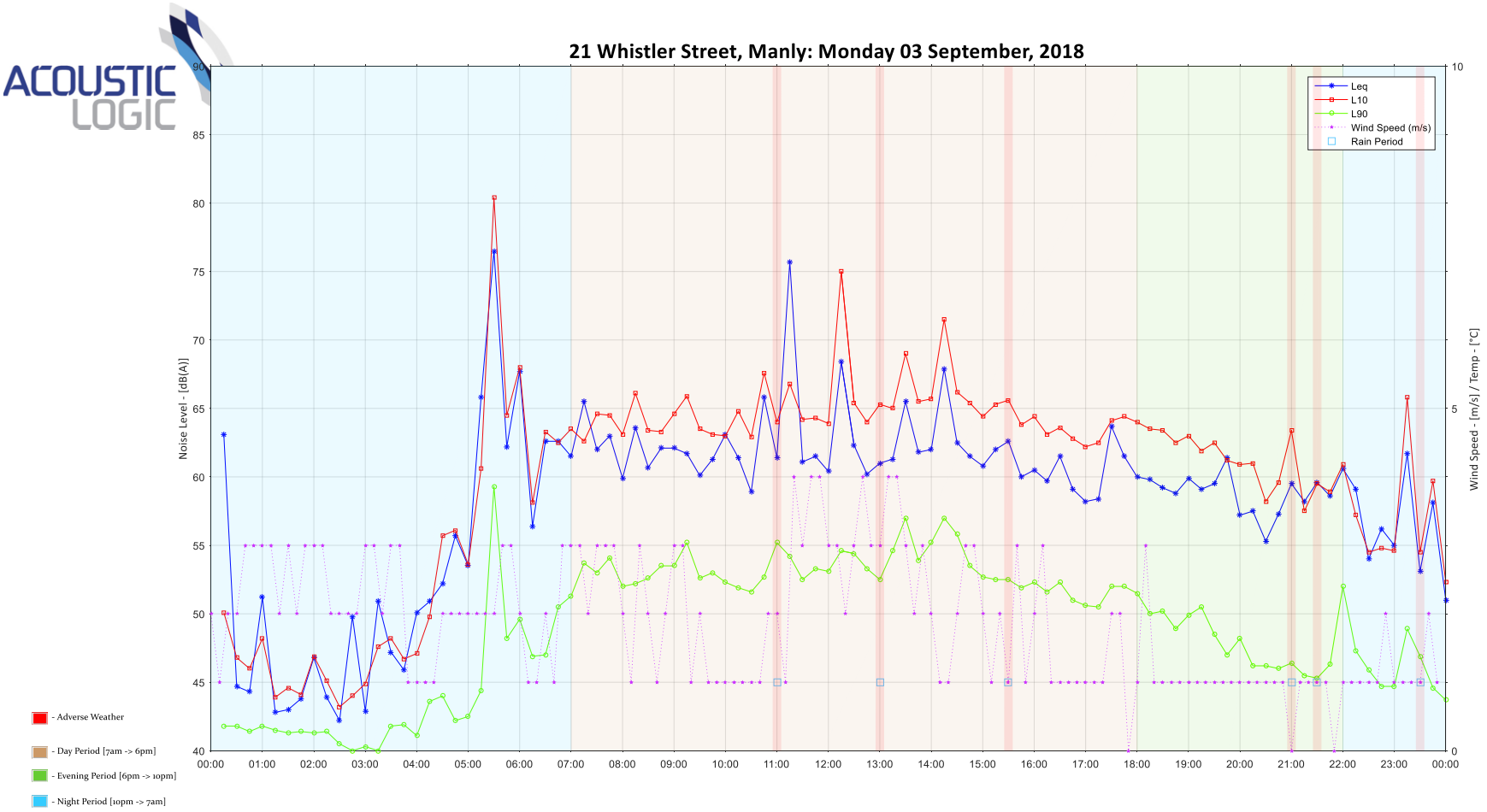
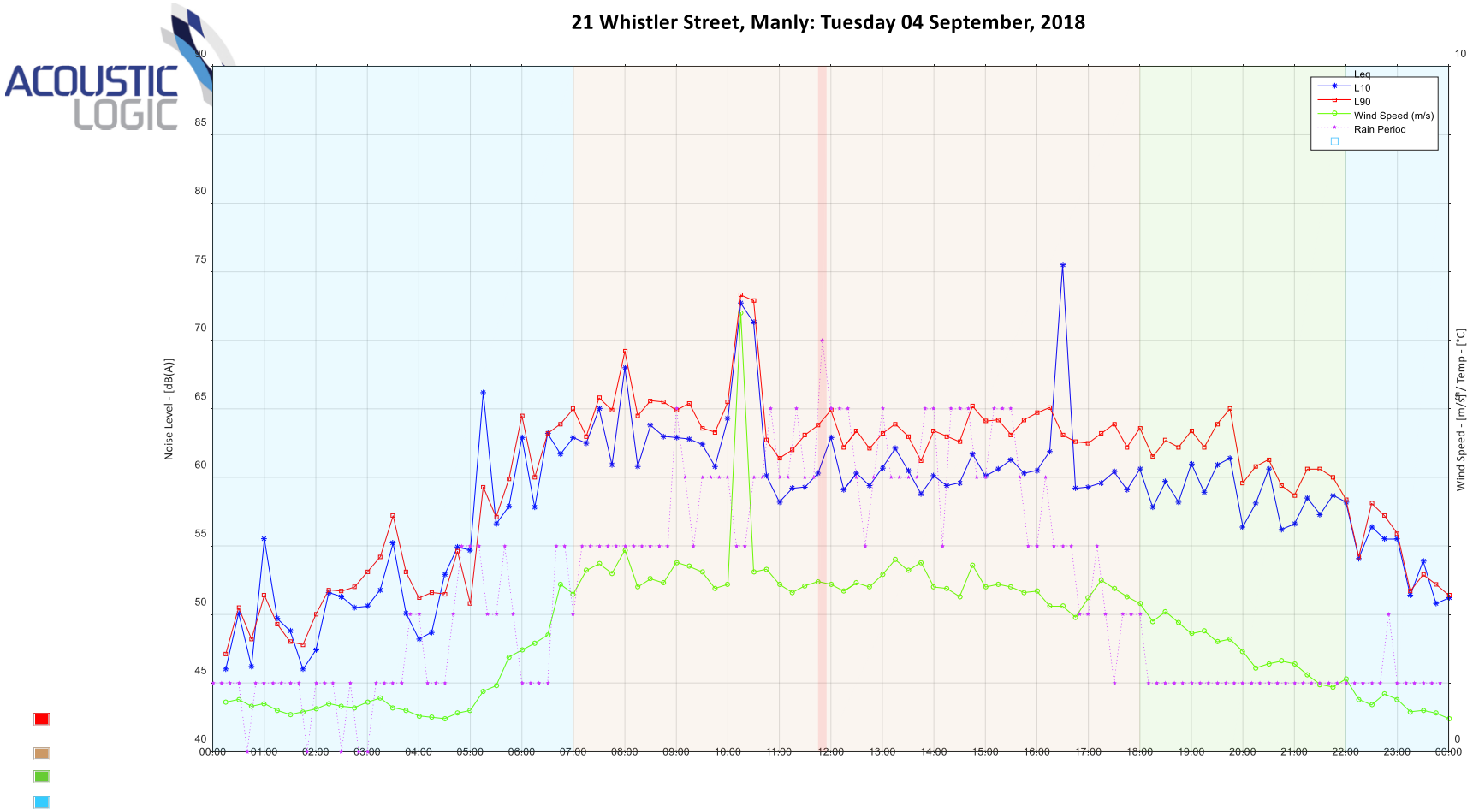
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]


21 Whistler Street, Manly: Monday 03 September, 2018
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]


21 Whistler Street, Manly: Tuesday 04 September, 2018
Noise Level - [dB(A)]
Wind Speed - [m/s]/ Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
90
85
80
75
70
65
60
55
50
45
40
10
0
00:00
01:00
02:00
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04:00
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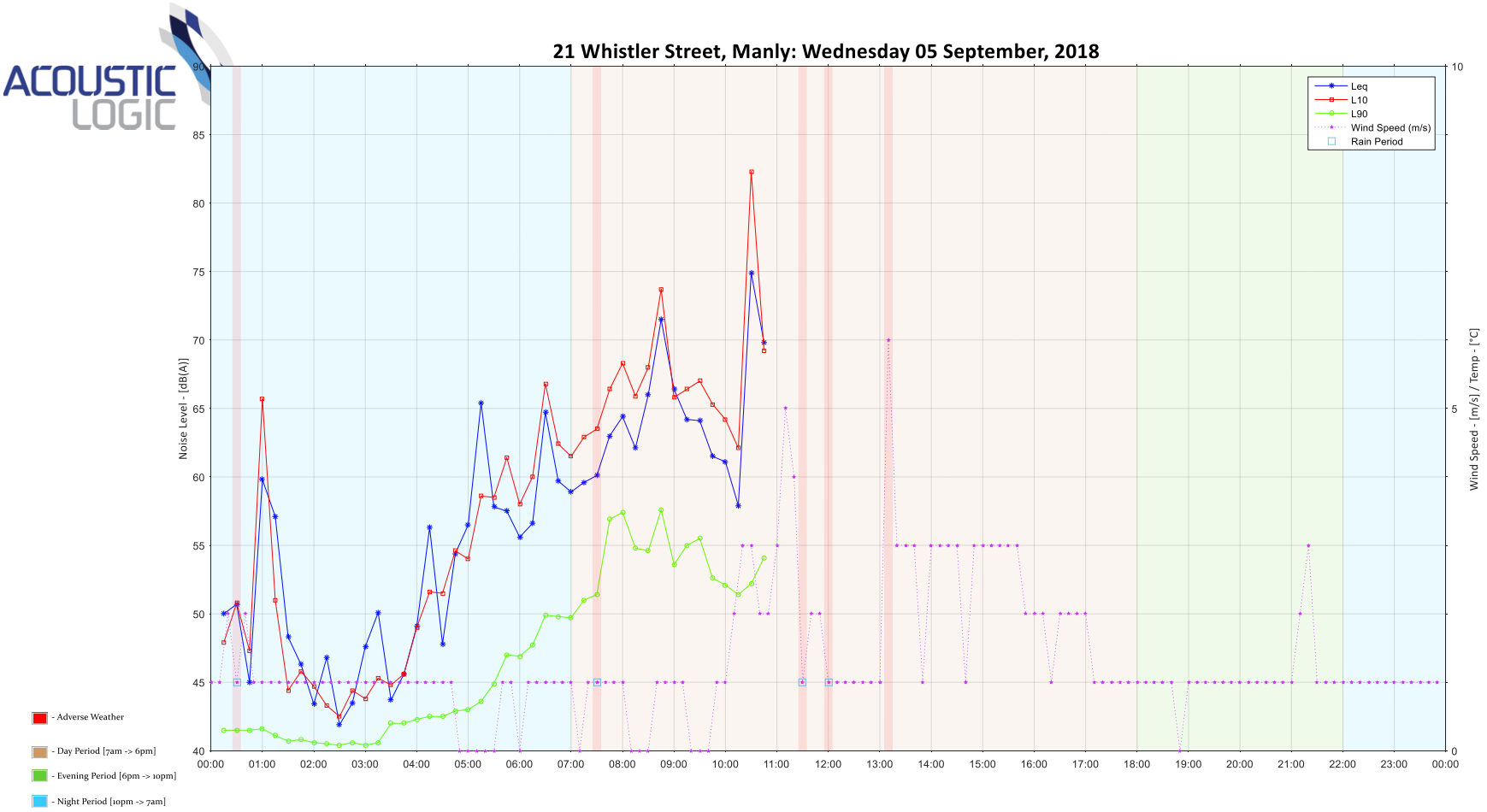
21 Whistler Street, Manly: Wednesday 05 September, 2018
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

Site Waste Management Plan

Proposal to demolish an existing building and construct a mixed use building with basement garage

Prepared for Urban Partners

21 Whistler Street
MANLY NSW

Report 2018/09035

Dated 11 September 2018

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Document Control Sheet

Document and Project Details	
Document Title:	Site Waste Management Plan
Author:	Duncan Hope
Project Manager:	Duncan Hope
Date of Issue:	11 September 2018
Job Reference:	2018/09035
Synopsis:	This document presents a waste management plan arising from a proposed multi- dwelling residential development at 21 Whistler Street, Manly.

Client Details	
Client:	Urban Partners
Primary Contact:	

Document Distribution					
Version	Date	Status	Distribution – Number of copies		
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1 Introduction

This Site Waste Minimisation and Management Plan (SWMMP) Report has been prepared on behalf of the Urban Partners and should be read in conjunction with the plans encompassing Project No. : 21806 prepared by Wolski Coppin Architecture.

The report summarises the waste minimisation and management practices intended to be implemented as part of the construction of a multi-dwelling residential development and its operational use.

1.1 Summary

The proponent proposes to demolish an existing dwelling with associated light infrastructure and then construct a mixed commercial/residential multistorey building with related earthworks and landscaping.

This report is an outline of the waste minimisation and management policies and procedures to be implemented by contractors during the demolition phase, construction phase and the property manager/owners corporation during the post construction (operational phase) of the development.

These policies and procedures will set a framework for all parties to minimise generation of residual (non-recyclable) waste, and to take advantage of the opportunities for re-use of waste materials by ensuring that efficient recovery and segregation measures for all waste materials are provided.

2 Building Characteristics

2.1 Proposed building description

The proposed development comprises two ground floor commercial tenancies and eight residential units, basement garage, related earthworks and landscaping.

A summary of the proposed building is as follows:

- Two commercial tenancies;
- Four upper stories totalling eight residential units;
- Basement garage with associated plant rooms;
- Car lift and stacker;
- Earthworks and landscaping.

3 Purpose of the SWMMP

3.1 Aims

The aim of the SWMMP is to outline measures to minimise and manage waste and resource recovery during the demolition phase, construction phase and the post construction (operational) phase

The SWMMP will describe;

- Volume and type of waste and recyclables to be generated
- Storage and treatment of waste and recyclables on the development site
- Disposal of residual wastes and reprocessing options for recyclables
- Procedures for post construction (operational) management after handover of the development

3.2 Objectives

The objective of the SWMMP is to provide a planning system to effectively manage waste and resource recovery associated with this development, including;

- Promote improved project management
- Minimise waste generation
- Maximise reuse and resource recovery
- Minimise the environmental impacts associated with residual waste generated by this development
- Ensure the appropriate storage and collection of residual waste
- To ensure ongoing waste management systems are compatible with collection services offered by commercial waste transporters and the Northern Beaches Shire Council.

3.3 Legislative drivers

Table 1 - Environmental Legislation specific to waste management

Legislation/Guidelines	Description
Protection of the Environment Operations Act 1997	This Act is the primary NSW environment protection legislation covering air, noise, water, land and waste management
Waste Avoidance and Resource Recovery Act 2001	Sets NSW framework for waste hierarchy and allows the preparation of waste strategies addressing specific waste streams and setting landfill diversion and resource recovery targets
Waste Avoidance and Resource Recovery Strategy 2007	Proposes priority areas for waste management and resource recovery. Details current targets
Northern Beaches Shire Council*: Waste Management Plan*	Aims to facilitate sustainable waste management within the Northern Beaches Shire LGA in a manner consistent with ESD principles.
Model Waste Not DCP Chapter 2008 (DECC)	Provides a framework chapter for NSW LGA's to address Waste Not DCP
Better Practice Guide for Waste Management in Multi Unit Dwellings 2002 (Resource NSW)	Provides guideline for addressing waste management in medium or high density residential developments

4 Demolition Phase

4.1 General Outline

4.1.1 Introduction

The management of the site will be the responsibility of the project manager, who will administer waste handling systems, as specified by the Northern Beaches Shire Council, WorkSafe and as detailed in this report.

The demolition phase of this development is to comply with the aims and objectives outlined in Section 3 of this report.

The demolition phase involves the demolition of an existing dwelling with associated light infrastructure, site clearing, and excavation.

4.2 Waste Avoidance, Minimisation and Control Strategies

In relation to site clearance and excavation activities, specialised waste disposal & treatment contractors will be selected who are appropriately licenced, and have demonstrated experience in maximising resource recovery. The following control strategies will be implemented during the demolition phase;

- All demolition will be conducted in accordance with requirements of the WorkSafe Authority and Australian Standard 2601-1991 *The demolition of structures*
- Any asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with the WorkSafe Authority and Environmental Protection Authority
- Re-use excavated materials on-site and disposal of excess to an approved site
- All salvaged material will be removed manually; hydraulic excavators will remove the remainder
- Allocation of an assigned area within the development site to be identified for stockpiling of segregated recyclable materials (for materials to be re-used on-site) and for staging areas for transport to off-site re-processing facilities
- All skip and bulk bins will be located within the assigned area, clearly identified for each material, and not impeding on the footpath or road reserve
- Project manager to retain all weighbridge or re-processing facility dockets to ensure responsible disposal and recycling options are being employed by contractors
- All waste generated is to be documented and handled in accordance with Table 2 Demolition Volumes and Reuse/Recycling Potential
- At the excavation stage, the frontage to Whistler Street will be utilised as the site access. The excavated material, not used on site, will be loaded onto trucks and transported to an approved landfill site or another suitable location.

Table 2 - Demolition Volumes and Reuse/Recycling Potential

Materials	Document Volume (m^3)	On-Site	Off-Site	Disposal
Hardwood	3	Separated	Sold for re-use	Second hand supplier
Other Timber	1	Separated	Chipping for mulch/fuel	Green waste re-processing facility
Doors, Windows	1	Separated	Sold for re-use	Second hand supplier
Steel	1	Nil	To metal recyclers	Metal recycling
Downpipes, Gutters	0	Nil	To metal recyclers	Metal recycling
Ceramic Tiles	0	Cleaned and separated	Sold for re-use	Recycling facility/second hand supplier
Green Waste	4	Composted or mulched	Nil	Green waste re-processing facility
Concrete	1	Re-used as sub-base / fill	Concrete crushing	Quarry or landfill licenced to crush concrete
Bricks	1	Broken brick for fill. Whole bricks to be cleaned and salvaged	Recycling company	Quarry or landfill licenced to crush bricks/masonry. Or Second hand supplier
Plasterboard	1	Separated	Recycling company	Licenced re-processing facility. Or return to supplier
General Waste	1	Nil	Nil	Licenced waste facility
Other Wastes	1	Separated	Nil	Licenced waste Facility

5 Construction Phase

5.1 General Outline

5.1.1 Introduction

The management of the site will be the responsibility of the project manager, who will administer waste handling systems, as specified by Northern Beaches Shire Council, WorkSafe and as detailed in this report.

The construction phase of this development is to comply with the aims and objectives outlined in Section 3 of this report.

The construction phase will involve the construction of a mixed residential/commercial building with basement garage and associated site works.

5.2 Waste Avoidance, Minimisation & Control Strategies

To reduce the amount of waste on site during construction of the development the following control strategies will be required of all contractors and/or personnel:

- Order materials to size
- Avoid over-ordering
- Order pre-cut or pre-fabricated materials
- Reduce packaging at source or products with minimal packaging
- Where possible materials to be re-used on site or shipped to recycler
- All salvaged material will be removed manually; hydraulic excavators will remove the remainder;
- Allocation of an assigned area within the development site to be identified for stockpiling of segregated recyclable materials (for materials to be re-used on-site) and for staging areas for transport to off-site re-processing facilities;
- All skip and bulk bins will be located within the assigned area, clearly identified for each material, and not impeding on the footpath or road reserve;
- Project manager to retain all weighbridge or re-processing facility dockets to ensure responsible disposal and recycling options are being employed by contractors;
- All waste generated is to be documented and handled in accordance with Table 3 Construction Volumes and Reuse/Recycling Potential

Table 3 - Construction Volumes and Reuse/Recycling Potential

Materials	Document Volume (m^3)	On-Site	Off-Site	Disposal
Hardwood	1	Separated	Sold for re-use	Second hand supplier
Other Timber	2	Separated	Chipping for mulch/fuel	Green waste re-processing facility
Doors, Windows	0	Separated	Sold for re-use	Second hand supplier
Steel	1	Nil	To metal recyclers	Metal recycling
Downpipes, Gutters	0.5	Nil	To metal recyclers	Metal recycling
Ceramic Tiles	0.5	Cleaned and separated	Sold for re-use	Recycling facility/second hand supplier
Green Waste	0	Composted or mulched	Nil	Green waste re-processing facility
Concrete	1	Re-used as sub-base / fill	Concrete crushing	Quarry or landfill licenced to crush concrete
Bricks	1	Broken brick for fill. Whole bricks to be cleaned and salvaged	Recycling company	Quarry or landfill licenced to crush bricks/masonry. Or Second hand supplier
Plasterboard	1	Separated	Recycling company	Licenced re-processing facility. Or return to supplier
General Waste	2	Nil	Nil	Licenced waste facility
Other Wastes	2	Separated	Nil	Licenced waste Facility

Note: During construction, all waste materials will be separated and temporarily stored on-site. It is proposed all such materials will either be recycled or disposed of as per Table 2 Demolition Volumes and Reuse/Recycling Potential.

6 Post Construction (operational) Phase

The following assessment of waste volumes is an estimate only and will be influenced by building management, cleaning arrangements, individual tenant's attitude and obligation regarding waste disposal and recycling.

6.1 Waste and recycling generation rates

Waste and recycling generation rates are taken from Northern Beaches Shire Council's *Pittwater Shire Council's Development Control Plan Chapter B8: Construction and Demolition – Waste Minimisation*.

Table 4 - Residential Generation Rates

Waste Type	Number of units	Waste generation rate	Waste generated	Frequency of Servicing per week	Bins Required
Garbage	8	80 L per week	640 L.week	Weekly	3 x 240L MGBs
Recyclables	8	40 L per week	320 L.week	Weekly	2 x 240L MGBs

Table 5 - Commercial Generation Rates

Waste Type	Type of Premises	Waste generation rate	Floor Area (m^2)	Waste Generated	Bins Required
Garbage	Retail	50L/100m^2/day	181	453 L	2 x 240L MGBs
Recyclables	Retail	25L/100m^2/day	181	227 L	1 x 240L MGBs

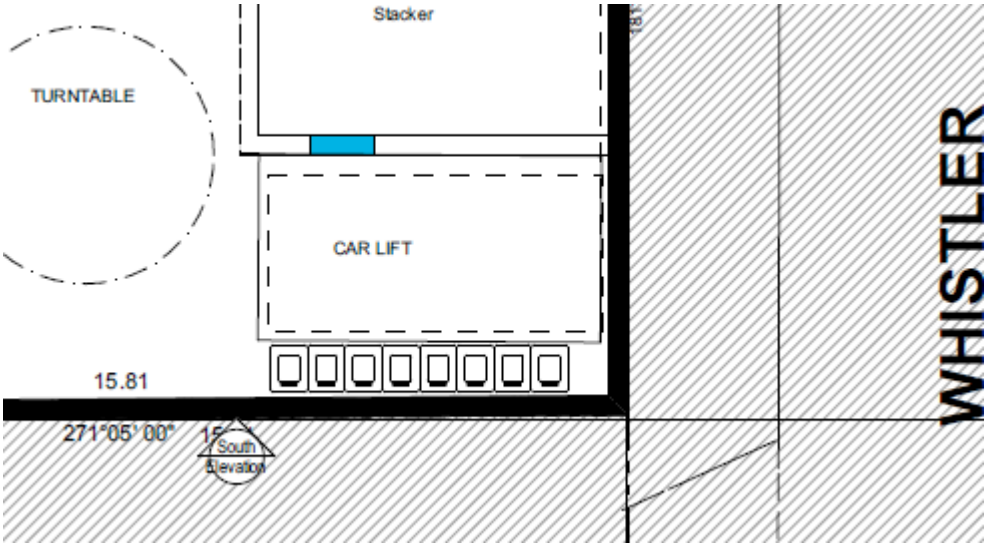


Figure 1 - Waste storage location

6.2 Storage

The storage of residential waste will be within a designated garbage and recycling area located within the basement garage.

A tap and drainage with connection to the sewer are to be provided within the garbage storage area. Hose cocks shall be protected or located so that they cannot be damaged. A hose of adequate length and fitted with a nozzle is to be connected to the hose cock to allow for adequate cleaning of the waste room and receptacles.

The size of the waste storage area will be sufficient to house the recommended number of mobile garbage bins for the development, as well as incorporating adequate clearance between each mobile garbage bin.

The minimum sizes for the proposed bins are identified in Appendix A.

The location of the garbage storage area has been designed to be easily accessible to the residents of the proposed units.

The garbage storage area will not affect the amenity of any adjacent properties and has been designed as an integrated part of the overall design.

Each dwelling will have space for an adequate number of greenwaste bins.

6.3 Servicing (collection)

It is intended that the waste and recycling will be collected on a weekly basis. The tenant will ensure that all bins are prepared and presented within an allocated kerbside service area, before 6:00am on service day.

The design of the development allows for the garbage and recyclables to be transported to the Waste collection point identified in the submitted plans, to allow for Northern Beaches Shire and/or their contractor for pick-up.

The development has been designed so as to allow Northern Beaches Shire Council or private contractor's waste management contractor to collect the garbage from the kerbside loading space without impacting on local traffic flow.

The tenants will ensure that the bins are removed from the kerbside and returned to the waste storage area as soon as practicable after Council or contractor's vehicles collect the waste.

6.4 Garbage transport

All residential waste generated by residents will be sorted into general waste and recycling, then dispose of them accordingly in the designated MGB.

The individual residents shall be responsible for ensuring the waste storage areas and related equipment are kept in a clean and working order.

The residents shall also ensure that the waste and recycling bins are provided in the waste collection point area on the relevant servicing days by the required times. Once serviced the bins are to be moved back to the respective garages.

Occupational health and safety of bin transfers must be considered for larger bins (e.g. ability to safely move a bin that may weigh more than the person trying to move it).

6.5 Bulky waste

The development will employ a dedicated caged area for residents to temporarily store unwanted bulky items until suitable disposal/transport options can be arranged.

Appendix A

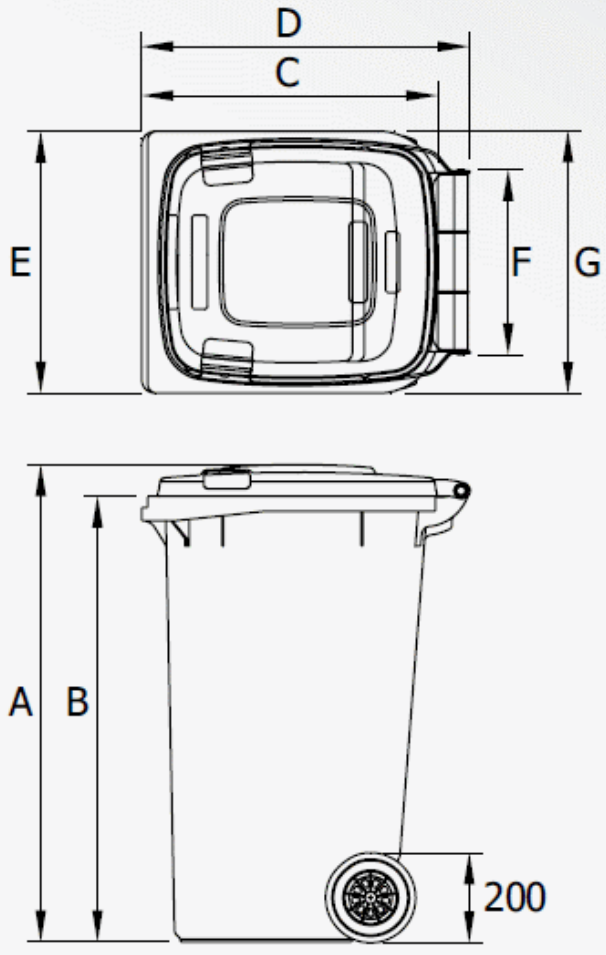
Waste Management Equipment

Dimensions - Weights - Standards

- Nominal volume: 240 litres
- Net weight: approx 13 kg
- Max load: 96 kg
- Permitted total weight: 110 kg

A	1060 mm	D	730 mm	G	550 mm
B	990mm	E	585 mm		
C	660 mm	F	400 mm		

Measurements to be used as a guide only – variations will occur



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Boston Blyth Fleming
Town Planners

15th May 2020

The General Manager
Northern Beaches Council
PO Box 82
Manly NSW 1655

Attention: Ms Claire Ryan – Principal Planner

Dear Ms Ryan,

Development Application DA2018/1669
Supplementary Statement of Environmental Effects
Amended plans and clause 4.6 variation requests
Demolition works, construction of a residential flat building and strata subdivision
21 Whistler Street, Manly

Reference is made to Council's email of 24th April 2020 in which a response was sought in relation to outstanding internal referral comments from waste services and Council's traffic engineer. This submission will detail the considered response to the issues raised and includes updated clause 4.6 variation requests in relation to building height and the percentage of commercial floor space as prescribed by clauses 4.4 and 6.16 of Manly Local Environmental Plan 2013 (MLEP). This supplementary Statement of Environmental Effects (SoEE) is to be read in conjunction with the following amended documentation:

- Amended Architectural plan bundle DA01(D), DA02(D), DA03(C) to DA07(C), DA08(A) and DA09(A), DA10(B) to DA15(B) and C06(A) prepared by Wolski Coppin Architecture;
- Amended compliance diagrams prepared by Wolski Coppin Architecture;
- Amended Traffic and Parking Assessment, dated May 2020, prepared by Transport and Traffic Planning Associates; and
- Updated clause 4.6 variation requests (Attached)

The Architectural amendments can be summarised as follows:

- The reconfiguration of the basement parking layout including the relocation of the passenger lift and vehicle turn table to enhance manoeuvrability and accessibility. Due to a consequential reduction in retail floor space the required number of carparking spaces was reduced by 1 space to a total of 12 spaces with a single compliant accessible parking space provided at the northern end of the basement;

- Residential waste and retail recycling storage areas are provided in the basement with these bins relocated to the ground floor waste collection areas for collection by Council waste contractors on designated waste collection days;

- The reconfiguration, consolidation and reduction of ground floor retail floorspace (150sqm) to facilitate access to the relocated lift and stair core and provide required vehicle/ pedestrian sight lines to/ from the car lift.

- Provision of ground floor retail and residential waste collection areas. The residential waste collection area will be managed by the building / strata manager.

- Amendments to the front façade at ground level to reflect the amended floor plate;

- Amendments to the circulation core at each level to reflect the amended lift and staircase location.

We respond to the outstanding matters (Council issues in *italic*) as follows.

Waste Services

> *In regard to the amended plans dated 24 March 2020, waste services provide the following.*
>
> *How do residents access the residential garbage storage? Residents should not be required to exit the property in order to place waste in the on site waste storage area.*

Response: The residential waste storage area is located in the basement with the bins relocated to the ground floor waste collection areas for collection by Council waste contractors on designated waste collection days. This will be managed by the building/ strata manager. The basement waste storage area is accessible without the need exit the property. This matter is appropriately resolved noting that the location of waste collection area complies with the *Northern Beaches Council Waste Management Guidelines.*

The waste management report states that waste will be presented kerbside for collection. This is not appropriate in the location, and not in accordance with Northern Beaches Council Waste Management Guidelines. Contractors will access the storage area and remove waste for collection and transport.

The report should be updated to reflect Council guidelines, particularly chapter 4.

Response: No objection is raised to this required waste management report update being addressed by way of an appropriately worded condition.

The pedestrian access/work area needs to be separated from vehicular traffic areas, eg by bollard, wall or fence and access ways need to be in accordance with Council's waste management guidelines.

Response: The waste collection area and access thereto are separated from the adjacent car lift and waiting bay by bollards as nominated on the plans. This matter is resolved.

It should be noted that for developments up to 10 dwellings a bulky goods storage area is not a requirement of Council.

Response: Noted. The bulky goods storage area has been deleted.

Parking

The parking numbers are deemed compliant, however the layout and allocations are not deemed sufficient.

Firstly, the accessible parking space being provided in a car stacker arrangement is not deemed safe;

- *access into and out of the car stacker system has not identified the gap between the stacker and the landing pad. For a user of such a space, this could pose a major trip hazard.*

- *the shared zone adjacent to the car stacker is not in accordance with AS2890, requiring that the space be 2.4m with a bollard to prevent parking within the shared space.*

- *The vehicle swept paths show that cars using the turntable will overhang into the already undersized shared space hence posing a safety risk. Whilst use of the shared space may not be frequent, the design should cater for the potential risk, which it currently does not.*

Response: The basement parking layout has been reconfigured including the relocation of the passenger lift and vehicle turn table to enhance manoeuvrability and accessibility. Due to a consequential reduction in retail floor space the required number of carparking spaces was reduced by 1 space to a total of 12 spaces with a single compliant accessible parking space provided at the northern end of the basement.

These issues have been addressed by way of amended basement design as detailed in the amended Traffic and Parking Assessment, dated May 2020, prepared by Transport and Traffic Planning Associates.

> *Secondly, the applicant refers to convex mirrors for pedestrian visibility. Both Council and RMS do not accept convex mirrors on local roads as they impart a false sense of distance. This poses a risk between drivers and pedestrians, particularly in this location where the vehicle will enter and exit the premises at the boundary and hence no 'buffer' zone is available. The design should cater for the 2.0m pedestrian splay as per design guidelines.*

Response: The plans have been amended to provide adequate sight lines to prevent pedestrian and vehicular conflict as detailed in the amended Traffic and Parking Assessment. The proposal does not rely on convex mirrors.

> *Thirdly, parking availability within Whistler Street is a premium. It is unlikely that vehicles entering the basement will be able to locate a parking space to wait until the egressing vehicle has exited the lift. Further, any use of the adjacent driveway is not deemed a practical means for a waiting bay on-street.*
>
> *As such, the application cannot be supported in its current form.*

Response: The accompanying amended Traffic and Parking Assessment identifies a projected peak traffic generation of only 2 – 3 vtph (i.e 1vt every 20 – 30 minutes) with the potential impact of this in relation to vehicle cuing within the surrounding road network entirely imperceptible.

In the worst case scenario of a vehicle not being able to enter the site due to the car lift being in operation such vehicle can either pull of the rad in to an existing car space, pull off the road in front of the driveway servicing the southern adjoining property or circulate around the street block being the situation that would occur for anyone looking for available street parking.

We consider that the revised plans comprehensively address the issues raised. Having given due consideration to the matters pursuant to Section 4.15(1) of the Environmental Planning and assessment Act, 1979 as amended, it is considered that there are no matters which would prevent Council from supporting the application, as amended, and entering into a S34 Agreement with the applicant.

Please not hesitate to contact me to discuss any aspect of this submission.

Yours faithfully

Boston Blyth Fleming Town Planners

Greg Boston

B Urb & Reg Plan (UNE) MPIA
B Env Hlth (UWS)
Director

Attachments

1. Clause 4.6 variation request – Height of buildings
2. Clause 4.6 variation request – Gross floor area in Zone B2

Attachment 1 - Clause 4.6 variation request

Height of Buildings

1.0 Introduction

This clause 4.6 variation has been prepared having regard to the Land and Environment Court judgements in the matters of *Wehbe v Pittwater Council* [2007] NSWLEC 827 (*Wehbe)* at [42] – [48], *Four2Five Pty Ltd v Ashfield Council* [2015] NSWCA 248, *Initial Action Pty Ltd v Woollahra Municipal Council* [2018] NSWLEC 118, *Baron Corporation Pty Limited v Council of the City of Sydney [2019]* NSWLEC 61, and *RebelMH Neutral Bay Pty Limited v North Sydney Council* [2019] NSWCA 130.

2.0 Manly Local Environmental Plan 2013 ("MLEP")

2.1 Clause 4.3 - Height of buildings

Pursuant to Clause 4.3 of Manly Local Environmental Plan 2013 (MLEP) the height of a building on the subject land is not to exceed 15 metres in height. The objectives of this control are as follows:

(a) to provide for building heights and roof forms that are consistent with the topographic landscape, prevailing building height and desired future streetscape character in the locality,

(b) to control the bulk and scale of buildings,

(c) to minimise disruption to the following:

(i) views to nearby residential development from public spaces (including the harbour and foreshores),

(ii) views from nearby residential development to public spaces (including the harbour and foreshores),

(iii) views between public spaces (including the harbour and foreshores),

(d) to provide solar access to public and private open spaces and maintain adequate sunlight access to private open spaces and to habitable rooms of adjacent dwellings,

(e) *to ensure the height and bulk of any proposed building or structure in a recreation or environmental protection zone has regard to existing vegetation and topography and any other aspect that might conflict with bushland and surrounding land uses.*

Building height is defined as follows:

> ***building height*** *(or* ***height of building****) means the vertical distance between ground level (existing) and the highest point of the building, including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like*

Ground level existing is defined as follows:

> ***ground level (existing)*** means the existing level of a site at any point.

It has been determined that the proposal, as amended, has a maximum building height of 16.6 metres measured to the roof parapet with a height of 17.2m measured to the lift overrun/ circulation core roof element. Such building heights exceed the 15 metre height standard by 1.6 and 2.2 metres respectively or between 10.6 and 14.6%. The extent of building height non-compliance is depicted in Figures 1 and 2 below and over page.

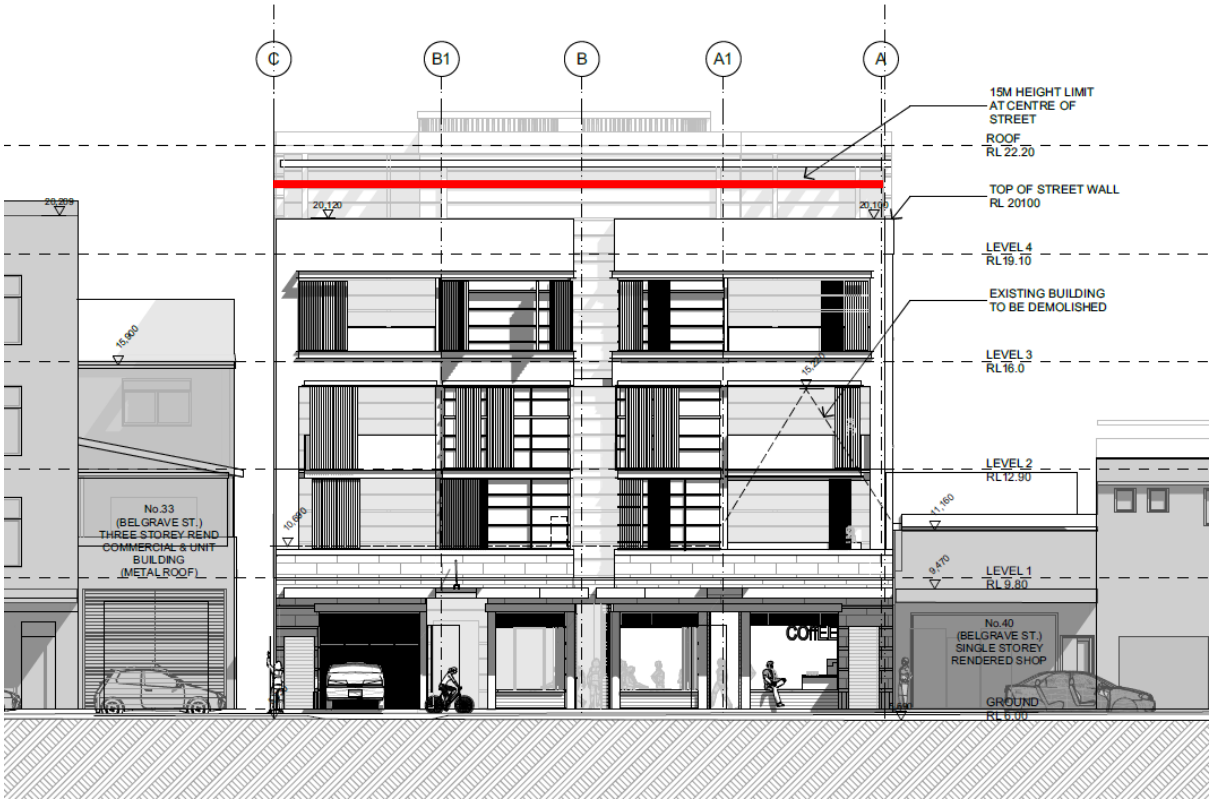

Figure 1 – Extent of building height breach along street facing façade

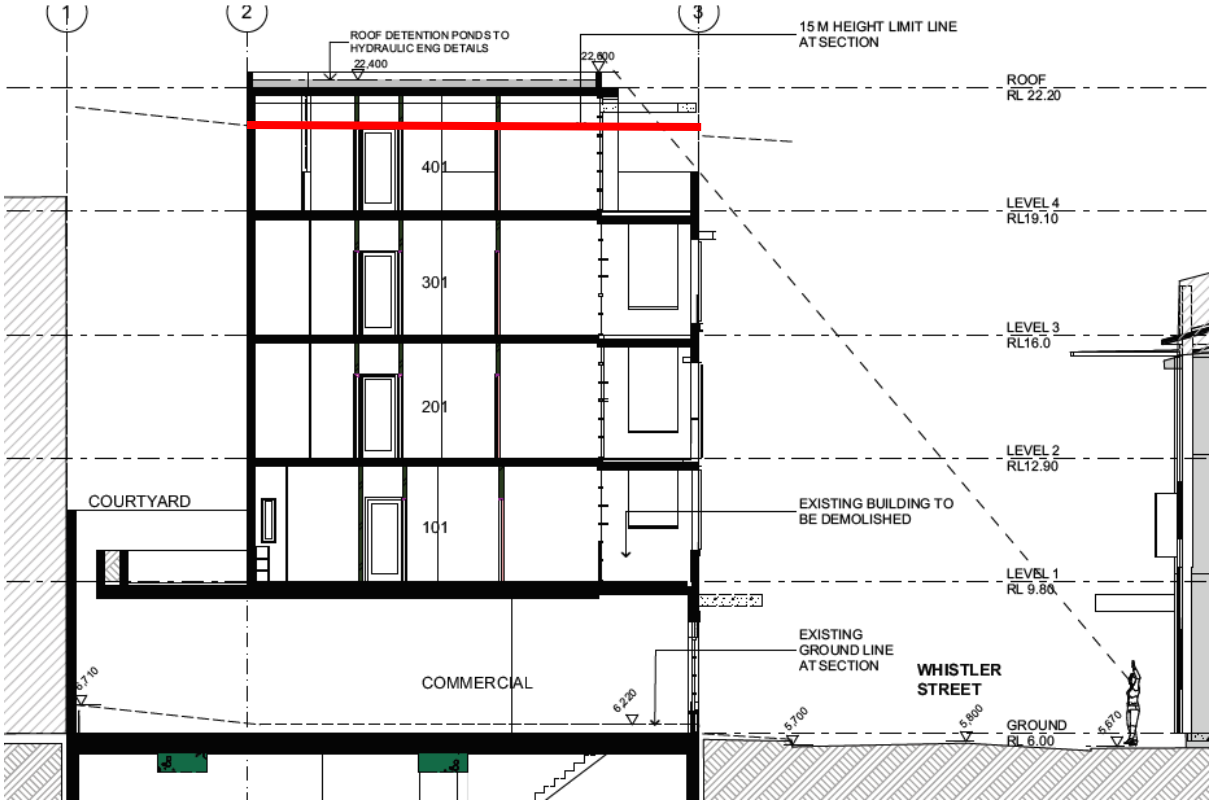

Figure 2 – Extent of 15 metre height of building breach as shown on section AA

2.2 Clause 4.6 – Exceptions to Development Standards

Clause 4.6(1) of MLEP provides:

(1) The objectives of this clause are:

(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development, and

(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

The decision of Chief Justice Preston in Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118 ("Initial Action") provides guidance in respect of the operation of clause 4.6 subject to the clarification by the NSW Court of Appeal *in RebelMH Neutral Bay Pty Limited v North Sydney Council* [2019] NSWCA 130 at [1], [4] & [51] where the Court confirmed that properly construed, a consent authority has to be satisfied that an applicant's written request has in fact demonstrated the matters required to be demonstrated by cl 4.6(3).

Initial Action involved an appeal pursuant to s56A of the Land & Environment Court Act 1979 against the decision of a Commissioner.

At [90] of *Initial Action* the Court held that:

> *"In any event, cl 4.6 does not give substantive effect to the objectives of the clause in cl 4.6(1)(a) or (b). There is no provision that requires compliance with the objectives of the clause. In particular, neither cl 4.6(3) nor (4) expressly or impliedly requires that development that contravenes a development standard "achieve better outcomes for and from development". If objective (b) was the source of the Commissioner's test that non-compliant development should achieve a better environmental planning outcome for the site relative to a compliant development, the Commissioner was mistaken. Clause 4.6 does not impose that test."*

The legal consequence of the decision in *Initial Action* is that clause 4.6(1) is not an operational provision and that the remaining clauses of clause 4.6 constitute the operational provisions.

Clause 4.6(2) of MLEP provides:

(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

This clause applies to the clause 4.3 Height of Buildings Development Standard.

Clause 4.6(3) of MLEP provides:

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

The proposed development does not comply with the height of buildings provision at 4.3 of MLEP which specifies a maximum building height however strict compliance is considered to be unreasonable or unnecessary in the circumstances of this case and there are considered to be sufficient environmental planning grounds to justify contravening the development standard.

The relevant arguments are set out later in this written request.

Clause 4.6(4) of MLEP provides:

(4) Development consent must not be granted for development that contravenes a development standard unless:

(a) the consent authority is satisfied that:

(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and

(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and

(b) the concurrence of the Director-General has been obtained.

In *Initial Action* the Court found that clause 4.6(4) required the satisfaction of two preconditions ([14] & [28]). The first precondition is found in clause 4.6(4)(a). That precondition requires the formation of two positive opinions of satisfaction by the consent authority. The first positive opinion of satisfaction (cl 4.6(4)(a)(i)) is that the applicant's written request has adequately addressed the matters required to be demonstrated by clause 4.6(3)(a)(i) (*Initial Action* at [25]).

The second positive opinion of satisfaction (cl 4.6(4)(a)(ii)) is that the proposed development will be in the public interest ***because*** it is consistent with the objectives of the development standard and the objectives for development of the zone in which the development is proposed to be carried out (*Initial Action* at [27]). The second precondition is found in clause 4.6(4)(b). The second precondition requires the consent authority to be satisfied that that the concurrence of the Secretary (of the Department of Planning and the Environment) has been obtained (*Initial Action* at [28]).

Under cl 64 of the *Environmental Planning and Assessment Regulation* 2000, the Secretary has given written notice dated 21 February 2018, attached to the Planning Circular PS 18-003 issued on 21 February 2018, to each consent authority, that it may assume the Secretary's concurrence for exceptions to development standards in respect of applications made under cl 4.6, subject to the conditions in the table in the notice.

Clause 4.6(5) of MLEP provides:

(5) In deciding whether to grant concurrence, the Director-General must consider:

(a) whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and
(b) the public benefit of maintaining the development standard, and
(c) any other matters required to be taken into consideration by the Director-General before granting concurrence.

As these proceedings are the subject of an appeal to the Land & Environment Court, the Court has the power under cl 4.6(2) to grant development consent for development that contravenes a development standard, if it is satisfied of the matters in cl 4.6(4)(a), without obtaining or assuming the concurrence of the Secretary under cl 4.6(4)(b), by reason of s 39(6) of the Court Act. Nevertheless, the Court should still consider the matters in cl 4.6(5) when exercising the power to grant development consent for development that contravenes a development standard: *Fast Buck$ v Byron Shire Council* (1999) 103 LGERA 94 at 100; *Wehbe v Pittwater Council* at [41] (*Initial Action* at [29]).

Clause 4.6(6) relates to subdivision and is not relevant to the development. Clause 4.6(7) is administrative and requires the consent authority to keep a record of its assessment of the clause 4.6 variation. Clause 4.6(8) is only relevant so as to note that it does not exclude clause 4.3 of MLEP from the operation of clause 4.6.

3.0 Relevant Case Law

In *Initial Action* the Court summarised the legal requirements of clause 4.6 and confirmed the continuing relevance of previous case law at [13] to [29]. In particular the Court confirmed that the five common ways of establishing that compliance with a development standard might be unreasonable and unnecessary as identified in *Wehbe v Pittwater Council (2007) 156 LGERA 446; [2007] NSWLEC 827* continue to apply as follows:

17. *The first and most commonly invoked way is to establish that compliance with the development standard is unreasonable or unnecessary because the objectives of the development standard are achieved notwithstanding non-compliance with the standard: Wehbe v Pittwater Council at [42] and [43].*

18. *A second way is to establish that the underlying objective or purpose is not relevant to the development with the consequence that compliance is unnecessary: Wehbe v Pittwater Council at [45].*

19. *A third way is to establish that the underlying objective or purpose would be defeated or thwarted if compliance was required with the consequence that compliance is unreasonable: Wehbe v Pittwater Council at [46].*

20. *A fourth way is to establish that the development standard has been virtually abandoned or destroyed by the Council's own decisions in granting development consents that depart from the standard and hence compliance with the standard is unnecessary and unreasonable: Wehbe v Pittwater Council at [47].*

21. *A fifth way is to establish that the zoning of the particular land on which the development is proposed to be carried out was unreasonable or inappropriate so that the development standard, which was appropriate for that zoning, was also unreasonable or unnecessary as it applied to that land and that compliance with the standard in the circumstances of the case would also be unreasonable or unnecessary: Wehbe v Pittwater Council at [48]. However, this fifth way of establishing that compliance with the development standard is unreasonable or unnecessary is limited, as explained in Wehbe v Pittwater Council at [49]-[51]. The power under cl 4.6 to dispense with compliance with the development standard is not a general planning power to determine the appropriateness of the development standard for the zoning or to effect general planning changes as an alternative to the strategic planning powers in Part 3 of the EPA Act.*

22. *These five ways are not exhaustive of the ways in which an applicant might demonstrate that compliance with a development standard is unreasonable or unnecessary; they are merely the most commonly invoked ways. An applicant does not need to establish all of the ways. It may be sufficient to establish only one way, although if more ways are applicable, an applicant can demonstrate that compliance is unreasonable or unnecessary in more than one way.*

The relevant steps identified in *Initial Action* (and the case law referred to in *Initial Action*) can be summarised as follows:

1. Is clause 4.3 of MLEP a development standard?

2. Is the consent authority satisfied that this written request adequately addresses the matters required by clause 4.6(3) by demonstrating that:

   (a) compliance is unreasonable or unnecessary; and

   (b) there are sufficient environmental planning grounds to justify contravening the development standard

3. Is the consent authority satisfied that the proposed development will be in the public interest because it is consistent with the objectives of clause 4.3 and the objectives for development for in the zone?

4. Has the concurrence of the Secretary of the Department of Planning and Environment been obtained?

5. Where the consent authority is the Court, has the Court considered the matters in clause 4.6(5) when exercising the power to grant development consent for the development that contravenes clause 4.3 of MLEP?

4.0 Request for variation

4.1 Is clause 6.16 of MLEP a development standard?

We are of the opinion that this provision is a development standard to which clause 4.6 applies.

4.2 Clause 4.6(3)(a) – Whether compliance with the development standard is unreasonable or unnecessary

The common approach for an applicant to demonstrate that compliance with a development standard is unreasonable or unnecessary are set out in Wehbe v Pittwater Council [2007] NSWLEC 827.

The first option, which has been adopted in this case, is to establish that compliance with the development standard is unreasonable and unnecessary because the objectives of the development standard are achieved notwithstanding non-compliance with the standard.

Consistency with objectives of the height of buildings standard

An assessment as to the consistency of the proposal when assessed against the objectives of the standard is as follows:

> (a) *to provide for building heights and roof forms that are consistent with the topographic landscape, prevailing building height and desired future streetscape character in the locality,*

Response: The MLEP 2013 height standard, reflecting the desired future height of development on surrounding properties is depicted in Figure 3 below.

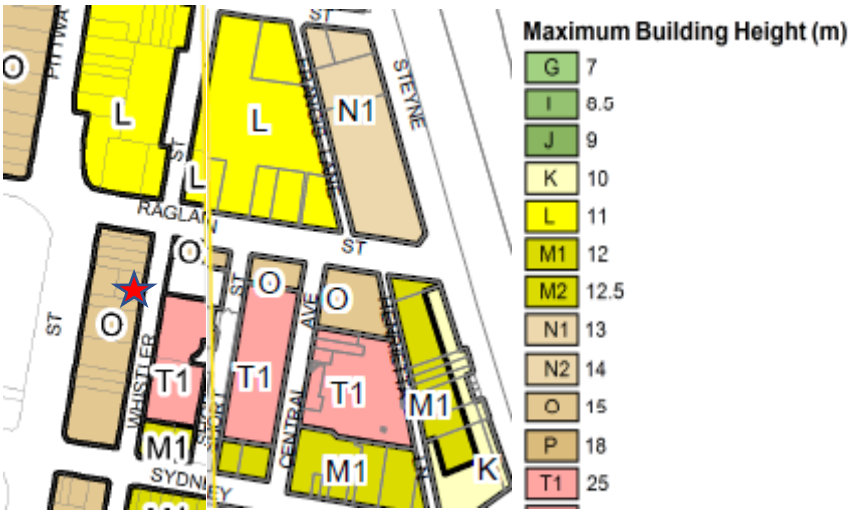

Figure 3 – Composite extract MLEP 2013 height of buildings map

This map confirms that the height anticipated for development on surrounding properties ranges between 15 and 25 metres with no height standard identified on the land to the east occupied by the State heritage listed electrical substation building. The map anticipates a stepping up of building height between Belgrave Street and South Steyne in an east-west direction and between Raglan Street and Sydney Road in a north-south direction. We note that a 25 metre high residential flat building (existing use rights) has recently been approved at No. 26 Whistler Street directly to the east of the subject site.

We also note that in terms of prevailing building height that the Manly National Building located further to the east of the site significantly exceeds the 25 metre height standard by approximately 24 metres with the height and scale of this building unlikely to be reduced in the foreseeable future.

The MLEP 2013 height of buildings map anticipates development along the western side of Whistler Street to display a 15 metre building height it being noted that 5 storey shop top housing development has recently been approved and constructed at No. 21 Belgrave Street with such building displaying a near identical height to that currently proposed as depicted in Figure 3 below.

Figure 3 – Comparative/ contextual height diagram with No. 21 Belgrave Street to the far left of image.

In this regard, we have formed the considered opinion that the development provides for building heights and roof forms that are consistent with the topographic landscape, prevailing building height and desired future streetscape character in the immediate locality. In forming such opinion, we note:

- The areas of non-compliance are limited to the upper portion of the 5th floor element, roof form and lift/ stair core overrun. In the context of the established/ approved height of development to the south of the site, and within the same street block, the variation is appropriately described as minor. The area/ extent of variation is depicted in Figures 1 and 2 of this of report.

- The height, bulk and scale of the development are entirely consistent with the built form characteristics established by the recently approved and currently under construction shop top housing development to the south of the site at No. 21 Belgrave Street as depicted in Figure 3 above.

- The development proposes complimentary and compatible roof forms consistent with those established by existing development within the Manly town centre with excavation limited to that required to accommodate a single basement level of car parking given the flat nature of the site. No excess excavation is proposed with the development consistent with the topographical landscape.

- The building height proposed provides for the transition in building heights between Belgrave Street and South Steyne in an east-west direction and between Raglan Street and Sydney Road in a north-south as anticipated by the MLEP height of buildings map.

- Consistent with the conclusions reached by Senior Commissioner Roseth in the matter of Project Venture Developments v Pittwater Council (2005) NSW LEC 191 I have formed the considered opinion that most observers would not find the proposed development by virtue of its height and setbacks offensive, jarring or unsympathetic in a streetscape context nor having regard to the built form characteristics of development within the sites visual catchment including the Manly National Building to the east.

- In this regard, the proposed building height is consistent with the topographic landscape, prevailing building height and desired future streetscape character in the locality.

The proposal achieves this objective.

(b) to control the bulk and scale of buildings,

Response: For the reasons outlined in relation to objective (a) above I have formed the considered opinion that the height, bulk and scale of the building is contextually appropriate.

The proposal achieves this objective.

(c) to minimise disruption to the following:

(i) views to nearby residential development from public spaces (including the harbour and foreshores),

Response: Having undertaken a wide ranging site view I have formed the considered opinion that the areas of non-compliance have been designed, located and constrained to minimise disruption of views to nearby residential development from surrounding public spaces. In fact, I was unable to identify any public space from which views to nearby residential development will be adversely impacted.

The proposal achieves this objective.

(ii) views from nearby residential development to public spaces (including the harbour and foreshores),

Response: Having inspected the site and its surrounds and viewed the development site from various elevated vantage points to the west of the property, we have formed the considered opinion that the portion of the building exceeding the height standard will not give rise to any adverse public or private view affectation.

The proposal achieves this objective.

> *(iii) views between public spaces (including the harbour and foreshores),*

Response: The building form and height has been appropriately distributed across the site to minimise disruption of views between public spaces.

The proposal achieves this objective.

> *(d) to provide solar access to public and private open spaces and maintain adequate sunlight access to private open spaces and to habitable rooms of adjacent dwellings,*

Response: It has been determined that the shadowing impacts to the southern adjoining property are caused by the portion of the building that is fully compliant with the height standard. As such, it can be reasonably concluded that the building height non-compliance does not exacerbate the shadowing impact on this property with adequate solar access maintained. No unacceptable shadowing will occur to the public domain by the non-compliant portion of the building.

The proposal achieves this objective.

> *(e) to ensure the height and bulk of any proposed building or structure in a recreation or environmental protection zone has regard to existing vegetation and topography and any other aspect that might conflict with bushland and surrounding land uses.*

Response: This objective is not applicable.

Having regard to the above, the non-compliant component of the building will achieve the objectives of the standard to at least an equal degree as would be the case with a development that complied with the building height standard. Given the developments consistency with the objectives of the height of buildings standard strict compliance has been found to be both unreasonable and unnecessary under the circumstances.

Consistency with zone objectives

The subject property is zoned B2 Local Centre pursuant to MLEP 2013. The property benefits from existing use rights for the purpose of a residential flat building. Such use is not anticipated in the zone. The developments consistency with the stated objectives of the B2 zone are as follows:

- *To provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area.*

Response: The proposed mixed use development provides ground floor retail tenancies which activate the Whistler Street frontage and which are able to accommodate a rage of retail uses that serve the needs of people who live in, work in and visit the local area. The proposal achieves this objective

- *To encourage employment opportunities in accessible locations.*

Response: The proposed mixed use development provides ground floor retail tenancies which will provide employment opportunities in an accessible location. The proposal will also encourage employment in terms of strata management and property maintenance. The proposal achieves this objective.

- *To maximise public transport patronage and encourage walking and cycling.*

Response: The proposal does not provide any excessive carparking and as such achieves this objective.

- *To minimise conflict between land uses in the zone and adjoining zones and ensure amenity for the people who live in the local centre in relation to noise, odour, delivery of materials and use of machinery.*

Response: The development is not within proximity of any zone boundaries. No objection is raised to standard conditions pertaining to the acoustic performance of air conditioning condensers. The proposal achieves this objective.

The proposed development, notwithstanding the height breaching elements, achieve the objectives of the zone.

The non-compliant component of the development, as it relates to building height, demonstrates consistency with objectives of the zone and the height of building standard objectives. Adopting the first option in *Wehbe* strict compliance with the height of buildings standard has been demonstrated to be is unreasonable and unnecessary.

4.3 Clause 4.6(4)(b) – Are there sufficient environmental planning grounds to justify contravening the development standard?

In Initial Action the Court found at [23]-[24] that:

23. As to the second matter required by cl 4.6(3)(b), the grounds relied on by the applicant in the written request under cl 4.6 must be "environmental planning grounds" by their nature: see Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90 at [26]. The adjectival phrase "environmental planning" is not defined, but would refer to grounds that relate to the subject matter, scope and purpose of the EPA Act, including the objects in s 1.3 of the EPA Act.

24. The environmental planning grounds relied on in the written request under cl 4.6 must be "sufficient". There are two respects in which the written request needs to be "sufficient". First, the environmental planning grounds advanced in the written request must be sufficient "to justify contravening the development standard". The focus of cl 4.6(3)(b) is on the aspect or element of the development that contravenes the development standard, not on the development as a whole, and why that contravention is justified on environmental planning grounds.

The environmental planning grounds advanced in the written request must justify the contravention of the development standard, not simply promote the benefits of carrying out the development as a whole: see Four2Five Pty Ltd v Ashfield Council [2015] NSWCA 248 at [15]. Second, the written request must demonstrate that there are sufficient environmental planning grounds to justify contravening the development standard so as to enable the consent authority to be satisfied under cl 4.6(4)(a)(i) that the written request has adequately addressed this matter: see Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90 at [31].

Sufficient environmental planning grounds exist to justify the height of buildings variation namely the compatibility of the proposed building height with the height and form of surrounding development, including the recently approved shop top housing development at No. 21 Belgrave Street, the development's compliance with the FSR standard and objectives of the height standard and the general paucity of adverse environmental impact.

In this regard, I consider the proposal to be of a skilful design with floor space, building mass and building height appropriately distributed across the site in a manner which provides for appropriate streetscape and residential amenity outcomes including a view sharing scenario. Such outcome is achieved whilst realising the reasonable development potential of the land.

The proposed development achieves the objects in Section 1.3 of the EPA Act, specifically:

- The proposal promotes the orderly and economic use and development of land (1.3(c)).

- The development represents good design (1.3(g)).

- The building as designed facilitates its proper construction and will ensure the protection of the health and safety of its future occupants (1.3(h)).

It is noted that in *Initial Action,* the Court clarified what items a Clause 4.6 does and does not need to satisfy. Importantly, there does not need to be a "better" planning outcome:

87. The second matter was in cl 4.6(3)(b). I find that the Commissioner applied the wrong test in considering this matter by requiring that the development, which contravened the height development standard, result in a "better environmental planning outcome for the site" relative to a development that complies with the height development standard (in [141] and [142] of the judgment). Clause 4.6 does not directly or indirectly establish this test. The requirement in cl 4.6(3)(b) is that there are sufficient environmental planning grounds to justify contravening the development standard, not that the development that contravenes the development standard have a better environmental planning outcome than a development that complies with the development standard.

There are sufficient environmental planning grounds to justify contravening the development standard.

4.4 Clause 4.6(a)(iii) – Is the proposed development in the public interest because it is consistent with the objectives of clause 4.3 and the objectives of the B2 Local Centre zone

The consent authority needs to be satisfied that the propose development will be in the public interest if the standard is varied because it is consistent with the objectives of the standard and the objectives of the zone.

Preston CJ in Initial Action (Para 27) described the relevant test for this as follows:

> *"The matter in cl 4.6(4)(a)(ii), with which the consent authority or the Court on appeal must be satisfied, is not merely that the proposed development will be in the public interest but that it will be in the public interest because it is consistent with the objectives of the development standard and the objectives for development of the zone in which the development is proposed to be carried out.*
>
> *It is the proposed development's consistency with the objectives of the development standard and the objectives of the zone that make the proposed development in the public interest. If the proposed development is inconsistent with either the objectives of the development standard or the objectives of the zone or both, the consent authority, or the Court on appeal, cannot be satisfied that the development will be in the public interest for the purposes of cl 4.6(4)(a)(ii)."*

As demonstrated in this request, the proposed development is consistent with the objectives of the development standard and the objectives for development of the zone in which the development is proposed to be carried out.

Accordingly, the consent authority can be satisfied that the propose development will be in the public interest if the standard is varied because it is consistent with the objectives of the standard and the objectives of the zone.

4.5 Secretary's concurrence

By Planning Circular dated 21st February 2018, the Secretary of the Department of Planning & Environment advised that consent authorities can assume the concurrence to clause 4.6 request except in the circumstances set out below:

- Lot size standards for rural dwellings;
- Variations exceeding 10%; and
- Variations to non-numerical development standards.

The circular also provides that concurrence can be assumed when an LPP is the consent authority where a variation exceeds 10% or is to a nonnumerical standard, because of the greater scrutiny that the LPP process and determination s are subject to, compared with decisions made under delegation by Council staff.

Concurrence of the Secretary can therefore be assumed in this case.

5.0 Conclusion

Pursuant to clause 4.6(4)(a), the consent authority is satisfied that the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3) being:

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

As such, I have formed the highly considered opinion that there is no statutory or environmental planning impediment to the granting of a height of buildings variation in this instance.

Boston Blyth Fleming Pty Limited

Greg Boston
B Urb & Reg Plan (UNE) MPIA
Director

Attachment 2 - Clause 4.6 variation request

Gross floor area in Zone B2

1.0 Introduction

This clause 4.6 variation has been prepared having regard to the Land and Environment Court judgements in the matters of *Wehbe v Pittwater Council* [2007] NSWLEC 827 (*Wehbe)* at [42] – [48], *Four2Five Pty Ltd v Ashfield Council* [2015] NSWCA 248, *Initial Action Pty Ltd v Woollahra Municipal Council* [2018] NSWLEC 118, *Baron Corporation Pty Limited v Council of the City of Sydney [2019]* NSWLEC 61, and *RebelMH Neutral Bay Pty Limited v North Sydney Council* [2019] NSWCA 130.

2.0 Manly Local Environmental Plan 2013 ("MLEP")

2.1 Clause 4.3 – Gross Floor Area in Zone B2

Pursuant to clause 6.16 MLEP, development consent must not be granted to the erection of a building on land in Zone B2 Local Centre unless the consent authority is satisfied that at least 25% of the gross floor area of the building will be used as commercial premises.

The objective of this clause is to provide for the viability of Zone B2 Local Centre and encourage the development, expansion and diversity of business activities, that will contribute to economic growth, retention of local services and employment opportunities in local centres

The proposal has a total commercial floor space of 152m² representing 18.7% of the total gross floor area (811m²) of the building and a non-compliance of 50.75m² or 25%.

2.2 Clause 4.6 – Exceptions to Development Standards

Clause 4.6(1) of MLEP provides:

(1) The objectives of this clause are:

(c) to provide an appropriate degree of flexibility in applying certain development standards to particular development, and

(d) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

The decision of Chief Justice Preston in Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118 ("Initial Action") provides guidance in respect of the operation of clause 4.6 subject to the clarification by the

NSW Court of Appeal *in RebelMH Neutral Bay Pty Limited v North Sydney Council* [2019] NSWCA 130 at [1], [4] & [51] where the Court confirmed that properly construed, a consent authority has to be satisfied that an applicant's written request has in fact demonstrated the matters required to be demonstrated by cl 4.6(3).

Initial Action involved an appeal pursuant to s56A of the Land & Environment Court Act 1979 against the decision of a Commissioner.

At [90] of *Initial Action* the Court held that:

> *"In any event, cl 4.6 does not give substantive effect to the objectives of the clause in cl 4.6(1)(a) or (b). There is no provision that requires compliance with the objectives of the clause. In particular, neither cl 4.6(3) nor (4) expressly or impliedly requires that development that contravenes a development standard "achieve better outcomes for and from development". If objective (b) was the source of the Commissioner's test that non-compliant development should achieve a better environmental planning outcome for the site relative to a compliant development, the Commissioner was mistaken. Clause 4.6 does not impose that test."*

The legal consequence of the decision in *Initial Action* is that clause 4.6(1) is not an operational provision and that the remaining clauses of clause 4.6 constitute the operational provisions.

Clause 4.6(2) of MLEP provides:

(5) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

This clause applies to the clause 6.16 gross floor area in Zone B2 Development Standard.

Clause 4.6(3) of MLEP provides:

(6) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

The subject application does not propose any commercial floor space give that it seeks the rebuilding of a residential flat building pursuant to the existing use rights provisions of the Act. This standard clearly derogates from the existing use rights enjoyed for a prohibited residential flat building use in the zone.

In this regard, strict compliance is considered to be unreasonable in the circumstances of this case and there are considered to be sufficient environmental planning grounds to justify contravening the development standard.

The relevant arguments are set out later in this written request.

Clause 4.6(4) of MLEP provides:

(7) Development consent must not be granted for development that contravenes a development standard unless:

(a) the consent authority is satisfied that:

(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and

(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and

(b) the concurrence of the Director-General has been obtained.

In *Initial Action* the Court found that clause 4.6(4) required the satisfaction of two preconditions ([14] & [28]). The first precondition is found in clause 4.6(4)(a). That precondition requires the formation of two positive opinions of satisfaction by the consent authority. The first positive opinion of satisfaction (cl 4.6(4)(a)(i)) is that the applicant's written request has adequately addressed the matters required to be demonstrated by clause 4.6(3)(a)(i) (*Initial Action* at [25]).

The second positive opinion of satisfaction (cl 4.6(4)(a)(ii)) is that the proposed development will be in the public interest ***because*** it is consistent with the objectives of the development standard and the objectives for development of the zone in which the development is proposed to be carried out (*Initial Action* at [27]). The second precondition is found in clause 4.6(4)(b). The second precondition requires the consent authority to be satisfied that that the concurrence of the Secretary (of the Department of Planning and the Environment) has been obtained (*Initial Action* at [28]).

Under cl 64 of the *Environmental Planning and Assessment Regulation* 2000, the Secretary has given written notice dated 21 February 2018, attached to the Planning Circular PS 18-003 issued on 21 February 2018, to each consent authority, that it may assume the Secretary's concurrence for exceptions to development standards in respect of applications made under cl 4.6, subject to the conditions in the table in the notice.

Clause 4.6(5) of MLEP provides:

(5) In deciding whether to grant concurrence, the Director-General must consider:

(d) whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and

(e) the public benefit of maintaining the development standard, and

(f) any other matters required to be taken into consideration by the Director-General before granting concurrence.

The Land & Environment Court has the power under cl 4.6(2) to grant development consent for development that contravenes a development standard, if it is satisfied of the matters in cl 4.6(4)(a), without obtaining or assuming the concurrence of the Secretary under cl 4.6(4)(b), by reason of s 39(6) of the Court Act. Nevertheless, the Court should still consider the matters in cl 4.6(5) when exercising the power to grant development consent for development that contravenes a development standard: *Fast Buck$ v Byron Shire Council* (1999) 103 LGERA 94 at 100; *Wehbe v Pittwater Council* at [41] (*Initial Action* at [29]).

Clause 4.6(6) relates to subdivision and is not relevant to the development. Clause 4.6(7) is administrative and requires the consent authority to keep a record of its assessment of the clause 4.6 variation. Clause 4.6(8) is only relevant so as to note that it does not exclude clause 6.16 of MLEP from the operation of clause 4.6.

3.0 Relevant Case Law

In *Initial Action* the Court summarised the legal requirements of clause 4.6 and confirmed the continuing relevance of previous case law at [13] to [29]. In particular the Court confirmed that the five common ways of establishing that compliance with a development standard might be unreasonable and unnecessary as identified in *Wehbe v Pittwater Council (2007) 156 LGERA 446; [2007] NSWLEC 827* continue to apply as follows:

23. The first and most commonly invoked way is to establish that compliance with the development standard is unreasonable or unnecessary because the objectives of the development standard are achieved notwithstanding non-compliance with the standard: Wehbe v Pittwater Council at [42] and [43].

24. A second way is to establish that the underlying objective or purpose is not relevant to the development with the consequence that compliance is unnecessary: Wehbe v Pittwater Council at [45].

25. A third way is to establish that the underlying objective or purpose would be defeated or thwarted if compliance was required with the consequence that compliance is unreasonable: Wehbe v Pittwater Council at [46].

26. A fourth way is to establish that the development standard has been virtually abandoned or destroyed by the Council's own decisions in granting development consents that depart from the standard and hence compliance with the standard is unnecessary and unreasonable: Wehbe v Pittwater Council at [47].

27. A fifth way is to establish that the zoning of the particular land on which the development is proposed to be carried out was unreasonable or inappropriate so that the development standard, which was appropriate for that zoning, was also unreasonable or unnecessary as it applied to that land and that compliance with the standard in the circumstances of the case would also be unreasonable or unnecessary: Wehbe v Pittwater Council at [48]. However, this fifth way of establishing that compliance with the development standard is unreasonable or unnecessary is limited, as explained in Wehbe v Pittwater Council at [49]-[51]. The power under cl 4.6 to dispense with compliance with the development standard is not a general planning power to determine the appropriateness of the development standard for the zoning or to effect general planning changes as an alternative to the strategic planning powers in Part 3 of the EPA Act.

28. These five ways are not exhaustive of the ways in which an applicant might demonstrate that compliance with a development standard is unreasonable or unnecessary; they are merely the most commonly invoked ways. An applicant does not need to establish all of the ways. It may be sufficient to establish only one way, although if more ways are applicable, an applicant can demonstrate that compliance is unreasonable or unnecessary in more than one way.

The relevant steps identified in *Initial Action* (and the case law referred to in *Initial Action*) can be summarised as follows:

1. Is clause 6.16 of MLEP a development standard?

2. Is the consent authority satisfied that this written request adequately addresses the matters required by clause 4.6(3) by demonstrating that:

    (a) compliance is unreasonable or unnecessary; and

    (b) there are sufficient environmental planning grounds to justify contravening the development standard

3. Is the consent authority satisfied that the proposed development will be in the public interest because it is consistent with the objectives of clause 6.16 of MLEP and the objectives for development for in the zone?

4. Has the concurrence of the Secretary of the Department of Planning and Environment been obtained?

5. Where the consent authority is the Court, has the Court considered the matters in clause 4.6(5) when exercising the power to grant development consent for the development that contravenes clause 6.16 of MLEP?

4.0 Request for variation

4.1 Is clause 6.16 of MLEP a development standard?

We are of the opinion that this provision is a development standard to which clause 4.6 applies.

4.2 Clause 4.6(3)(a) – Whether compliance with the development standard is unreasonable or unnecessary

The common approach for an applicant to demonstrate that compliance with a development standard is unreasonable or unnecessary are set out in Wehbe v Pittwater Council [2007] NSWLEC 827.

The first option, which has been adopted in this case, is to establish that compliance with the development standard is unreasonable and unnecessary because the objectives of the development standard are achieved notwithstanding non-compliance with the standard.

The proposal has a total commercial floor space of 152m² representing 18.7% of the total gross floor area (811m²) of the building and a non-compliance of 50.75m² or 25%.

Consistency with objectives of the standard

The objective of this standard is to provide for the viability of Zone B2 Local Centre and encourage the development, expansion and diversity of business activities, that will contribute to economic growth, retention of local services and employment opportunities in local centres. Having regard to this objective we note:

- The ground floor retail offers a single retail tenancy which provides activation of the street frontage;
- The retail use occupies all available ground floor space not required to accommodate residential and vehicular access to the site and required vertical circulation;
- The small block size constrains the ability for strict compliance at ground level with little demand for first floor commercial space along this section of Whistler Street; and
- The variation will not impact the viability of the B2 Local Centre zone nor compromise the expansion and diversity of business activities that will contribute to economic growth, retention of local services and employment opportunities in the centre.

Having regard to the above, the non-compliant component of the building will achieve the objectives of the standard to at least an equal degree as would be the case with a development that complied with the building height standard. Given the developments consistency with the objectives of the standard strict compliance has been found to be both unreasonable and unnecessary under the circumstances.

Consistency with zone objectives

The subject property is zoned B2 Local Centre pursuant to MLEP 2013. The property benefits from existing use rights for the purpose of a residential flat building. Such use is not anticipated in the zone. The developments consistency with the stated objectives of the B2 zone are as follows:

- *To provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area.*

Response: The proposed mixed use development provides ground floor retail tenancies which activate the Whistler Street frontage and which are able to accommodate a rage of retail uses that serve the needs of people who live in, work in and visit the local area. The proposal achieves this objective

- *To encourage employment opportunities in accessible locations.*

Response: The proposed mixed use development provides ground floor retail tenancies which will provide employment opportunities in an accessible location. The proposal will also encourage employment in terms of strata management and property maintenance. The proposal achieves this objective.

- *To maximise public transport patronage and encourage walking and cycling.*

Response: The proposal does not provide any excessive carparking and as such achieves this objective.

- *To minimise conflict between land uses in the zone and adjoining zones and ensure amenity for the people who live in the local centre in relation to noise, odour, delivery of materials and use of machinery.*

Response: The development is not within proximity of any zone boundaries. No objection is raised to standard conditions pertaining to the acoustic performance of air conditioning condensers. The proposal achieves this objective.

The proposed development, notwithstanding the commercial floor space non-compliance, achieves the objectives of the zone.

The non-compliant component of the development, as it relates to commercial floor space, demonstrates consistency with objectives of the zone and the floor space standard objectives. Adopting the first option in *Wehbe* strict compliance with the height of buildings standard has been demonstrated to be is unreasonable and unnecessary.

Adopting the second option in *Wehbe* strict compliance with the height of buildings standard has been demonstrated to be unreasonable.

4.3 Clause 4.6(4)(b) – Are there sufficient environmental planning grounds to justify contravening the development standard?

In Initial Action the Court found at [23]-[24] that:

25. As to the second matter required by cl 4.6(3)(b), the grounds relied on by the applicant in the written request under cl 4.6 must be "environmental planning grounds" by their nature: see Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90 at [26]. The adjectival phrase "environmental planning" is not defined, but would refer to grounds that relate to the subject matter, scope and purpose of the EPA Act, including the objects in s 1.3 of the EPA Act.

26. The environmental planning grounds relied on in the written request under cl 4.6 must be "sufficient". There are two respects in which the written request needs to be "sufficient". First, the environmental planning grounds advanced in the written request must be sufficient "to justify contravening the development standard". The focus of cl 4.6(3)(b) is on the aspect or element of the development that contravenes the development standard, not on the development as a whole, and why that contravention is justified on environmental planning grounds.

The environmental planning grounds advanced in the written request must justify the contravention of the development standard, not simply promote the benefits of carrying out the development as a whole: see Four2Five Pty Ltd v Ashfield Council [2015] NSWCA 248 at [15]. Second, the written request must demonstrate that there are sufficient environmental planning grounds to justify contravening the development standard so as to enable the consent authority to be satisfied under cl 4.6(4)(a)(i) that the written request has adequately addressed this matter: see Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90 at [31].

Sufficient environmental planning grounds exist to justify the variation namely the constraints imposed by site area and geometry which makes strict compliance difficult to achieve whilst realizing the orderly and economic use and development of the land.

Further, the proposed development achieves the objects in Section 1.3 of the EPA Act, specifically:

- The proposal promotes the orderly and economic use and development of land (1.3(c)).

- The development represents good design (1.3(g)).

- The building as designed facilitates its proper construction and will ensure the protection of the health and safety of its future occupants (1.3(h)).

It is noted that in *Initial Action,* the Court clarified what items a Clause 4.6 does and does not need to satisfy. Importantly, there does not need to be a "better" planning outcome:

> *87. The second matter was in cl 4.6(3)(b). I find that the Commissioner applied the wrong test in considering this matter by requiring that the development, which contravened the height development standard, result in a "better environmental planning outcome for the site" relative to a development that complies with the height development standard (in [141] and [142] of the judgment). Clause 4.6 does not directly or indirectly establish this test. The requirement in cl 4.6(3)(b) is that there are sufficient environmental planning grounds to justify contravening the development standard, not that the development that contravenes the development standard have a better environmental planning outcome than a development that complies with the development standard.*

There are sufficient environmental planning grounds to justify contravening the development standard.

4.4 Clause 4.6(a)(iii) – Is the proposed development in the public interest because it is consistent with the objectives of clause 4.3 and the objectives of the B2 Local Centre zone

The consent authority needs to be satisfied that the proposed development will be in the public interest if the standard is varied because it is consistent with the objectives of the standard and the objectives of the zone.

Preston CJ in Initial Action (Para 27) described the relevant test for this as follows:

> *"The matter in cl 4.6(4)(a)(ii), with which the consent authority or the Court on appeal must be satisfied, is not merely that the proposed development will be in the public interest but that it will be in the public interest because it is consistent with the objectives of the development standard and the objectives for development of the zone in which the development is proposed to be carried out.*

It is the proposed development's consistency with the objectives of the development standard and the objectives of the zone that make the proposed development in the public interest. If the proposed development is inconsistent with either the objectives of the development standard or the objectives of the zone or both, the consent authority, or the Court on appeal, cannot be satisfied that the development will be in the public interest for the purposes of cl 4.6(4)(a)(ii)."

As demonstrated in this request, the proposed development is consistent with the objectives of the development standard and the objectives for development of the zone in which the development is proposed to be carried out.

Accordingly, the consent authority can be satisfied that the propose development will be in the public interest if the standard is varied because it is consistent with the objectives of the standard and the objectives of the zone.

4.5 Secretary's concurrence

By Planning Circular dated 21st February 2018, the Secretary of the Department of Planning & Environment advised that consent authorities can assume the concurrence to clause 4.6 request except in the circumstances set out below:

- Lot size standards for rural dwellings;
- Variations exceeding 10%; and
- Variations to non-numerical development standards.

The circular also provides that concurrence can be assumed when an LPP is the consent authority where a variation exceeds 10% or is to a nonnumerical standard, because of the greater scrutiny that the LPP process and determination s are subject to, compared with decisions made under delegation by Council staff.

Concurrence of the Secretary can therefore be assumed in this case.

5.0 Conclusion

Pursuant to clause 4.6(4)(a), the consent authority is satisfied that the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3) being:

a. *that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and*

b. *that there are sufficient environmental planning grounds to justify contravening the development standard.*

As such, I have formed the highly considered opinion that there is no statutory or environmental planning impediment to the granting of a commercial floor space in the B2 zone variation in this instance.

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