The background features three overlapping teal triangles pointing to the right. The leftmost triangle is partially cut off by the edge. The middle triangle is the largest and is centered horizontally. The rightmost triangle is also partially cut off by the edge. The text is overlaid on the middle triangle.

4.0

BUILT FORM TESTING

4.0 Built Form Testing

The case studies are drawn from applications received and permits issued within the Study Areas over the last 5 years. The case studies were selected by Council officers to demonstrate the range of higher density applications received, with some determined by Council and some through a VCAT process. The case studies were tested against the proposed standards and demonstrates the alternative outcome should the proposed standards have been applied to the site.

The testing assumed floor to floor heights of 4 metres for ground floor and 3 metres for upper levels.

The testing includes details regarding:

- Total site area
- Gross floor area
- Site coverage (%)
- Overall building height
- Side setbacks
- Rear setbacks
- Upper level setbacks
- Open Space

- Large Tree Planting Areas
- Building Depth
- Internal Amenity
- Tree pit depths

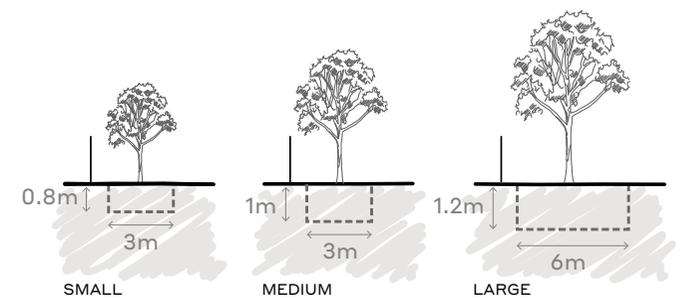
Within the four study areas, six existing permits were selected with varying site sizes, orientation and street context (main road, service road and a local court). The permit application outcomes in terms of site coverage, open space, small to medium tree planting area, and gross floor area are compared with those achieved by a combination of the Proposed Built Form Standards and Clause 58 Apartment Development requirements. By this comparison it is possible to determine whether the proposed standards are achieving a better built form outcome, while not overly restricting the housing objectives of the zone.

Comparisons were drawn between site occupation and greening and internal amenity. This included site coverage, provision of open space, provision of large tree planting area, building depth and building entry and circulation as required under Clause 58.03-5.

Clause 58, Standard D10 (Clause 58.03-5) refers to deep soil areas, but does not give a measure of the minimum required depth of a 'deep soil' area.

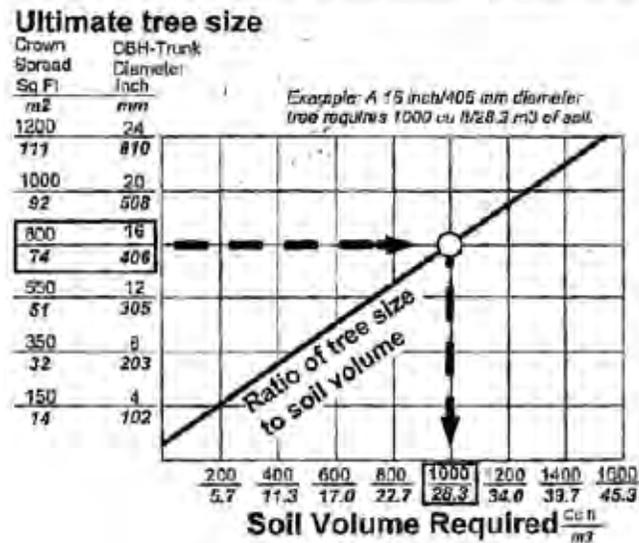
Depths have been sourced from the *Sydney Landscape Code, 2016* and the *Bartlett Tree Research Laboratories Technical Report*, to ensure trees of small, medium and large heights are provided with adequate deep soil area.

The table on the following page applies the minimum required depths to the minimum deep soil areas of Clause 58.



21 Minimum deep soil area requirements diagram

Table 2.4.1. Tree size to soil volume relationships (Urban 1992).



22 Minimum soil volume required.

Source: Bartlett Tree Research Laboratories

SITE AREA	DEEP SOIL AREAS	MINIMUM TREE PROVISION	MINIMUM DEPTH
750 - 1000 square metres	5% of site area (minimum dimension of 3 metres)	1 small tree (5-8 metres) per 30 square metres of deep soil	800mm
1001 - 1500 square metres	7.5% of site area (minimum dimension of 3 metres)	1 medium tree (8-12 metres) per 50 square metres of deep soil or 1 large tree per 90 square metres of deep soil	1000mm 1200mm
1501 - 2500 square metres	10% of site area (minimum dimension of 6 metres)	1 large tree (at least 12 metres) per 90 square metres of deep soil or 2 medium trees per 90 square metres of deep soil	1200mm 1000mm
>2500 square metres	15% of site area (minimum dimension of 6 metres)	1 large tree (at least 12 metres) per 90 square metres of deep soil or 2 medium trees per 90 square metres of deep soil	1200mm 1000mm

NOTE: Where an existing canopy tree over 8 metres can be retained on a lot greater than 1000 square metres without damage during the construction period, the minimum deep soil requirement is 7% of the site area.



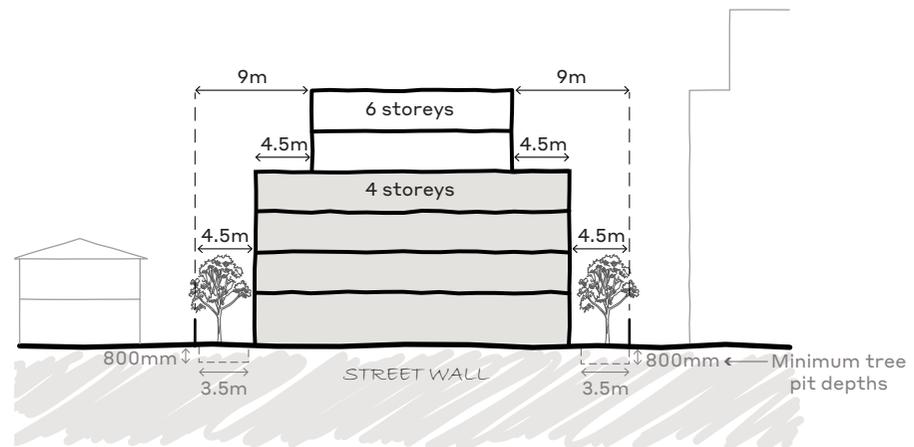
23 Apartment Development showing minimal setback

Built Form Standards for Testing - 6 storeys

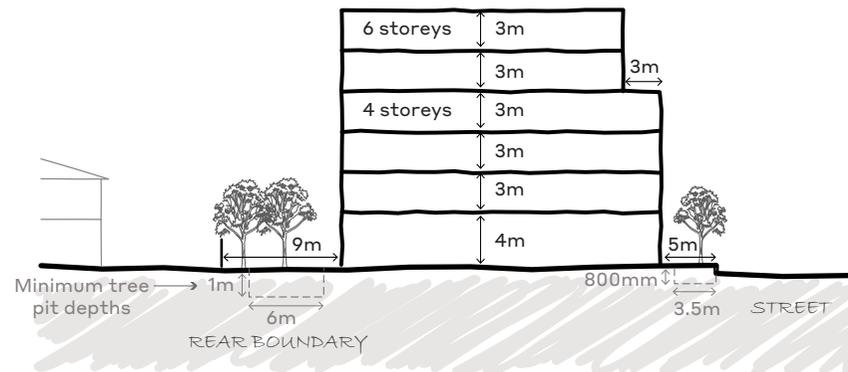
Height	6 storeys (19 metres)
Street Setbacks	5 metres (3m upper level setback above 4 storeys)
Side Setbacks	4.5 metres (to enable 9 metre separation) (4.5m upper level setback above 4 storeys)
Rear Setbacks	9 metres (to ensure adequate area for deep soil and large tree planting and landscaping) and avoid overlooking/screening

The results of the following Built Form Testing informed the subsequent Draft Built Form Guidelines and Controls in Section 5.0.

Standards for Testing - Proposed Typology



24 Front Elevation - Proposed Side Setback Standards



25 Side Elevation - Proposed Front and Rear Setback Standards

4.1 Built Form Testing

801 WHITEHORSE ROAD, MONT ALBERT

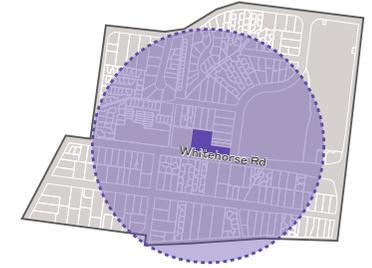
WH/2016/718

5 STOREYS

27 APARTMENTS

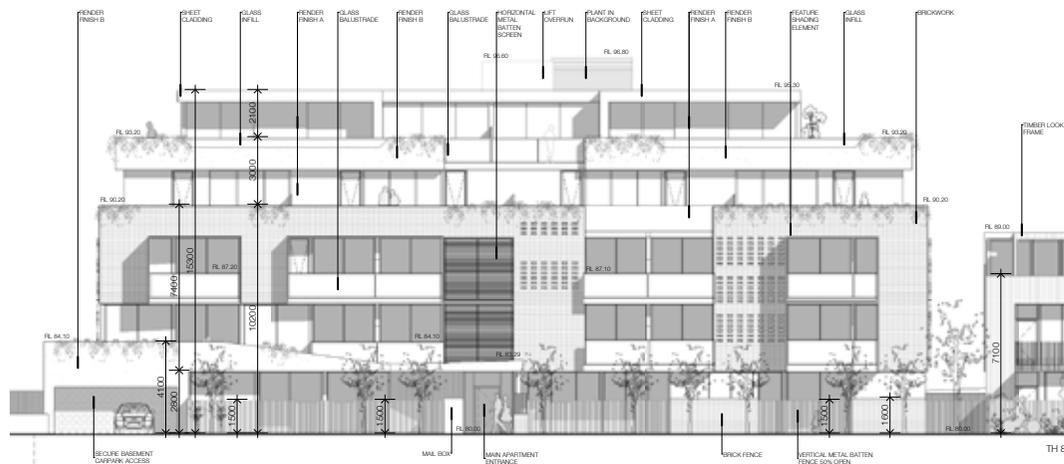
REAR ZONE INTERFACE: GRZ4 and RGZ2

SITE AREA: 3,254M²



SITE DIMENSIONS
Frontage - 94.3m
Depth - 50.7m & 17m

Existing Site Conditions



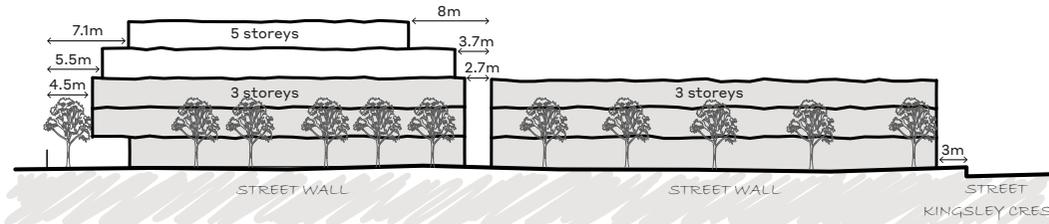
South Elevation - Clarke Hopkins Clarke Architects (Permit Application)



Ground Floor Plan - Clarke Hopkins Clarke Architects (Permit Application)

PROPOSED SETBACKS STANDARDS

PERMIT APPLICATION



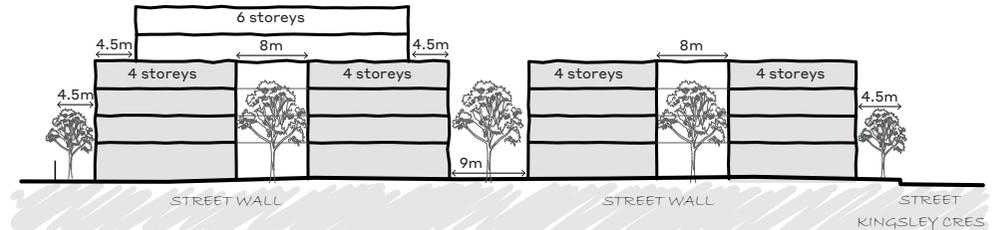
Front Elevation - Diagrammatic Representation - 801 Whitehorse Road Permit Application



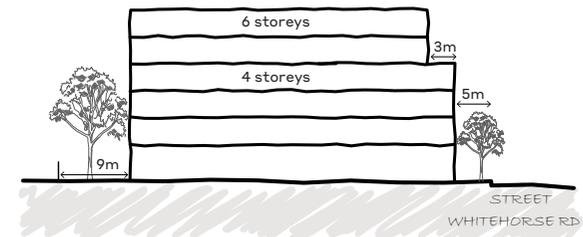
Side Elevation - Diagrammatic Representation - 801 Whitehorse Road Permit Application

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Front Elevation - Proposed Side Setback Standards

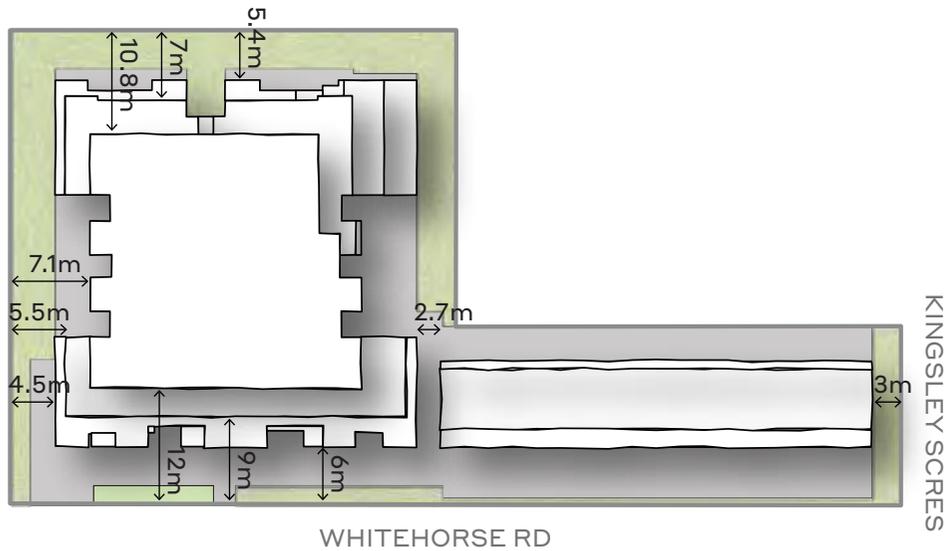


Side Elevation - Proposed Front and Rear Setback Standards

N.B. Only large and medium trees are depicted in the diagrammatic representations

SITE COVERAGE AND GREENING

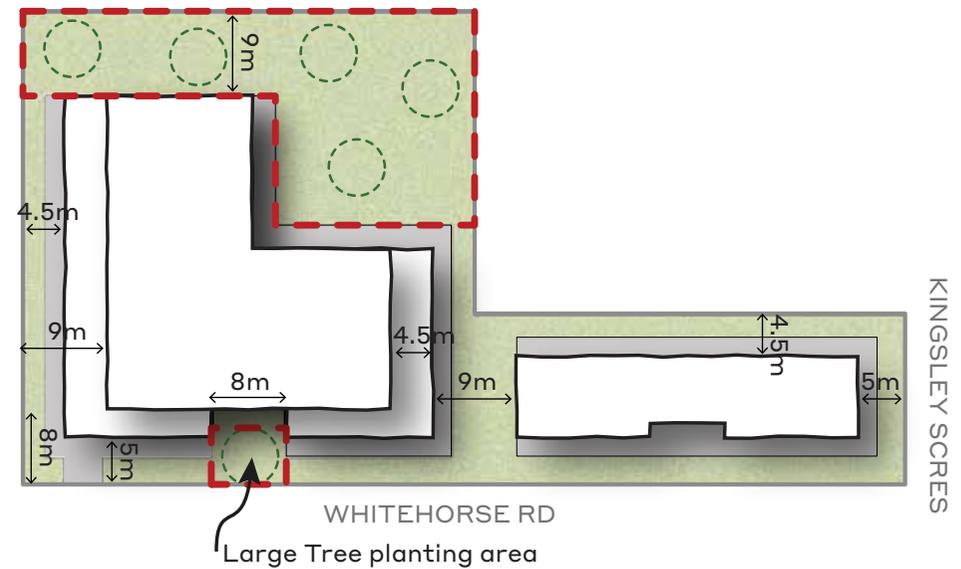
PERMIT APPLICATION



Plan (Diagrammatic Representation) - 801 Whitehorse Road Permit Application

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



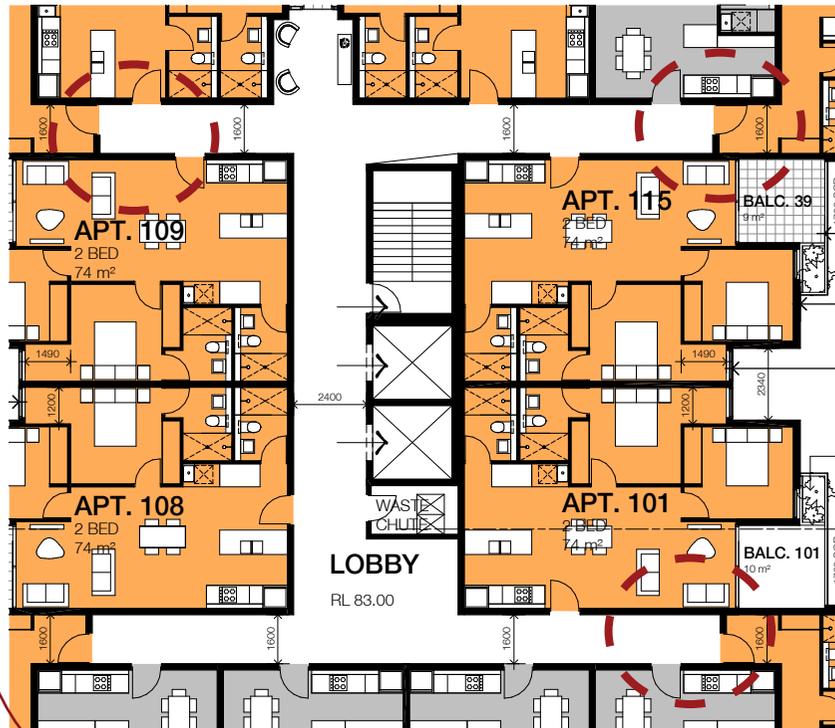
Plan (Proposed Standards for Testing Diagram) - 801 Whitehorse Road

N.B. Only large trees are depicted in the diagrammatic representations

Site Coverage -	1,522m ² (47%)	Site Coverage -	1,400m ² (43%)
Open Space -	1,614m ² (49%)	Open Space -	1,675m ² (52%)
Large Tree Area -	0m ² (0%) of the total site area can be used for large tree planting (non-compliant with cl. 58.03-5)	Large Tree Area -	774m ² (24%) of the total site area can be used for large tree planting (Provides 14% additional large tree area than what is required under cl. 58.03-5)

INTERNAL AMENITY

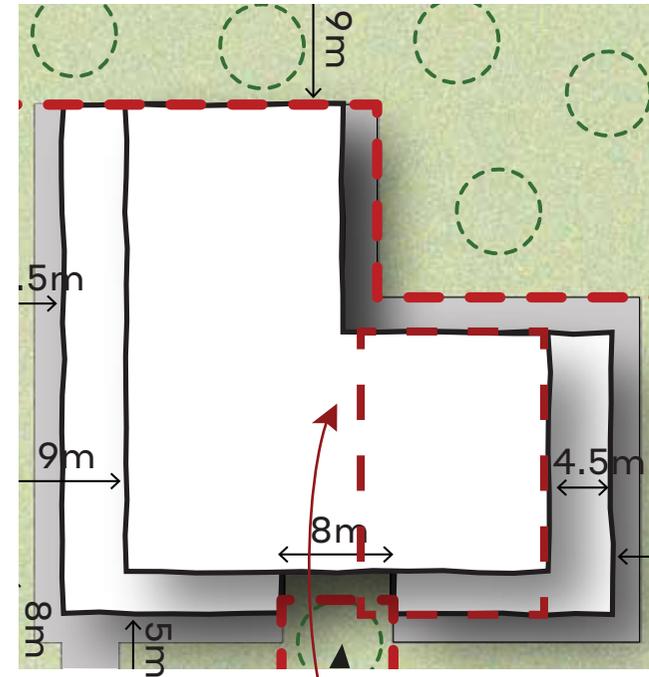
PERMIT APPLICATION



Cl. 58.05-2 Building Entry and Circulation Objectives- Due to excessive building depth the design does not comply with Standard D18 - Provide corridors with at least one source of natural light and natural ventilation

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Building Depth of a maximum of 20m ensures compliance with Clause 58 Internal Amenity

GROSS FLOOR AREA (GFA)

GFA - 6,321m²

GFA - 7,134m²

40 WHITEHORSE ROAD, BLACKBURN

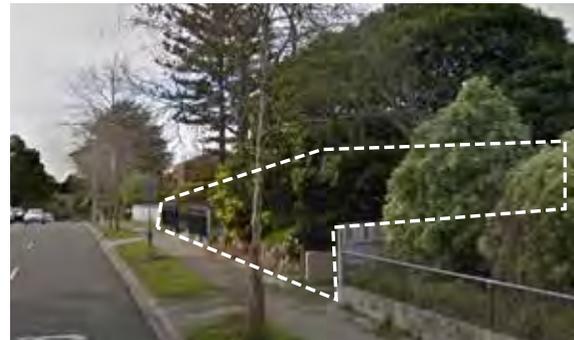
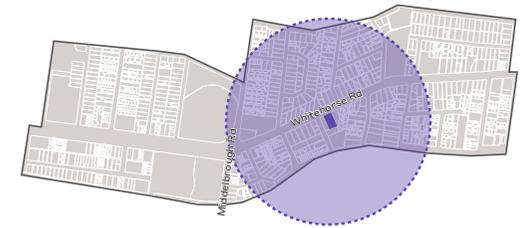
WH/2016/622

5 STOREYS

70 APARTMENTS

REAR ZONE INTERFACE: RGZ2 and GRZ2 south of the rail line

SITE AREA: 1,633M²

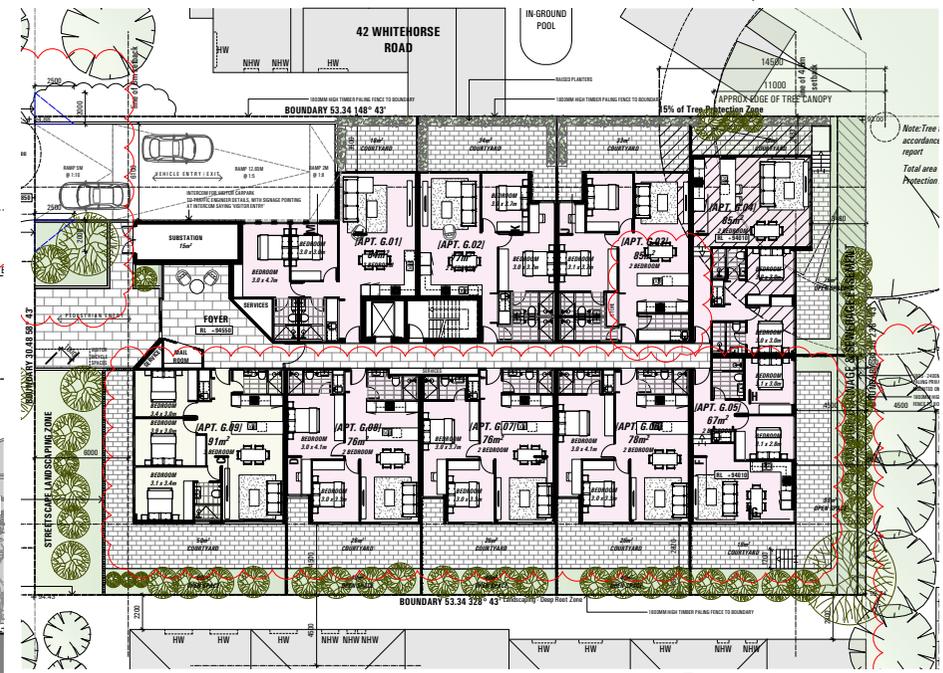


SITE DIMENSIONS
Frontage - 30.5m
Depth - 53.4m

Existing Site Conditions



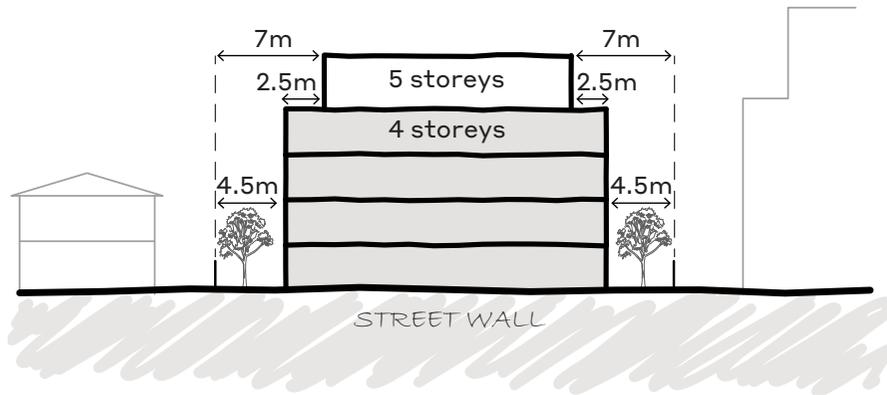
North Elevation - IDLE Architecture Studio (Permit Application)



Ground Floor Plan - IDLE Architecture Studio (Permit Application)

PROPOSED SETBACKS STANDARDS

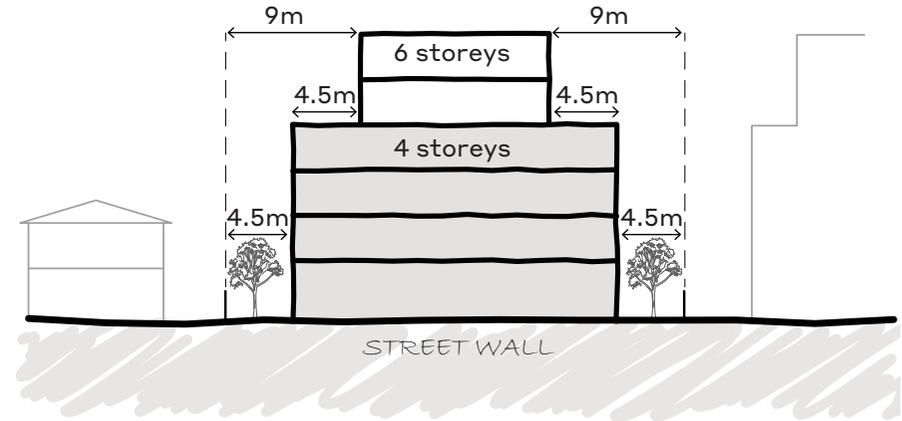
PERMIT APPLICATION



Front Elevation - Diagrammatic Representation - 40 Whitehorse Road Permit Application

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Front Elevation - Proposed Side Setback Standards



Side Elevation - Diagrammatic Representation - 40 Whitehorse Road Permit Application

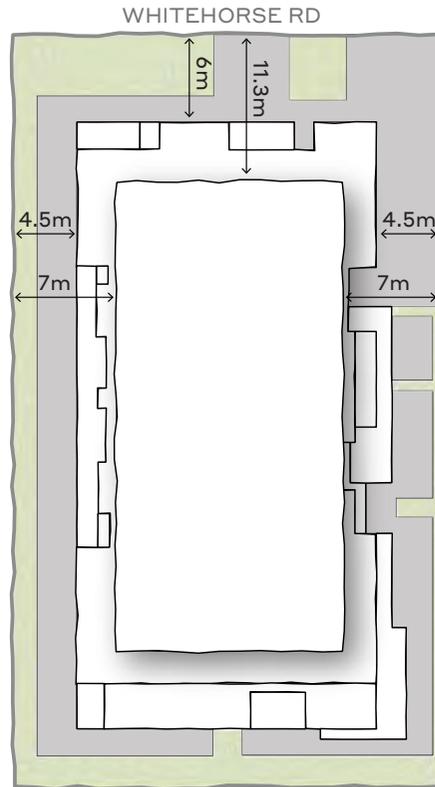


Side Elevation - Proposed Front and Rear Setback Standards

N.B. Only large and medium trees are depicted in the diagrammatic representations

SITE COVERAGE AND GREENING

PERMIT APPLICATION

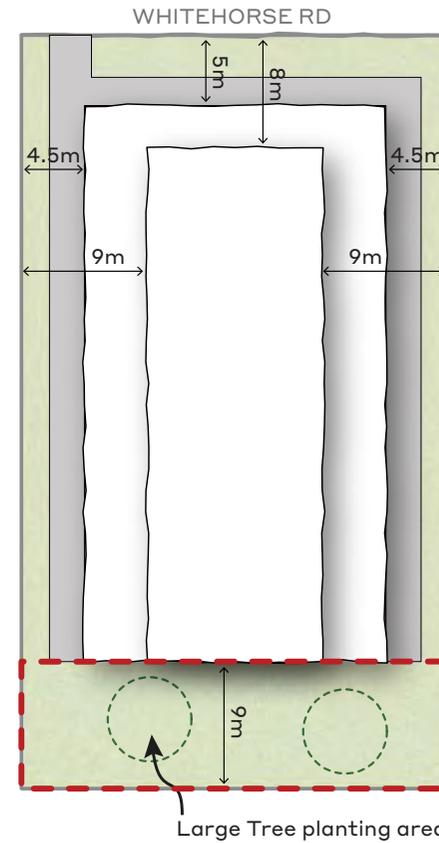


Plan (Diagrammatic Representation) - 40 Whitehorse Road Permit Application

N.B. Only large trees are depicted in the diagrammatic representations

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Plan (Proposed Standards for Testing Diagram) - 40 Whitehorse Road

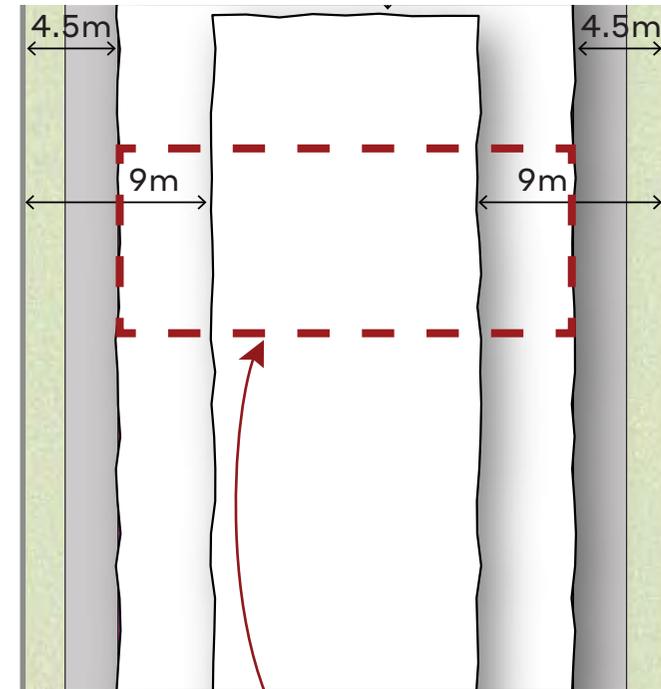
Site Coverage -	917m ² (56%)	Site Coverage -	850m ² (51%)
Open Space -	585m ² (35%)	Open Space -	769m ² (47%)
Large Tree Area -	0m ² (0%) of the total site area can be used for large tree planting (non-compliant with cl. 58.03-5)	Large Tree Area -	275m ² (17%) of the total site area can be used for large tree planting (Provides 7% additional large tree area than what is required under cl. 58.03-5)

INTERNAL AMENITY

PERMIT APPLICATION

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Cl. 58.05-2 Building Entry and Circulation Objectives- This internal building layout does not comply with Standard D18 - Provide corridors with at least one source of natural light and natural ventilation

Cl. 58.07-3 Windows Objective
- Snorkel windows with a depth greater than 1.5 times the width and not clear to the sky does not comply

Building Depth of a maximum of 20m ensures compliance with Clause 58 Internal Amenity

GROSS FLOOR AREA (GFA)

GFA - 3,727m²

GFA - 4,314m²

9 FRANKCOM STREET, BLACKBURN

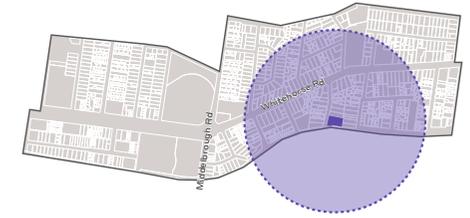
WH/2016/1172

5 STOREYS

35 APARTMENTS

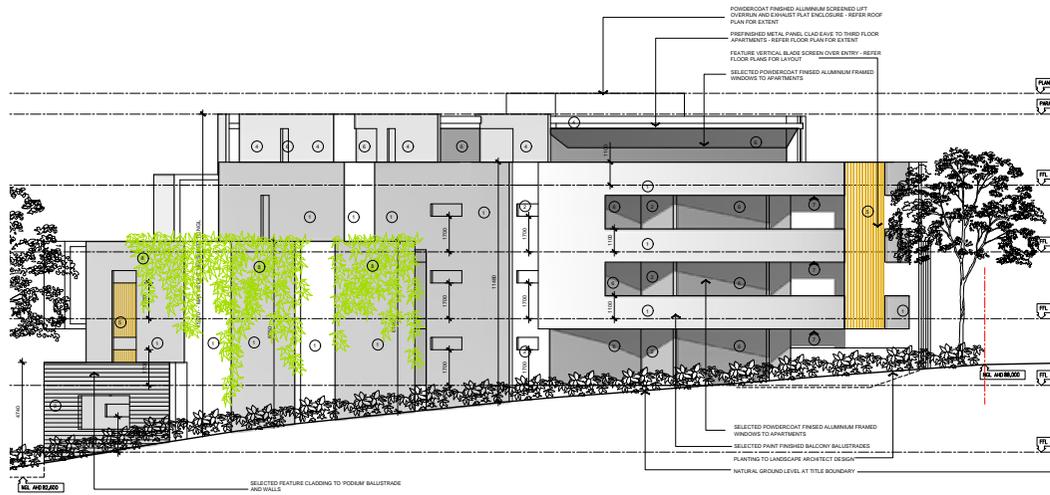
REAR ZONE INTERFACE: RGZ2

SITE AREA: 3,277M²



SITE DIMENSIONS
Frontage - 61.6m
Depth - 60.9m

Existing Site Conditions



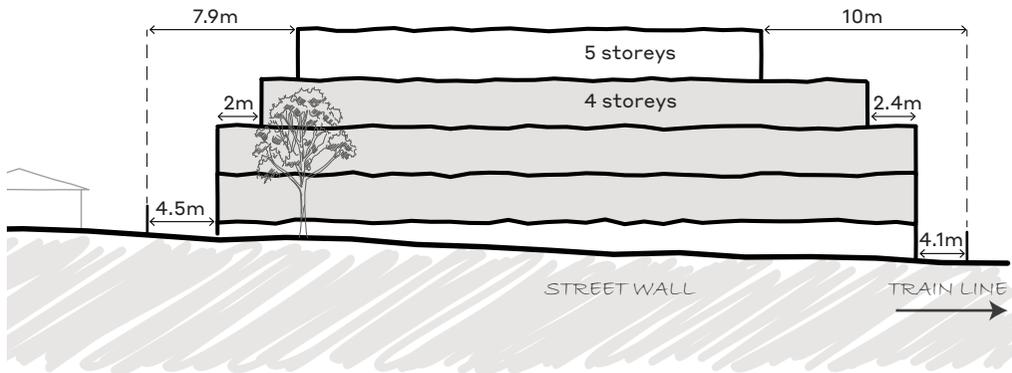
North Elevation - David Watson Architect (Permit Application)



Ground Floor Plan - David Watson Architect (Permit Application)

PROPOSED SETBACKS STANDARDS

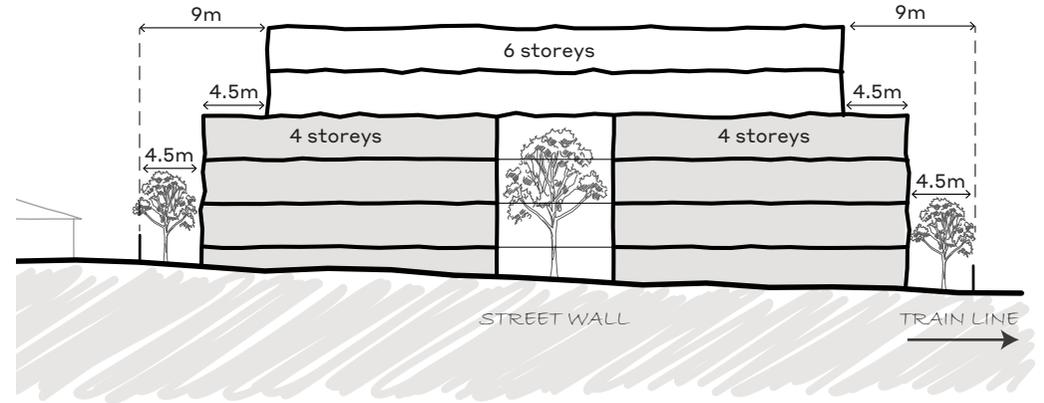
PERMIT APPLICATION



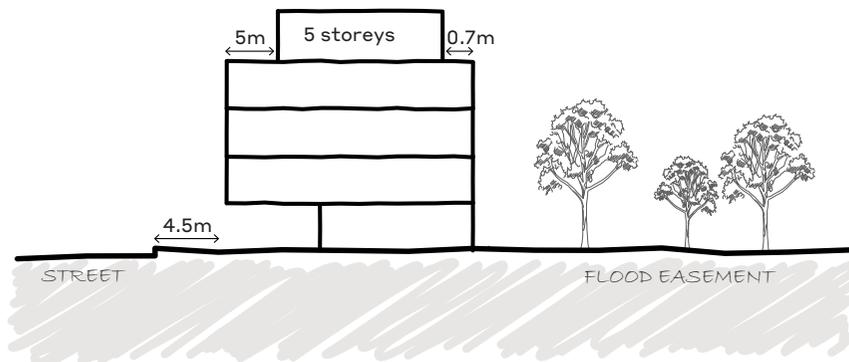
Front Elevation - Diagrammatic Representation - 9 Frankcom Street Permit Application

PROPOSED BUILT FORM STANDARDS

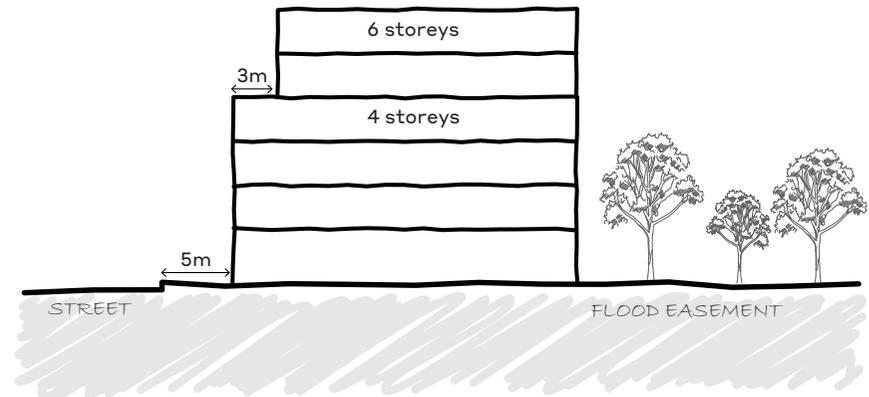
(with Cl. 58 requirements)



Front Elevation - Proposed Side Setback Standards



Side Elevation - Diagrammatic Representation - 9 Frankcom Street Permit Application

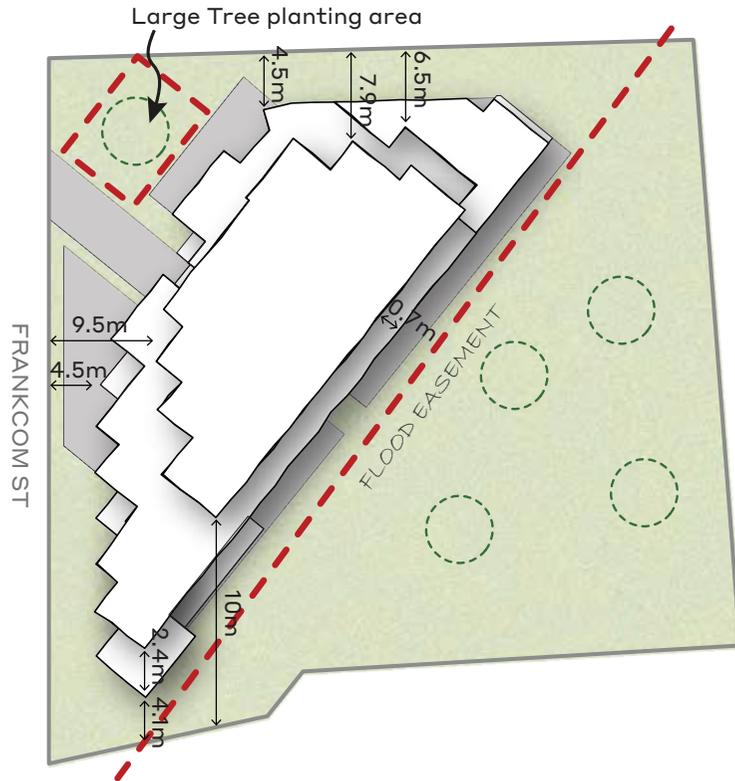


Side Elevation - Proposed Front and Rear Setback Standards

N.B. Only large and medium trees are depicted in the diagrammatic representations

SITE COVERAGE AND GREENING

PERMIT APPLICATION

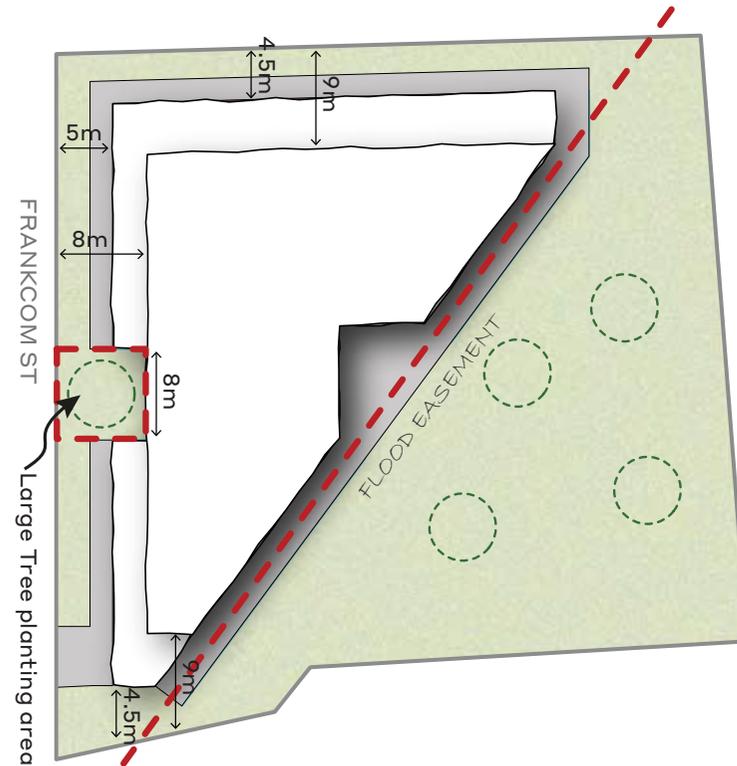


Plan (Diagrammatic Representation) - 9 Frankcom Street Permit Application

N.B. Only large trees are depicted in the diagrammatic representations

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Plan (Proposed Standards for Testing Diagram) - 9 Frankcom Street

Site Coverage -	520m ² (15%)	Site Coverage -	1,123m ² (34%)
Open Space -	2,380m ² (72%)	Open Space -	2,198m ² (66%)
Large Tree Area -	Due to an extensive flood easement applied to the rear of the site, there is a significant area for the planting of large trees	Large Tree Area -	Due to an extensive flood easement applied to the rear of the site, there is a significant area for the planting of large trees

INTERNAL AMENITY

PERMIT APPLICATION

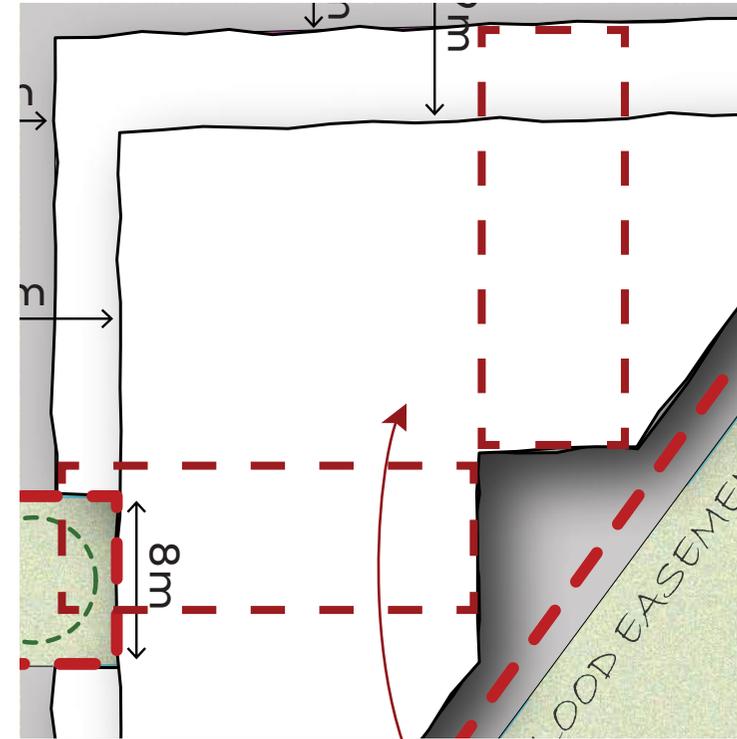


Cl. 58.05-2 Building Entry and Circulation

Objectives- Due to excessive building depth the design does not comply with Standard D18 - Provide corridors with at least one source of natural light and natural ventilation

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Building Depth of a maximum of 20m ensures compliance with Clause 58 Internal Amenity

GROSS FLOOR AREA (GFA)

GFA -

4,253m²

*Inclusive of area under cantilevered Ground Floor

GFA -

6,130m²

260 - 262 BURWOOD HIGHWAY, BURWOOD

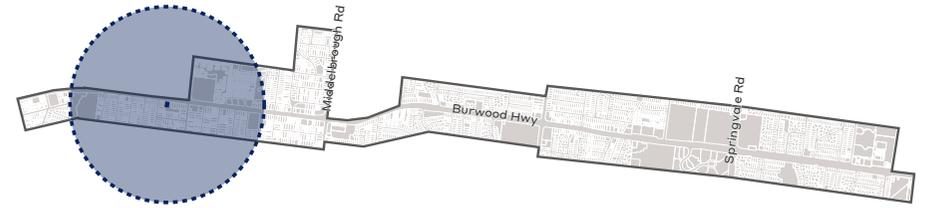
WH/2015/131

5 STOREYS

44 APARTMENTS

REAR ZONE INTERFACE: GRZ3 and PPRZ

SITE AREA: 1,577M²



SITE DIMENSIONS
Frontage - 34.8m
Depth - 45.5m

Existing Site Conditions



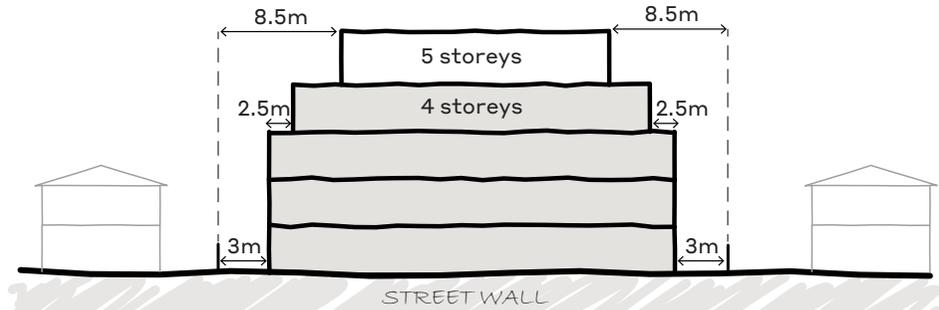
North Elevation - Ascuri & Co. Architects (Permit Application)



Level 1 Plan - Ascuri & Co. Architects (Permit Application)

PROPOSED SETBACKS STANDARDS

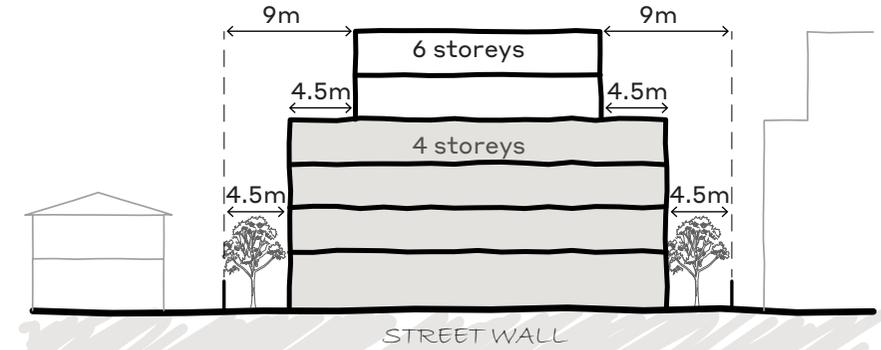
PERMIT APPLICATION



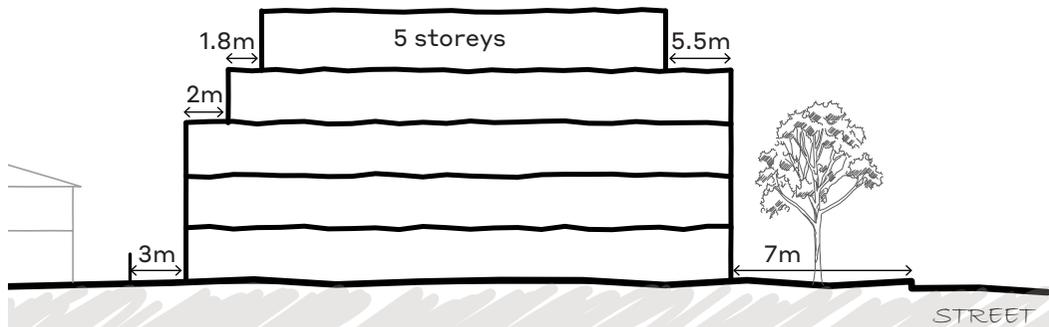
Front Elevation - Diagrammatic Representation - 260-262 Burwood Hwy Permit Application

PROPOSED BUILT FORM STANDARDS

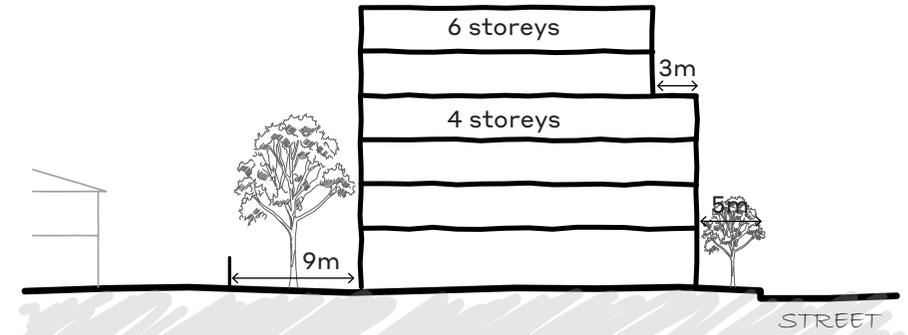
(with Cl. 58 requirements)



Front Elevation - Proposed Side Setback Standards



Side Elevation - Diagrammatic Representation - 260-262 Burwood Hwy Permit Application

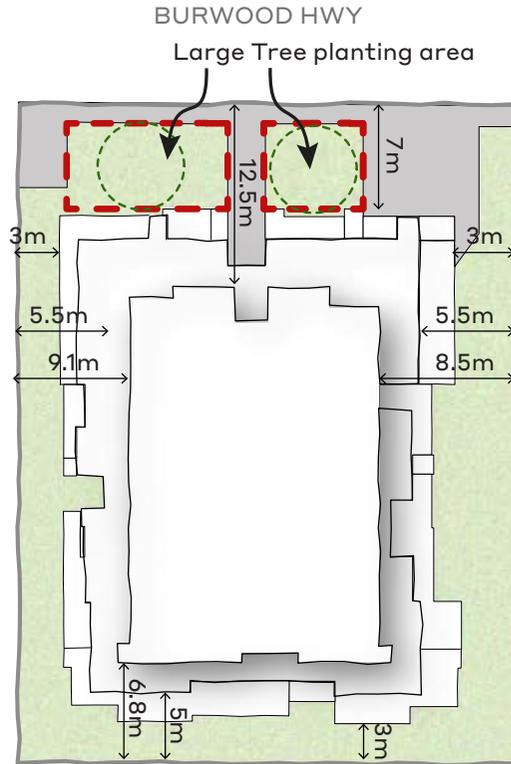


Side Elevation - Proposed Front and Rear Setback Standards

N.B. Only large and medium trees are depicted in the diagrammatic representations

SITE COVERAGE AND GREENING

PERMIT APPLICATION

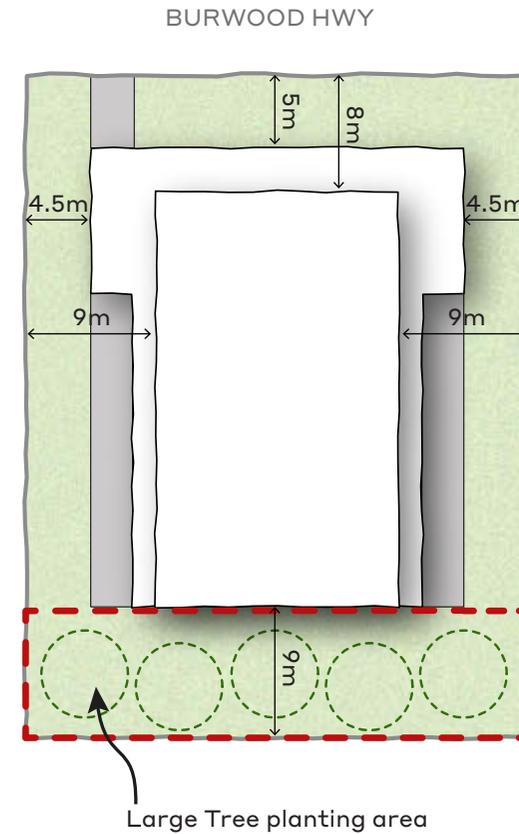


Plan (Diagrammatic Representation) - 260-262 Burwood Hwy Permit Application

N.B. Only large trees are depicted in the diagrammatic representations

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)

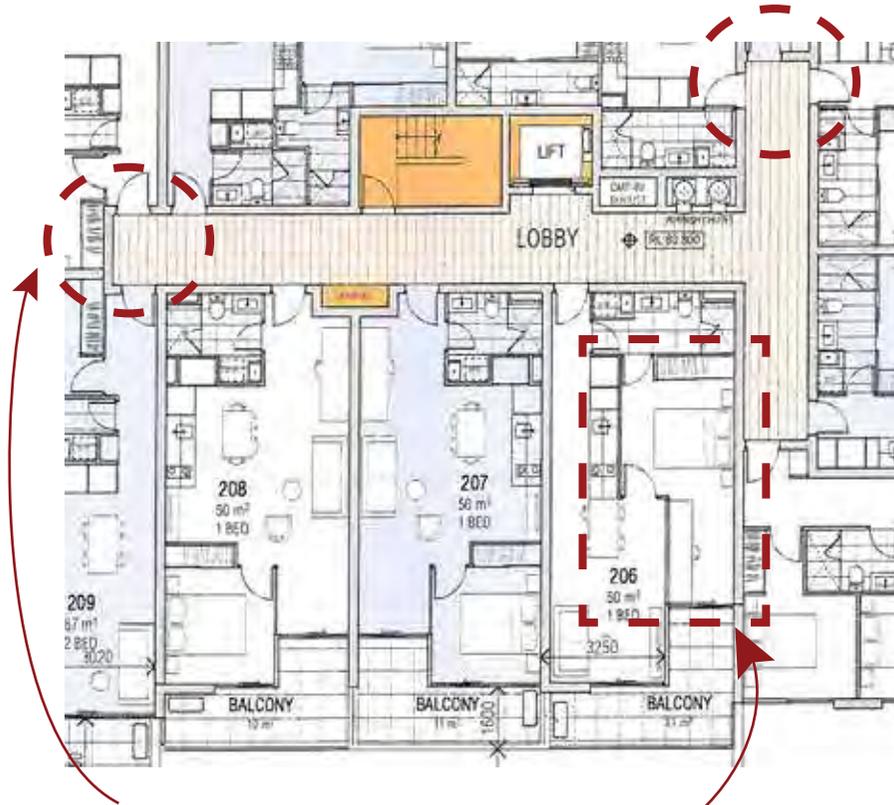


Plan (Proposed Standards for Testing Diagram) - 260-262 Burwood Hwy

Site Coverage -	941m ² (60%)	Site Coverage -	889m ² (56%)
Open Space -	495m ² (31%)	Open Space -	548m ² (35%)
Large Tree Area -	120m ² (7.6%) of the total site area can be used for deep soil planting (non-compliant with cl. 58.03-5)	Large Tree Area -	313m ² (20%) of the total site area can be used for large tree planting (Provides 10% additional large tree area than what is required under cl. 58.03-5)

INTERNAL AMENITY

PERMIT APPLICATION

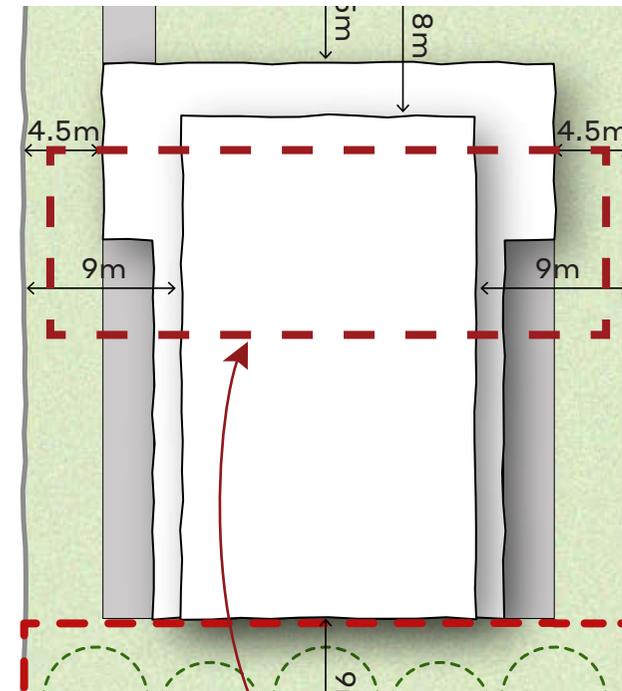


Cl. 58.05-2 Building Entry and Circulation Objectives- Due to excessive building depth the design does not comply with Standard D18 - Provide corridors with at least one source of natural light and natural ventilation

Cl. 58.07-3 Windows Objective
 - Snorkel windows with a depth greater than 1.5 times the width and not clear to the sky does not comply

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Building Depth of a maximum of 20m ensures compliance with Clause 58 Internal Amenity

GROSS FLOOR AREA (GFA)

GFA - 3,886m²

GFA - 3,710m²

254-258 BURWOOD HIGHWAY, BURWOOD

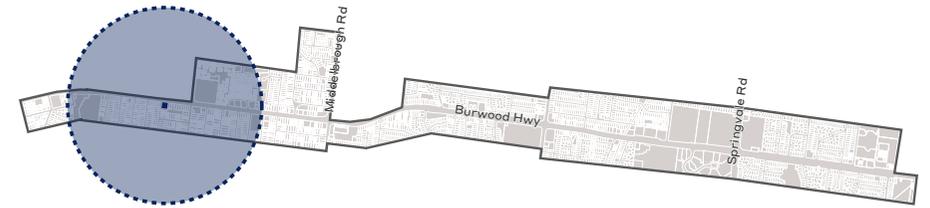
WH/2015/505

5 STOREYS

69 APARTMENTS

REAR ZONE INTERFACE: GRZ3

SITE AREA: 2,044M²



SITE DIMENSIONS
Frontage - 44.8m
Depth - 45.5m

Existing Site Conditions



North Elevation - Ascuri & Co. Architects (Permit Application)

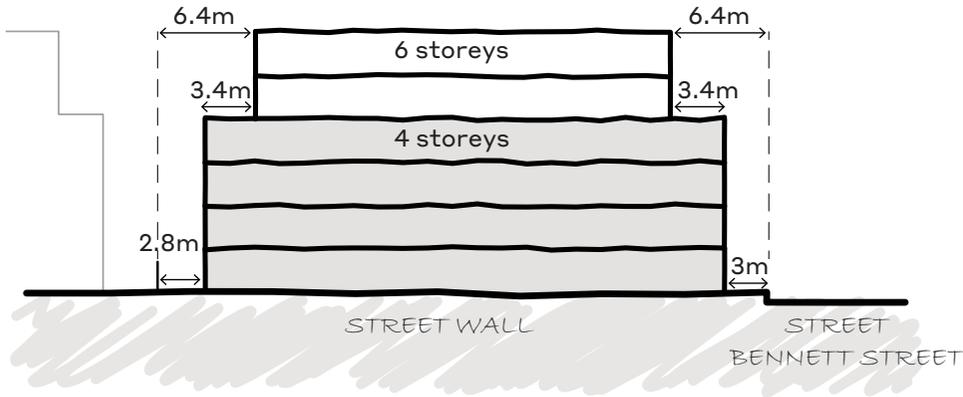


Ground Floor Plan - Ascuri & Co. Architects (Permit Application)

consideration and review as part of the planning process under the Planning and Environment Act 1987. This document must not be used for any purpose which may breach any copyright.

PROPOSED SETBACKS STANDARDS

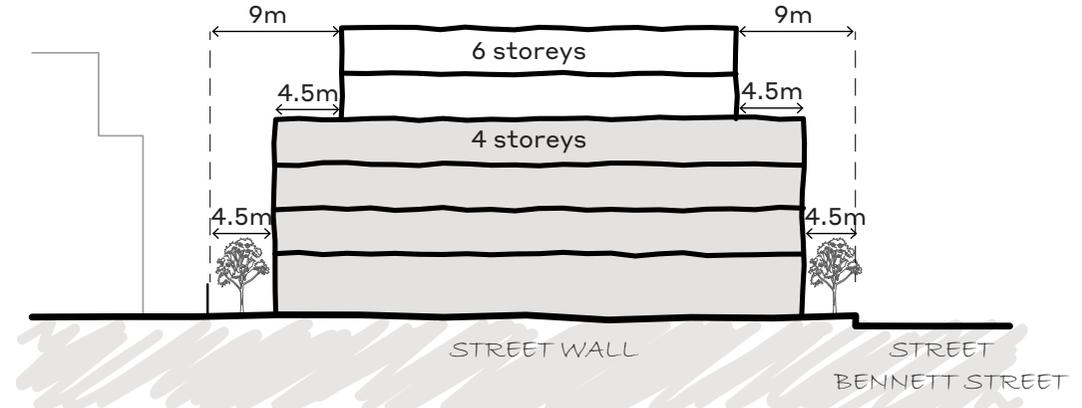
PERMIT APPLICATION



Front Section - Diagrammatic Representation - 254-258 Burwood Highway Permit Application

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Front Elevation - Proposed Side Setback Standards



Side Section - Diagrammatic Representation - 254-258 Burwood Highway Permit Application

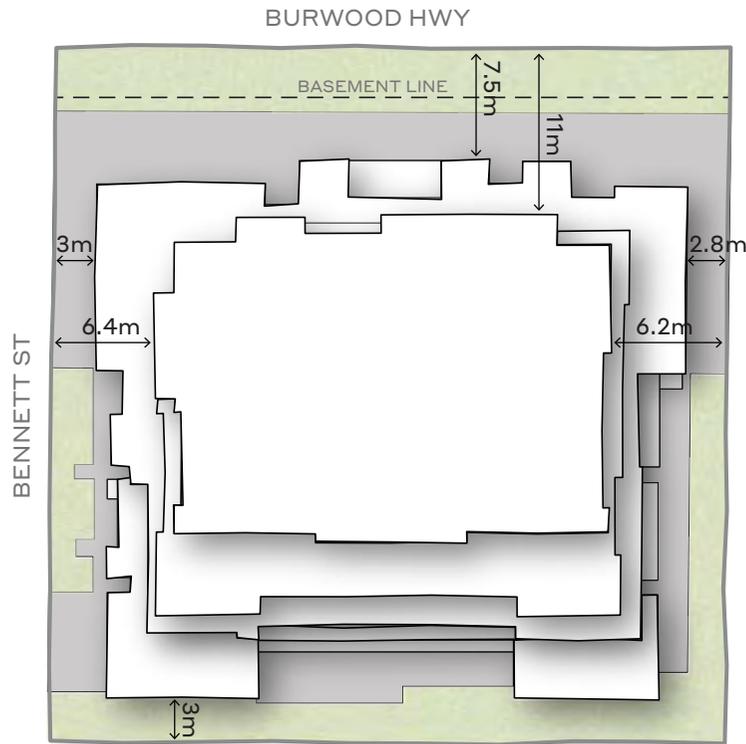


Side Elevation - Proposed Front and Rear Setback Standards

N.B. Only large and medium trees are depicted in the diagrammatic representations

SITE COVERAGE AND GREENING

PERMIT APPLICATION

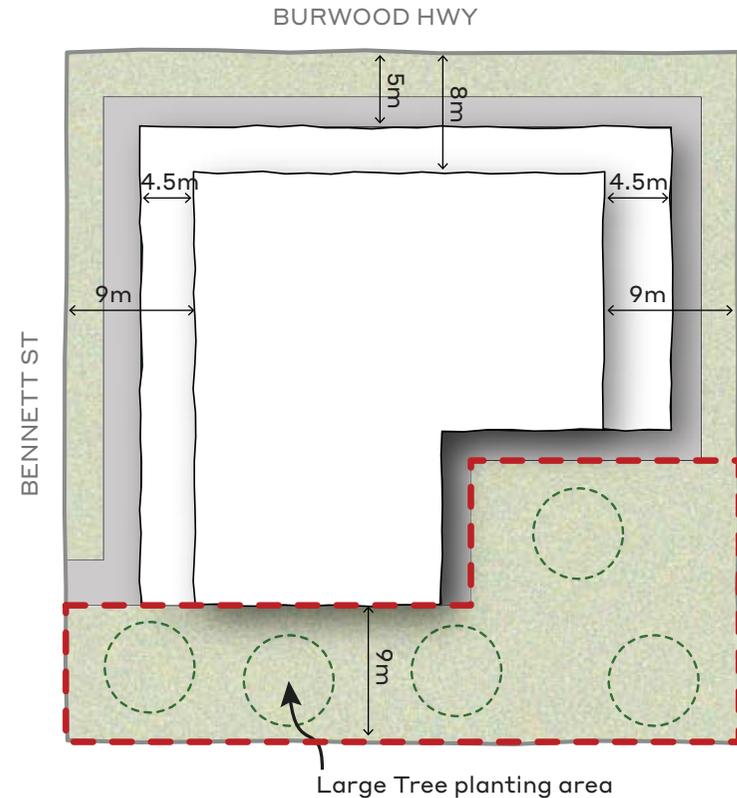


Plan (Diagrammatic Representation) - 254-258 Burwood Highway Permit Application

N.B. Only large trees are depicted in the diagrammatic representations

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Plan (Proposed Standards for Testing Diagram) - 254-258 Burwood Highway

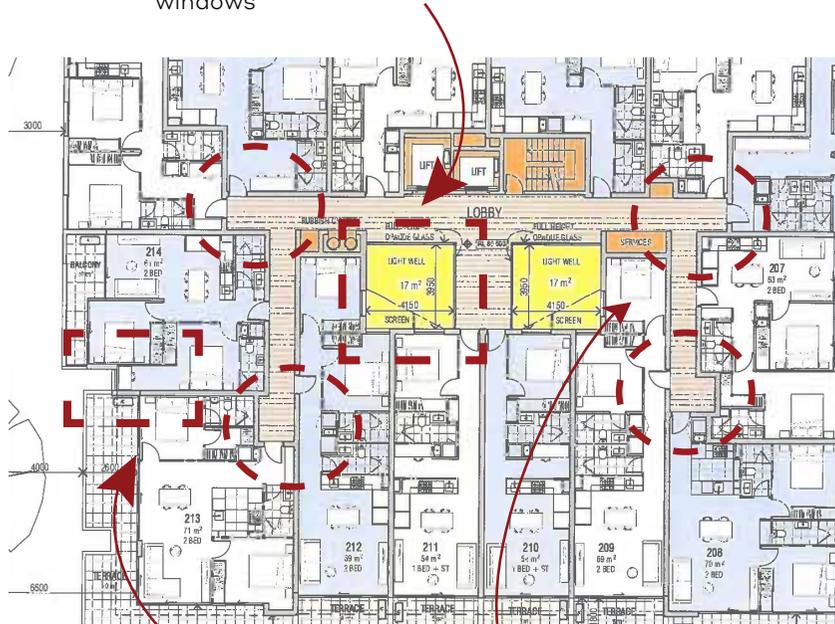
Site Coverage -	1,157m ² (57%)	Site Coverage -	938m ² (46%)
Open Space -	795m ² (39%)	Open Space -	1,090m ² (53%)
Large Tree Area -	0m ² (0%) of the total site area can be used for large tree planting (non-compliant with cl. 58.03-5)	Large Tree Area -	574m ² (28%) of the total site area can be used for large tree planting (Provides 18% additional large tree area than what is required under cl. 58.03-5)

INTERNAL AMENITY

PERMIT APPLICATION

Cl. 58.07-3 Windows Objective -

Apartments should preferably let in direct sunlight. Light courts are not a preferable outcome for habitable room windows



Cl. 58.07-3 Windows Objective

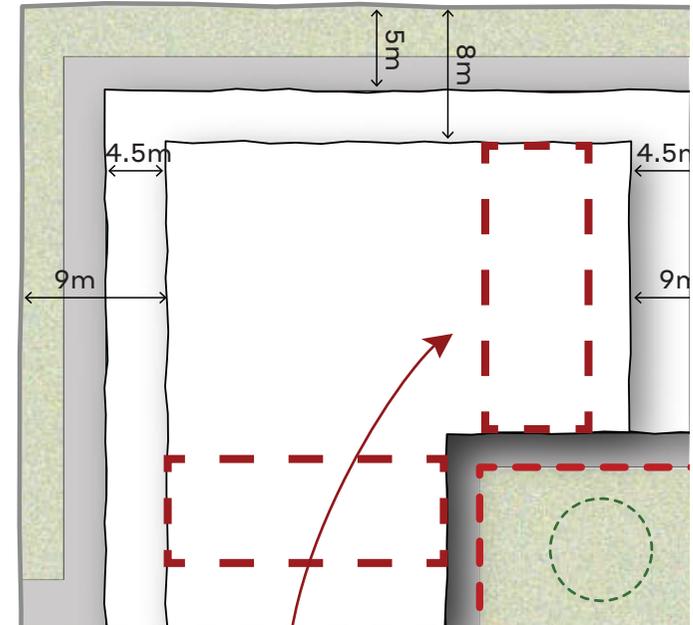
- Snorkel windows with a depth greater than 1.5 times the width and not clear to the sky does not comply

Cl. 58.05-2 Building Entry and Circulation Objectives-

Due to excessive building depth the design does not comply with Standard D18 - Provide corridors with at least one source of natural light and natural ventilation

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Building Depth of a maximum of 20m ensures compliance with Clause 58 Internal Amenity

GROSS FLOOR AREA (GFA)

GFA - 5,939m²

GFA - 5,093m²

467 BURWOOD HIGHWAY, VERMONT SOUTH

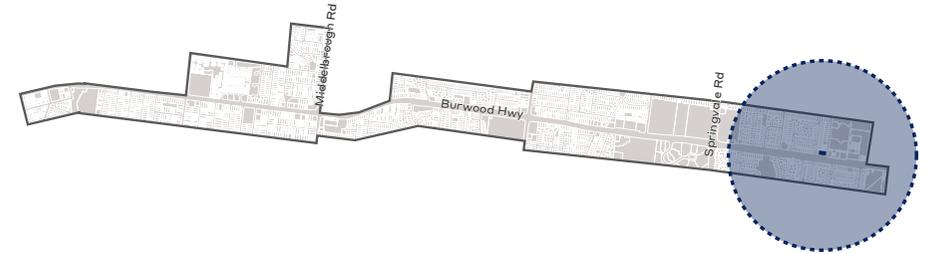
WH/2016/314

5 STOREYS

54 APARTMENTS

REAR ZONE INTERFACE: NRZ5

SITE AREA: 1,921M²



SITE DIMENSIONS
Frontage - 58m
Depth - 33.3m

Existing Site Conditions



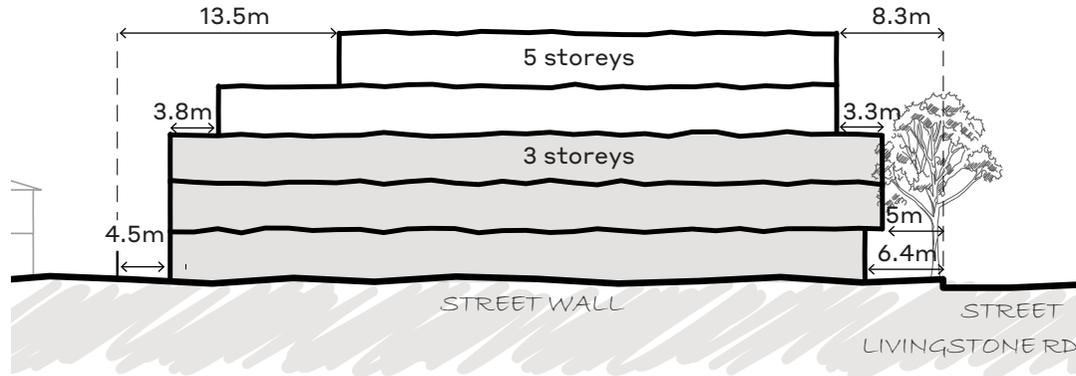
East Elevation - David Watson Architect (Permit Application)



Ground Floor Plan - David Watson Architect (Permit Application)

PROPOSED SETBACKS STANDARDS

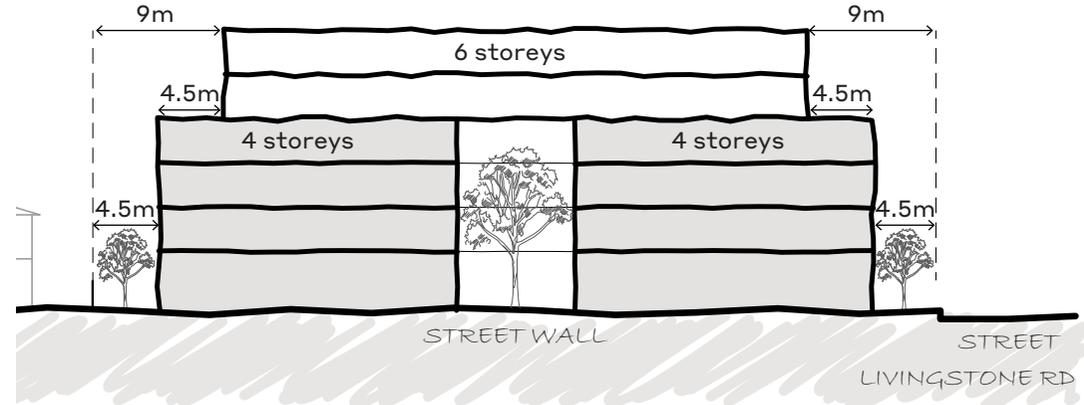
PERMIT APPLICATION



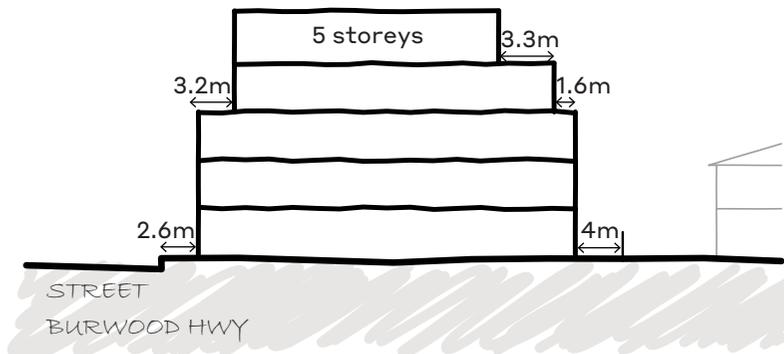
Front Elevation - Diagrammatic Representation - 467 Burwood Highway Permit Application

PROPOSED BUILT FORM STANDARDS

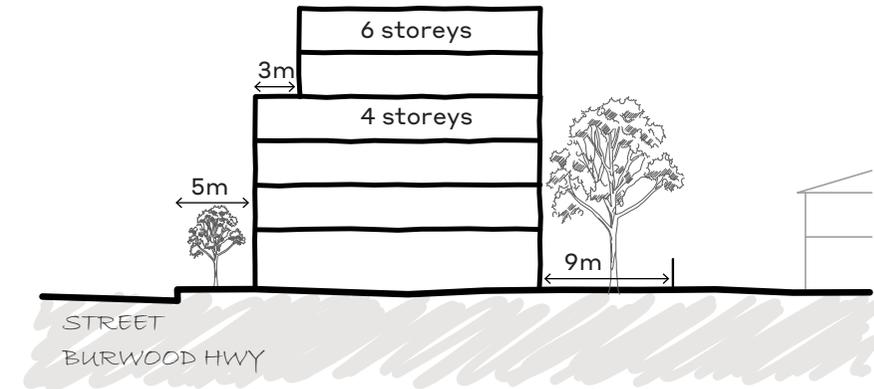
(with Cl. 58 requirements)



Front Elevation - Proposed Side Setback Standards



Side Elevation - Diagrammatic Representation - 467 Burwood Highway Permit Application

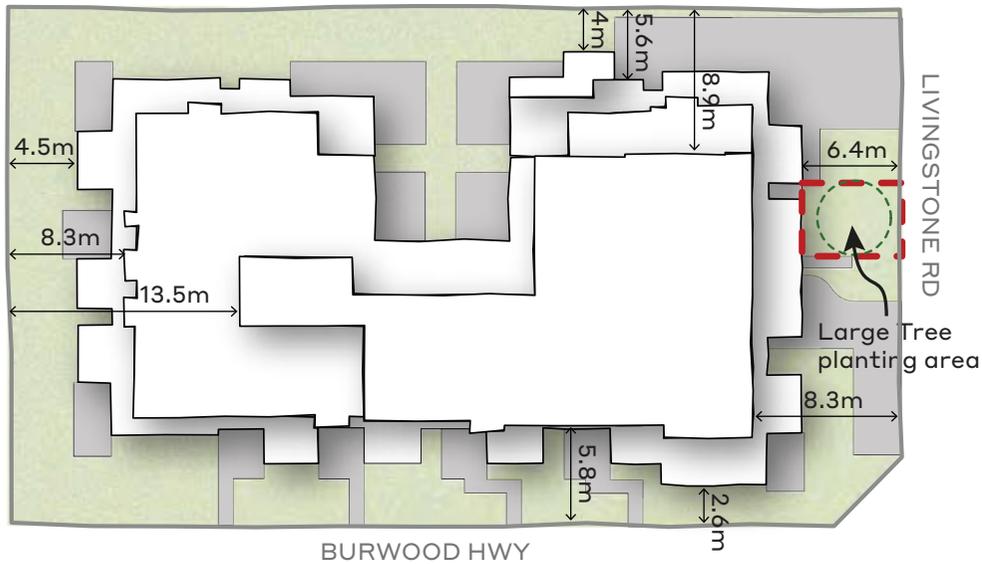


Side Elevation - Proposed Front and Rear Setback Standards

N.B. Only large and medium trees are depicted in the diagrammatic representations

SITE COVERAGE AND GREENING

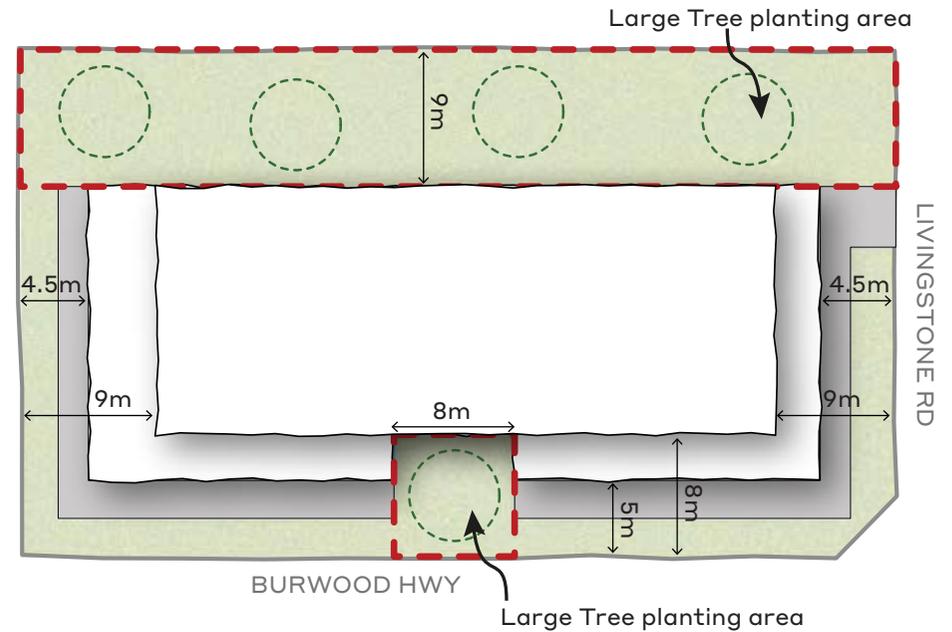
PERMIT APPLICATION



Plan (Diagrammatic Representation) - 467 Burwood Highway Permit Application

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



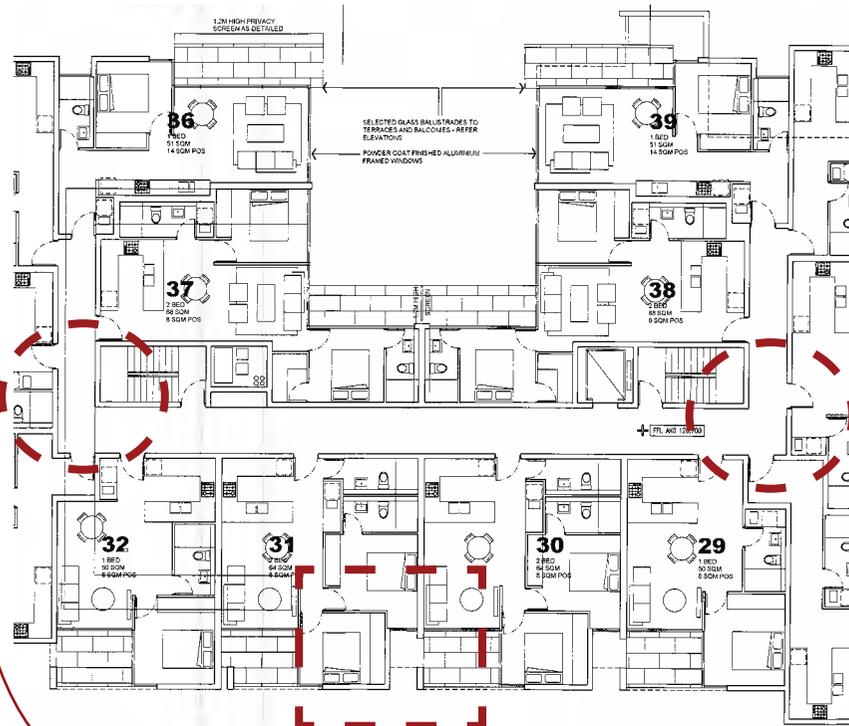
Plan (Proposed Standards for Testing Diagram) - 467 Burwood Highway

N.B. Only large trees are depicted in the diagrammatic representations

Site Coverage -	928m ² (48%)	Site Coverage -	913.5m ² (47.5%)
Open Space -	856m ² (44.5%)	Open Space -	991m ² (52%)
Large Tree Area -	36m ² (1.9%) of the total site area can be used for large tree planting (non-compliant with cl. 58.03-5)	Large Tree Area -	586m ² (30.5%) of the total site area can be used for large tree planting (Provides 20.5% additional large tree area than what is required under cl. 58.03-5)

INTERNAL AMENITY

PERMIT APPLICATION

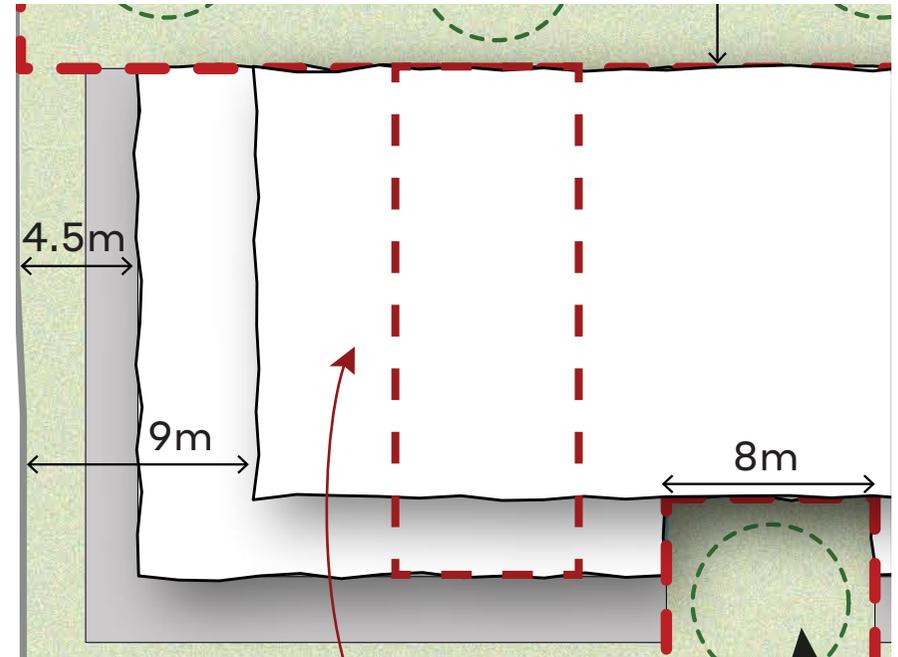


Cl. 58.05-2 Building Entry and Circulation Objectives- This internal building layout does not comply with Standard D18 - Provide corridors with at least one source of natural light and natural ventilation

Cl. 58.07-3 Windows Objective - Snorkel windows with a depth greater than 1.5 times the width and not clear to the sky does not comply

PROPOSED BUILT FORM STANDARDS

(with Cl. 58 requirements)



Building Depth of a maximum of 20m ensures compliance with Clause 58 Internal Amenity

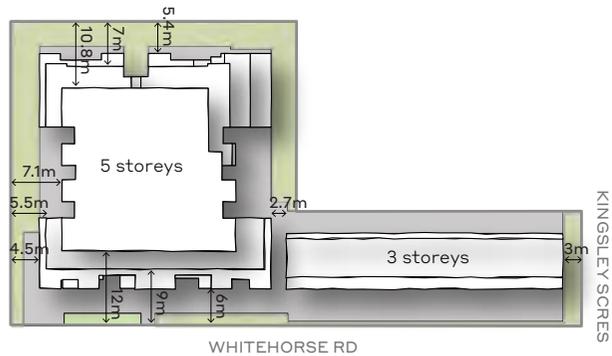
GROSS FLOOR AREA (GFA)

GFA - 3,940m²

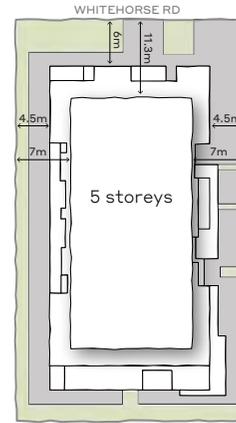
GFA - 4,994m²

EXISTING PERMITS

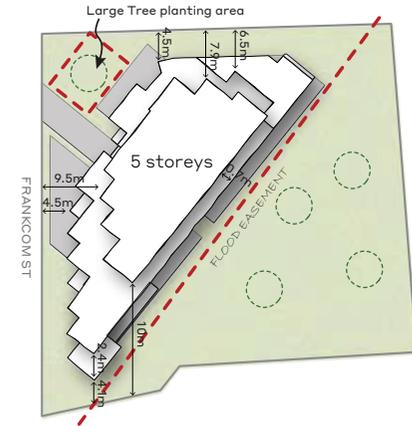
801 WHITEHORSE ROAD, MONT ALBERT



40 WHITEHORSE ROAD, BLACKBURN

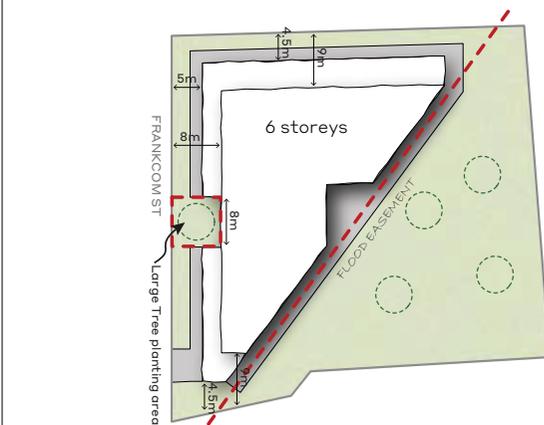
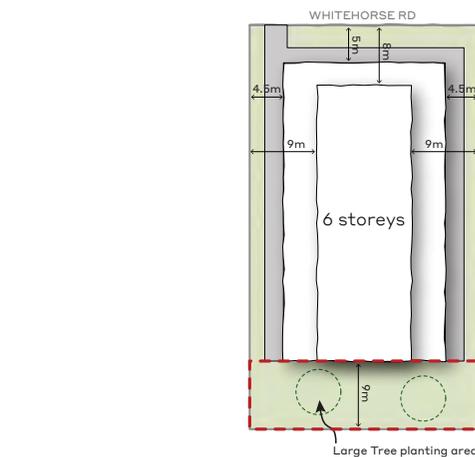
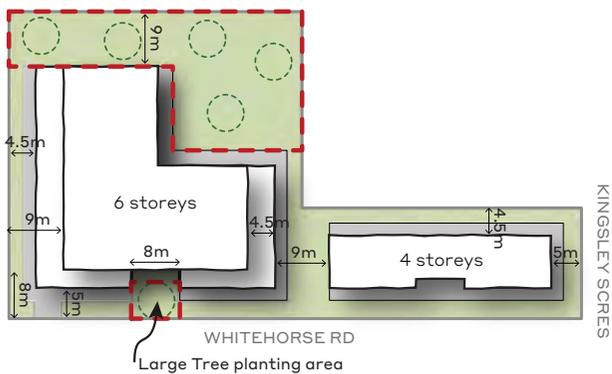


9 FRANKCOM STREET, BLACKBURN



Site Coverage -	1,522m ² (47%)	Site Coverage -	917m ² (56%)	Site Coverage -	520m ² (15%)
Open Space -	1,614m ² (49%)	Open Space -	585m ² (35%)	Open Space -	2,380m ² (72%)
Large Tree Area -	0m ² (0%)	Large Tree Area -	0m ² (0%)	Large Tree Area -	*easement allows for significant area for large tree planting
GFA -	6,321m ²	GFA -	3,727m ²	GFA -	4,253m ²

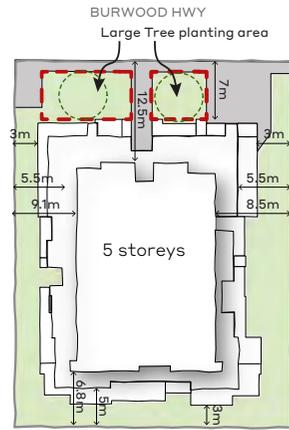
PROPOSED STANDARDS FOR TESTING



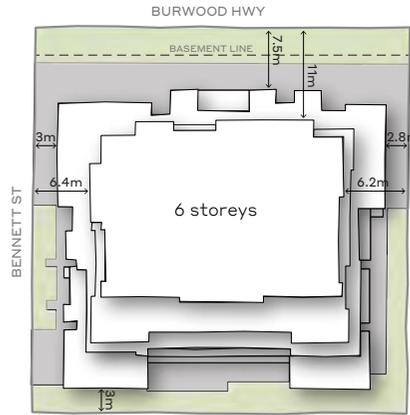
Site Coverage -	1,400m ² (43%)	Site Coverage -	850m ² (51%)	Site Coverage -	1,123m ² (34%)
Open Space -	1,675m ² (52%)	Open Space -	769m ² (47%)	Open Space -	2,198m ² (66%)
Large Tree Area -	774m ² (24%)	Large Tree Area -	275m ² (17%)	Large Tree Area -	*easement allows for significant area for large tree planting
GFA -	7,134m ²	GFA -	4,314m ²	GFA -	6,130m ²

EXISTING PERMITS

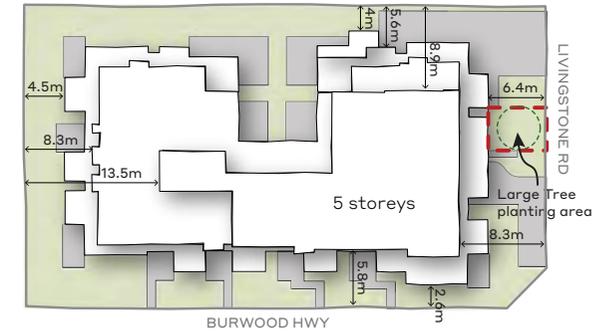
260-262 BURWOOD HWY, BURWOOD



254-258 BURWOOD HWY, BURWOOD



467 BURWOOD HWY, BURWOOD

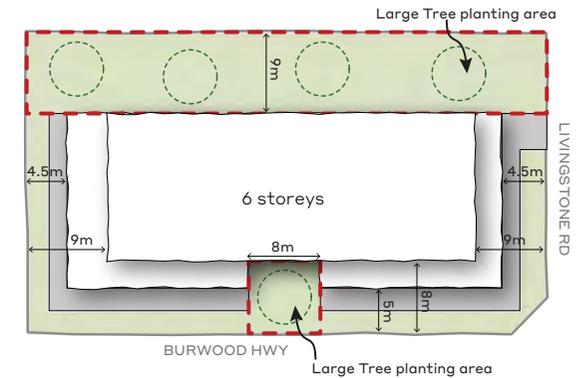
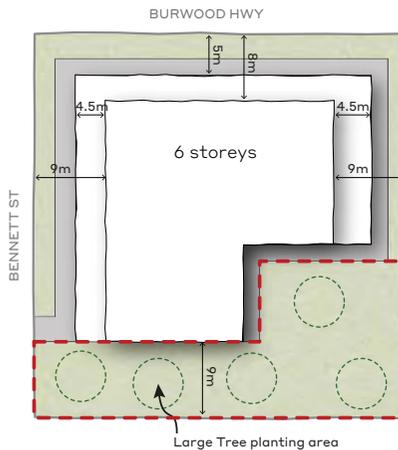
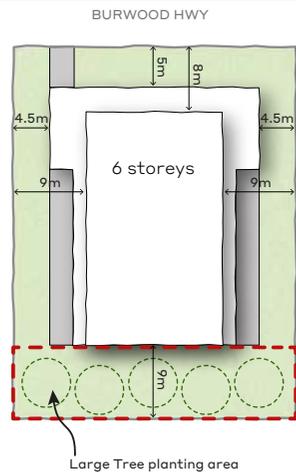


Site Coverage -	941m ² (60%)
Open Space -	495m ² (31%)
Large Tree Area -	120m ² (7.6%)
GFA -	3,886m ²

Site Coverage -	1,157m ² (57%)
Open Space -	795m ² (39%)
Large Tree Area -	0m ² (0%)
GFA -	5,939m ²

Site Coverage -	928m ² (48%)
Open Space -	856m ² (44.5%)
Large Tree Area -	36m ² (1.9%)
GFA -	3,940m ²

PROPOSED STANDARDS FOR TESTING



Site Coverage -	889m ² (56%)
Open Space -	548m ² (35%)
Large Tree Area -	313m ² (20%)
GFA -	3,710m ²

Site Coverage -	938m ² (46%)
Open Space -	1,090m ² (53%)
Large Tree Area -	574m ² (28%)
GFA -	5,093m ²

Site Coverage -	913.5m ² (47.5%)
Open Space -	991m ² (52%)
Large Tree Area -	586m ² (30.5%)
GFA -	4,994m ²

Development Opportunities within the Residential Growth Zone

The built form testing demonstrates that a minimum site size is required in order to develop the sites with buildings over 4 storeys in height. Specifically a minimum frontage of 30 metres and a minimum depth of 35 metres (1,050m²) is required.

It is advised that the analysis to follow does not consider the potential for site consolidation, which could occur.

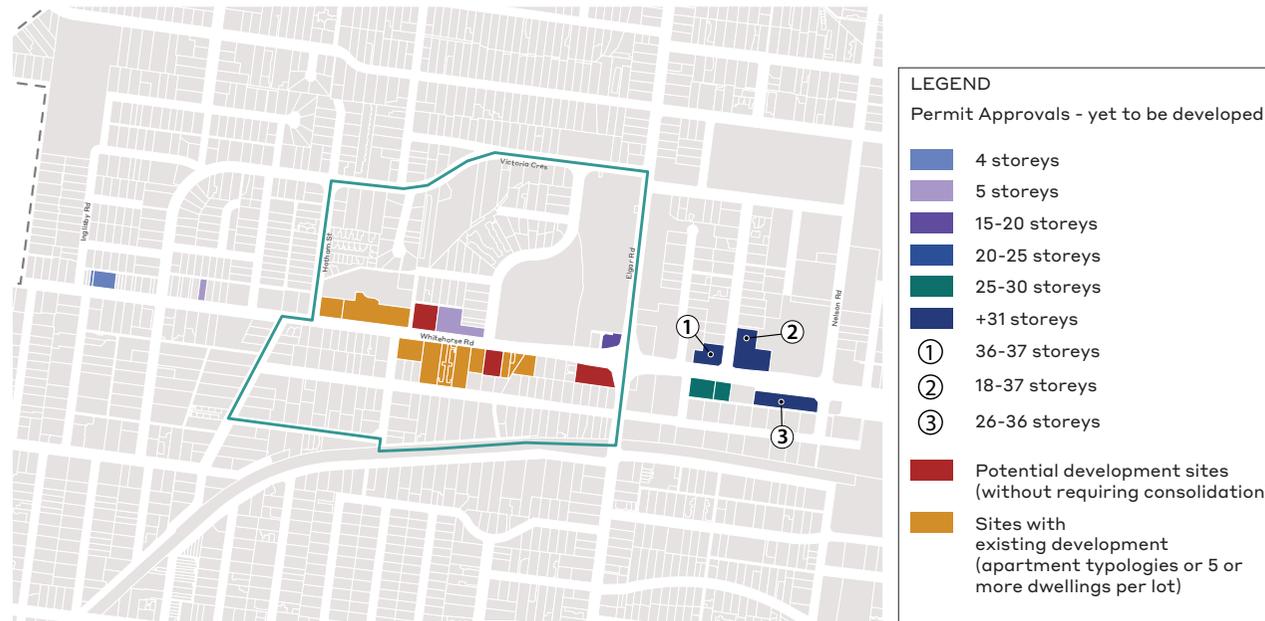
Study Area 1: Permits, Development Sites & Constrained Sites

Study Area 1 includes permitted development of 5 storeys in height, and is adjacent to Box Hill Institute and developments which are taller, including an approved development (WH/2016/1109) to the corner of Whitehorse Road and Elgar Road, in the Commercial 1 Zone, which is 16 storeys (51.4 metres) in height.

This study area includes a number of development sites, which due to their fragmented nature (ie. multi units or apartments on site) are less likely to be redeveloped.

The development opportunities, given the extent of existing development is limited, however it is advised that the maps below do not consider the potential for site consolidation, which could occur.

The adjacent diagrams demonstrate what the proposed development could look like adjacent to the existing permit and adjacent Neighbourhood Residential Zone.



26 Study Area 1 - Permits, development sites and sites with existing medium to large scale development



AXO diagrams depict large tree planting areas only. Smaller trees and shrubs could be provided in other landscaping areas.

Study Area 2: Permits, Development Sites & Constrained Sites

Study Area 2 includes permitted development 5 storeys in height.

This study area includes a number of development sites which due to their fragmented nature (ie. multi units or apartments on site) are less likely to be redeveloped.

The development opportunities, given the extent of existing development is limited, however it is advised that the maps below do not consider the potential for site consolidation, which could occur.

The adjacent diagrams demonstrate what the proposed development could look like adjacent to the existing permit and adjacent developments.



27 Study Area 2 - Permits, development sites and sites with existing medium to large scale development



AXO diagram depicts large tree planting areas only. Smaller trees and shrubs could be provided in other landscaping areas.

Study Area 2 Cont.: Permits, Development Sites & Constrained Sites

Frankcom Street

The site testing for Frankcom Street and the analysis demonstrates that there are sites that are already developed and there are limited remaining development opportunities without consolidation.

In addition the introduction of Clause 58 to the planning scheme has introduced additional requirements that will improve the outcome for the remaining site/s. Therefore change to the built form requirements for this area are not warranted.

Strategically given the street's close proximity to transport, it should remain within the Residential Growth Zone however, resolution of vehicle turns at the end of the street and improved access to the railway is required.

Resolution of this issue will require investigation to determine whether a turning circle can be accommodated on public land or whether a portion of private land would be required. There may be an opportunity to negotiate an outcome in the latter circumstance.



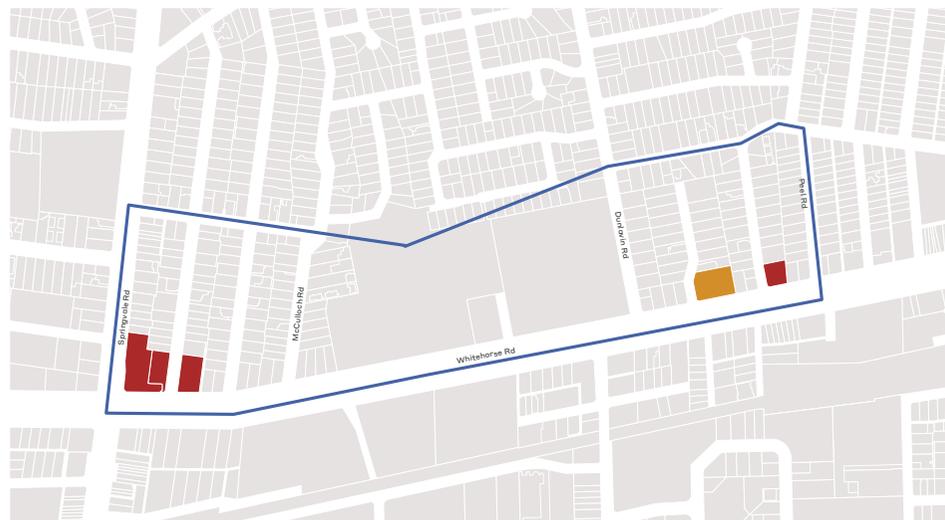
28 Frankcom St - Permits, development sites and sites with existing medium to large scale development

Study Area 3: Development Sites & Constrained Sites

Study Area 3 includes no existing permits or permit applications.

The development opportunities, given the required lot size is limited, however it is advised that the maps below do not consider the potential for site consolidation, which could occur.

The adjacent diagrams demonstrate what the proposed development could look like adjacent to the existing permit and adjacent General Residential Zone.



LEGEND

- Potential development sites (without requiring consolidation)
- Sites with existing development (apartment typologies or 5 or more dwellings per lot)

29 Study Area 3 - Development sites and sites with existing medium to large scale development



AXO diagrams depict large tree planting areas only. Smaller trees and shrubs could be provided in other landscaping areas.

Study Area 4: Permits, Development Sites & Constrained Sites

Study Area 4 includes permitted developments of 5 and 6 storeys in height, and is adjacent to Tally Ho Activity Centre and Burwood Heights Activity Centre, where proposed development (WH/2017/646) is 10 storeys in height (31 metres).

This study area includes a number of development sites which due to their fragmented nature (ie. multi units or apartments on site) are less likely to be redeveloped.

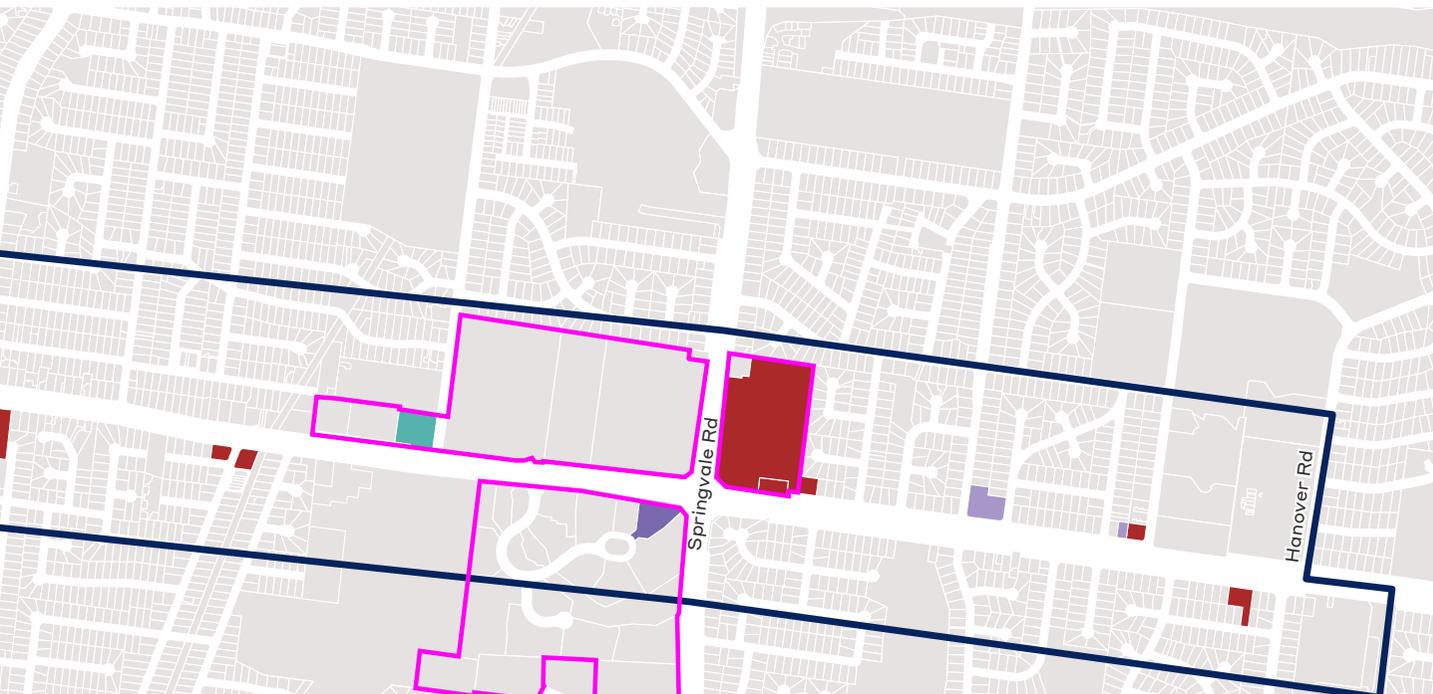
There are development opportunities available along the Burwood Highway corridor, however it is advised that the maps below do not consider the potential for site consolidation, which could occur.



30 Study Area 4 - Permits, development sites and sites with existing medium to large scale development

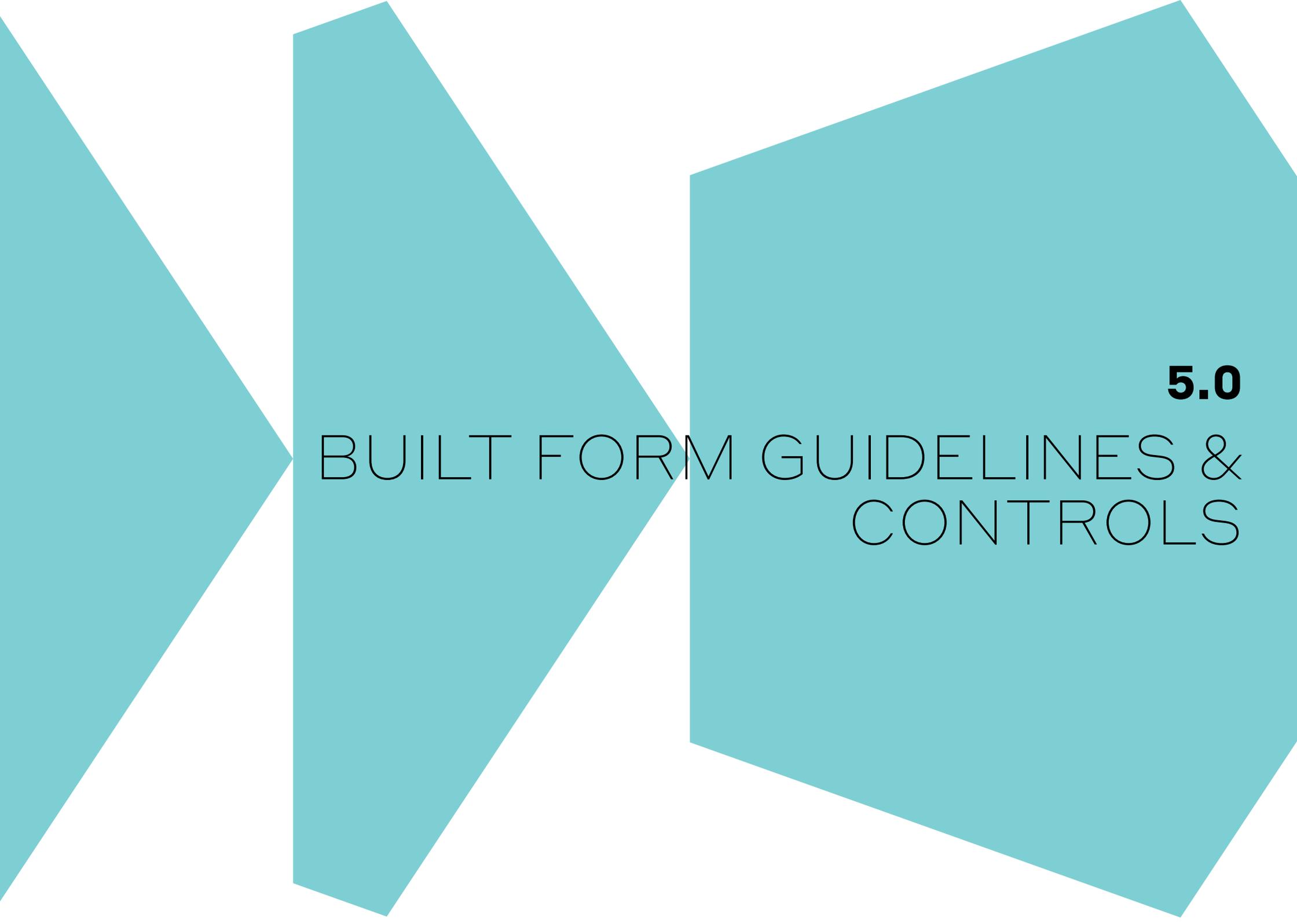
The adjacent diagrams demonstrate what the proposed development could look like adjacent to the existing permit and adjacent General Residential Zone.

LEGEND	
Permit Approvals - yet to be developed	
	3 storeys
	4 storeys
	5 storeys
	6-9 storeys
	10-15 storeys
	Potential development sites (without requiring consolidation)
	Sites with existing development (apartment typologies or 5 or more dwellings per lot)
	Tally Ho Activity Centre



AXO diagrams depict large tree planting areas only. Smaller trees and shrubs could be provided in other landscaping areas.



The background features three overlapping teal-colored geometric shapes: a triangle on the left, a trapezoid in the center, and a large irregular polygon on the right.

5.0

BUILT FORM GUIDELINES &
CONTROLS

5.0

5.1 Built Form Guidelines & Controls

The following Design Objectives and Built Form Outcomes are derived from the built form testing in Chapter 4.0 of this report, best practice design principles and were refined using feedback from community consultation sessions.

The controls reinforce the importance of increased front, side and rear setbacks to allow for deep soil planting, significant vegetation and landscaping. Increased setbacks also allow for greater overall building height without compromising on aspects of amenity including overshadowing, visual bulk, overlooking and character of the surrounding area.

The Built Form Guidelines and Controls within this study should be considered in conjunction with the Whitehorse Planning Scheme (where appropriate):

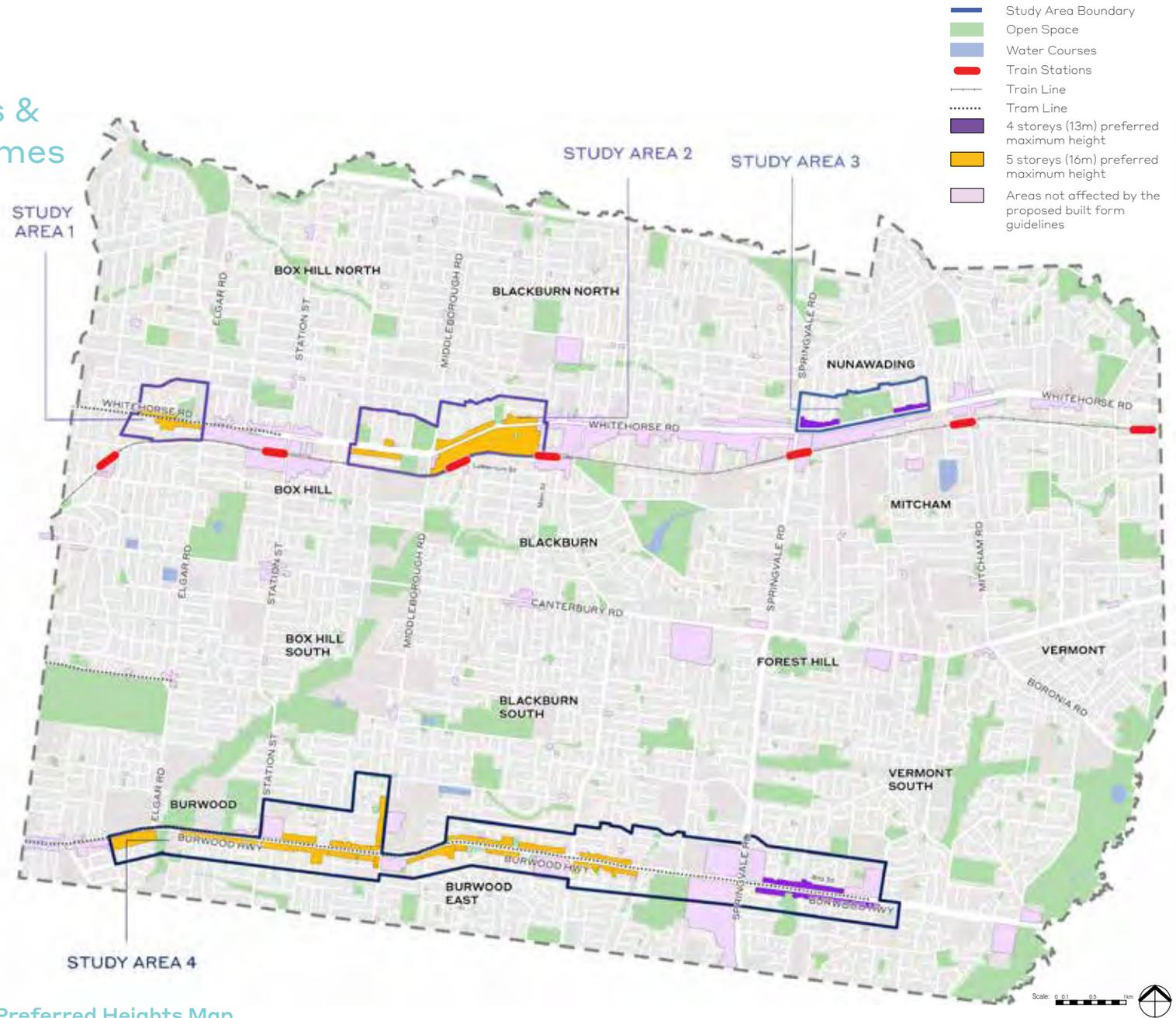
- Clause 58 - Apartment Developments
- Whitehorse Significant Landscape Overlay (SLO)
- Whitehorse Landscape Guidelines, 2012
- Neighbourhood Character Study, 2014 and Clause 22.03, Residential Development Policy



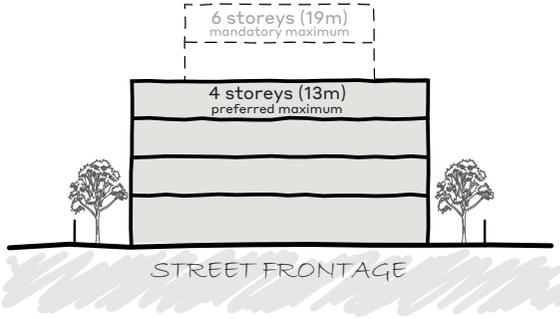
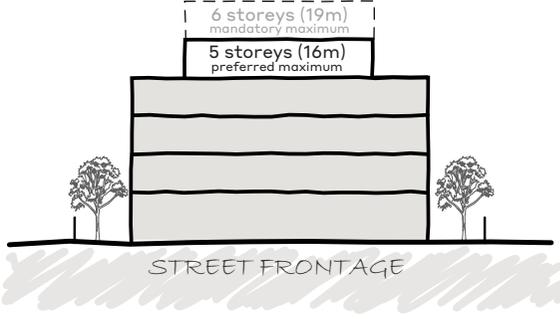
31 Oakleigh: 6 storey development with upper level setback

5.2 Design Objectives & Built Form Outcomes

- To ensure development achieves a high quality of pedestrian amenity in the public realm in relation to human scale and micro-climate conditions such as acceptable levels of sunlight access and wind effects.
- To ensure that new buildings and additions provide equitable development rights for adjoining sites.
- To ensure that the height of new buildings provides an acceptable built form interface with adjoining heights of development in other zones.
- To maintain the visual prominence of landscaping, particularly to the rear interface to and ensure space for medium-large trees on site.
- To protect sunlight access to key public places and open space areas so as to provide a comfortable, pedestrian-friendly urban environment.



Preferred Heights Map

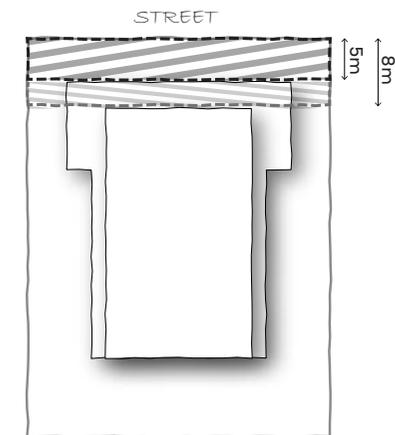
BUILT FORM ELEMENT	MEASURE	BUILT FORM OUTCOMES	ILLUSTRATIONS
Height	4 storeys (13 metres) preferred maximum east of Springvale Road	<ul style="list-style-type: none"> • The maintenance of a mid-rise scale of development. • To enhance the sense of openness, maintains access to expansive sky views along the corridor and maximises solar access from/to the low scale residential development of the adjacent areas. • The visual impact of taller buildings, above the preferred building height, is alleviated through increased upper level setbacks. 	 <p data-bbox="1666 778 1921 804">STREET FRONTAGE</p> <p data-bbox="1518 847 1787 868">4 storeys (13m) preferred maximum</p>
	5 storeys (16 metres) (preferred maximum) elsewhere		 <p data-bbox="1666 1177 1921 1203">STREET FRONTAGE</p> <p data-bbox="1518 1241 1787 1262">5 storeys (16m) preferred maximum</p>
	6 storeys (19 metres) (mandatory maximum)		

BUILT FORM ELEMENT	MEASURE	BUILT FORM OUTCOMES	ILLUSTRATIONS
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Front Setback

Minimum 5 metres with an additional 3 metres to upper levels above 4 storeys (total of 8 metres) (mandatory)

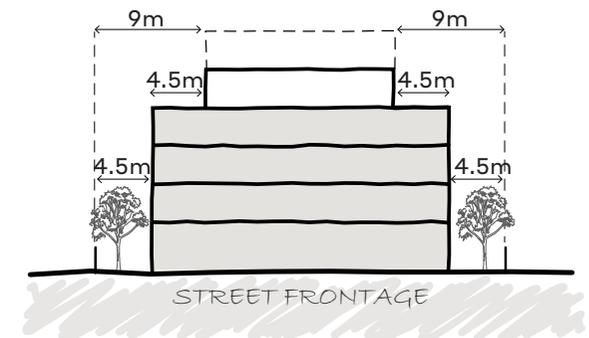
- Buildings are setback from the front boundary to:
 - ensure they do not visually dominate the streetscape
 - provide adequate sun penetration at street level
 - assist with mitigating wind down-draughts
 - allow for landscaping and tree planting within the front setback area



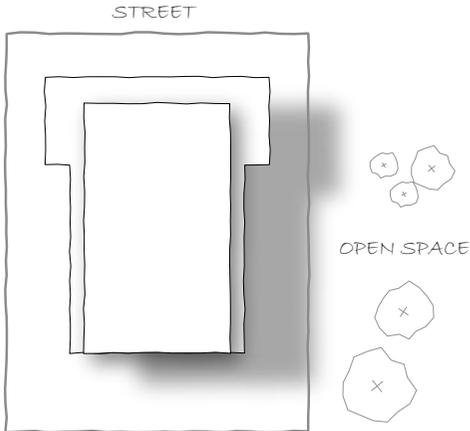
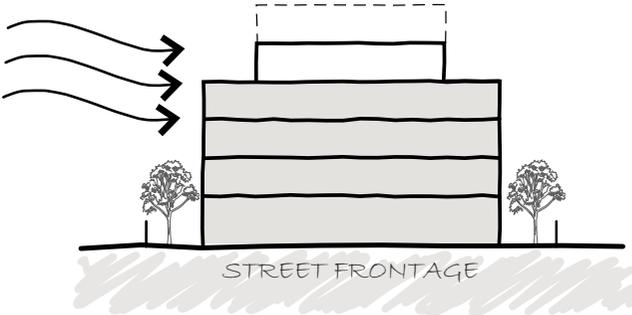
Side Setbacks

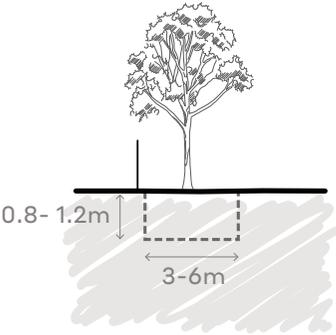
Minimum of 4.5 metres with an additional 4.5 metres to upper levels above 4 storeys (total of 9 metres) (mandatory)

- Buildings are setback from the side boundaries to:
 - provide adequate sunlight, daylight, privacy and outlook from habitable rooms, for both existing and proposed developments.
 - provide adequate daylight and sunlight to streets.
 - ensure buildings do not appear as a continuous wall at street level or from nearby vantage points and maintain open sky views between them.
 - allow for landscaping and tree planting within the side setback area



BUILT FORM ELEMENT	MEASURE	BUILT FORM OUTCOMES	ILLUSTRATIONS
Rear Setbacks	Minimum of 9 metres to ensure adequate area for large canopy trees and landscaping) (mandatory)	<ul style="list-style-type: none"> • Buildings are setback from the rear boundary to: <ul style="list-style-type: none"> - provide adequate sunlight, daylight, privacy and outlook from habitable rooms, for both existing and proposed developments. - ensure they do not visually dominate or compromise the character of adjacent existing low-scale development areas. - allow for landscaping and tree planting, in particular large tree canopy to assist with a visual break between the lower scale built form of the adjacent areas outside of the RGZ. 	
Pedestrian Interfaces	Buildings at ground floor must present attractive pedestrian orientated frontages which minimise vehicle access and services. These elements should be integrated within the landscaped front setback.	<ul style="list-style-type: none"> • Buildings should ensure that the ground floor frontages add visual interest and contribute to the street. • Access to car parking and service areas should minimise impact on street frontages. • Windows at ground level should be maximised to provide passive surveillance. • Visible service areas (and other utility requirements) should be treated as an integral part of the overall building design and fully screened from public areas. 	

BUILT FORM ELEMENT	MEASURE	BUILT FORM OUTCOMES	ILLUSTRATIONS
Shading	No significant shadowing to adjacent public open space between 12.00pm and 2.00pm on 22 September (discretionary)	<ul style="list-style-type: none"> • Additional overshadowing of adjoining open space will only be considered appropriate where: <ul style="list-style-type: none"> - the area of remaining sunlit space exceeds the area of shadowed space - there is no adverse impact on the natural landscaping, including trees and lawn or turf surfaces in the public space. - the existing and future use, quality and amenity of the public space is not compromised. 	 <p>The diagram illustrates a building footprint on a street. A shadow is cast from the building onto an adjacent area labeled 'OPEN SPACE'. This open space contains several trees, represented by circles with an 'X' inside. The street is labeled 'STREET' at the top.</p>
Wind Effects	Developments over 4 storeys in height must be accompanied by a wind tunnel assessment to determine that the development would not cause unsafe wind conditions in publicly accessible areas (mandatory)	<ul style="list-style-type: none"> • The wind analysis must: <ul style="list-style-type: none"> - explain the effect of the proposed development on the wind conditions in publicly accessible areas. - model the wind effects of the proposed development and its surrounding buildings 	 <p>The diagram shows a cross-section of a multi-story building with a flat roof. Wind is shown as three arrows flowing from left to right over the building. On either side of the building, there are trees. The ground in front of the building is shaded and labeled 'STREET FRONTAGE'.</p>

BUILT FORM ELEMENT	MEASURE	BUILT FORM OUTCOMES	ILLUSTRATIONS
Landscaping	Provide for a minimum deep soil area relative to tree height which is a minimum depth of 800mm (for small trees) to a minimum of 1200mm (for large trees)	<ul style="list-style-type: none"> • Ensure the green character of the area is enhanced with deep soil plantings in the front, side and rear setbacks • Utilise appropriate native plant species in accordance with Council Guidelines 	

5.3 Implementation Options

Consideration of Practice Note 46, Strategic Assessment Guidelines for preparing and evaluating planning scheme amendments has been undertaken. The guidelines includes questions regarding whether the amendment makes proper use of the Victoria Planning Provisions and whether the amendment seeks to duplicate or contradict other provisions.

It is recommended for clarity, that the proposed built form provisions are contained within a schedule to the Design and Development Overlay, and applied to all land within the study area within the Residential Growth Zone (RGZ) excluding land affected by structure plans, such as Box Hill Activity Centre, Tally Ho and Burwood Heights.

The inclusion of all matters related to the design outcomes sought, which also include streetscape presentation, and details regarding landscaping, are appropriately referenced within Clause 43.02-2. It is not recommended to include variations into the schedule to the RGZ as these are limited to standards of Clause 54 and 55 (ResCode).

The proposed schedule to the Design and Development Overlay, also enables the consideration of setbacks for applications affected by Clause 58 (Apartment Developments). The decision guidelines at Clause 58.04-1 (Building setback objectives) specify that the Responsible Authority must consider any urban design objective, policy or statement set out in this scheme.

The evidence based approach of this report is to support the application of mandatory controls to guide the future development of these corridors.

The establishment of clear parameters, informed by the principles as well as the built form outcomes sought, will strengthen consideration of building height above the preferred maximum, including:

- minimal amenity impacts (wind effects, overshadowing),
- resolution of the proposed developments relationship to scale of the surrounding area,
- design excellence,
- exceeding landscaping requirements.

Consideration of further policy support within the Planning Policy Framework will also be required. It is advised that with the Smart Planning reform, policy will only be required where there is an absence of guidance within the Planning Policy Framework. It is considered that updates to Clause 22.03 (Residential Development) is required to reflect the application of Clause 58 and provide strengthened policy objectives associated with design excellence, service integration and presentation of frontages along the corridors.

5.4 Summary of Findings

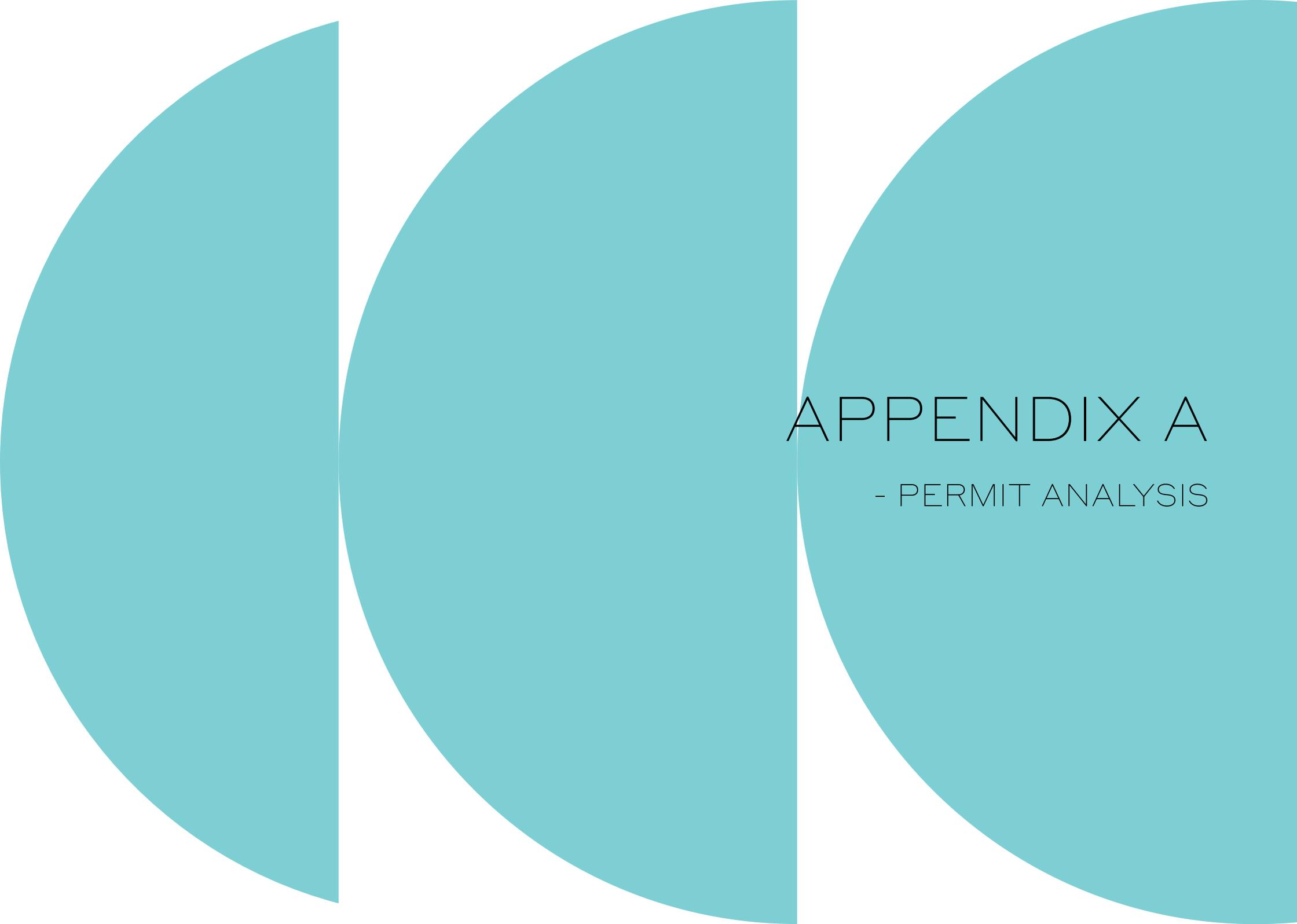
The built form testing demonstrates reasonable development capacity is maintained and potentially increased within the Residential Growth Zones, with proposed built form typologies reflecting a varied built form response to provide greater opportunities for deep soil planting, large canopy trees and landscaping.

Specifically, the built form testing also demonstrates that:

- The overall gross floor area between the permitted developments and the built form testing (with proposed controls) is comparable;
- The introduction of larger setbacks provides lesser site coverage and greater opportunities for deep soil planting and landscaping. This is consistent with the Neighbourhood Character Study which states that “vegetation character is generally the most significant determinant of neighbourhood character” in the City of Whitehorse;
- Significant lot size achieved through site consolidation is required to pursue heights of 6 storeys; and

- Greater setbacks to side and rear boundaries are required to provide adequate amenity to apartments as required under Clause 58 (Apartment Developments).

The site testing for Frankcom Street also demonstrates that it has limited development opportunities remaining and is appropriately sited within the Residential Growth Zone. Development in the street includes many unit developments and an approved 5 storey development. However resolution of vehicle turns at the end of the street and improved pedestrian access to the railway is required.

The background features three overlapping teal circles of varying sizes, arranged from left to right. The largest circle is on the left, partially cut off by the edge. The middle circle is smaller and overlaps the right side of the first circle. The smallest circle is on the right, overlapping the right side of the middle circle. The text is centered within the rightmost circle.

APPENDIX A

- PERMIT ANALYSIS

Permit Analysis - Detailed Spreadsheet

App No.	Address	Description	Site Coverage (m ²)	Site Coverage (%)	Total Site Area (m ²)
WH/2016/718	40 Whitehorse Road BLACKBURN VIC 3130	Construction of a five storey building with basement, reduction in car parking and alteration of access to a road in a Road Zone, Category 1	917	56.92%	1611
WH/2015/370	173-175 Whitehorse Road BLACKBURN VIC 3130	Use of the land for dwellings and buildings and works to construct a five storey building with basement car parking comprising two offices, a cafe and forty-three (43) apartments, waiver of the loading bay requirements and alterations to access to a road in a Road Zone, Category 1	1055	87.84%	1201
WH/2014/568	3 Whitehorse Road BLACKBURN VIC 3130	Buildings and works to construct 115 dwellings comprising 12 double storey dwellings, and two five storey buildings (plus two levels of basement car parking), and associated alteration of access to two roads in a Road Zone Category 1	3108.5	41.89%	7421
WH/2016/1172	9-13 Frankcom Street BLACKBURN VIC 3130	Construction of a five-storey building	1143	35.02%	3264
WH/2016/130	338-342 Burwood Highway BURWOOD VIC 3125	Construction of twenty dwellings, reduction of visitor car parking spaces and alteration of access to a road in a Road Zone Category 1	955	42.98%	2222
WH/2015/505	254 Burwood Highway BURWOOD VIC 3125	Construction of a part four, part five storey building comprising 66 dwellings plus two levels of basement parking and alteration of access to a road in a Road Zone, Category 1	1301	61.31%	2122
WH/2011/187	379 Burwood Highway BURWOOD VIC 3125	Construction of a part three (3), part four (4) storey building (plus basement) comprising 32 dwellings, reduction in the standard car parking requirement and alteration of access to a road in a Road Zone, Category 1	993.52	69.20%	1435.7
WH/2015/131	260 Burwood Highway BURWOOD VIC 3125	Construction of a part four, part five storey building comprising 44 dwellings plus two levels of basement parking, a reduction in car parking and alteration of access to a road in a Road Zone Category 1	941	59.67%	1577
WH/2016/743	210 Burwood Highway BURWOOD VIC 3125	Removal of easement and development of land for a 4 storey building comprising of 13 dwellings with basement car park	361.75	56.52%	640
WH/2017/6	266 Burwood Highway BURWOOD VIC 3125	Construction of a six storey building containing sixty-one (61) apartments, three (3) commercial premises and a reduction in car parking requirements	1200	69.57%	1725
WH/2017/679	362 Burwood Highway BURWOOD VIC 3125	Construction of a five storey apartment building above basement, reduction in parking and alteration of access to a road in a road zone category 1	1039.2	63.47%	1637.2
* WH/2017/646	378 Burwood Highway BURWOOD EAST VIC 3151	Construction of a ten-storey building, reduction in car parking and alteration of access to a road in a Road Zone Category 1	1917	38.48%	4982
* WH/2016/489	315-319 Burwood Highway BURWOOD EAST VIC 3151	Buildings and works for the construction of a six (6) storey building and use of land for retail and serviced apartment	4437	73.80%	6012
WH/2016/622	801-803 Whitehorse Road MONT ALBERT VIC 3127	Construction of a part three and part five storey (plus two basement levels) apartment and townhouse development and associated alteration of access to a road in a Road Zone Category 1	1522	49.53%	3073
* WH/2016/1109	813-823 Whitehorse Road MONT ALBERT VIC 3127	The construction of buildings and works for a 16 storey building (comprising 89 dwellings, retail tenancies and office tenancies), with basement levels, use for dwellings, reduction of the car parking requirements of Clause 52.06, variation to the loading bay requirements of Clause 52.07, and alteration of access to a Road Zone Category 1	786.8	79.15%	994
WH/2016/30	431-439 Burwood Highway VERMONT SOUTH VIC 3133	Construction of two or more dwellings on a lot in the Residential Growth Zone comprising a part 4, part 5 and part 6 storey building and two levels of basement parking including; use of the land as a food and drink premises (cafe) as it is more than 100 metres from a commercial or mixed use zone and the leasable floor area exceeds 100 square metres in the Residential Growth Zone; reduction in the standard car parking for the café and residential visitors; and waiver of the loading bay requirement for the cafe	2487	54.54%	4560
WH/2016/314	467 Burwood Highway VERMONT SOUTH VIC 3133	Construction of a part four and part five storey apartment building (plus basement) and removal of easement	1068	54.71%	1952

NB. Information runs across the four pages

* Permits outside the RGZ

App No.	Gross Floor Area (GFA)	Frontage (m)	Plot Ratio (GFA/site area)	Height (above ground) (storeys & m)	Street Wall Height (m)	No. of Units	Unit Sizes
WH/2016/718	3727	15.2	2.31:1	5 storeys (16.53m)	13.72		
WH/2015/370	3200	67.9	2.66:1	5 storeys (15.215m)	10.64 to Whitehorse Rd 9.81 to Surrey Rd	46 (43 dwellings, 1 café, 2 offices)	
WH/2014/568	Apartment - 6469.6 Townhouses - 2647.8	176.8	Apartment - 0.875:1 Townhouses - 0.36:1	Apartment - 5 storeys (15.8m) Townhouses - 2 storeys (6.2m)	9.8	115(103 apartments, 12 townhouses)	Not specified
WH/2016/1172	3787.8	61.2	1.16:1	5 storeys (18.38m)	10.25	35	
WH/2016/130	3463	58.4	1.56:1	4 storeys (12.3m)	9.12	20	
WH/2015/505	9722	60.6	4.7:1	5 storeys (18.4m)	10.06 to Bennett St 12.2 to Burwood Hwy	69	Not specified
WH/2011/187	2452.3	none	1.71:1	3 storeys (9.6m)	9.6	32	
WH/2015/131	2945	17.3	1.87:1	5 storeys (15.4m)	8.5	44	
WH/2016/743	1608.5	15.3	2.51:1	4 storeys (11.6m)	11.6	13	
WH/2017/6	4290	37.8	2.49:1	6 storeys (16.31m)	14.51	61 + 3 shops	1 bedroom - 47-49 2 bedroom - 60-74
WH/2017/679	33446.01	55.7	20.4:1	6 storeys (18.8m)	5	44	1 bedroom - 53-66 2 bedroom - 67-105 3 bedroom - 87-96 4 bedroom - 126
* WH/2017/646	22322	83.6	4.48:1	10 storeys (31m)	12.4	Not specified	Not specified
* WH/2016/489	15267	166.3	2.54:1	6 storeys (24.05m)	24.05 to Mahoneys Road 7.4 to Burwood Hwy	91	
WH/2016/622	6321	108.53	2.06:1	5 storeys (15.3m)	4.4	70	
* WH/2016/1109	16555	105.9	16.6:1	16 Storeys (51.4m)	45.2	89+retail and offices	
WH/2016/30	16565	140.8	3.6:1	5 storeys (14.5m)	9.537	113	
WH/2016/314	4390	20.1	2.25:1	5 storeys (15.5m)	"10.1 to Livingstone Rd 10.36 to Burwood Hwy"	54	1 bedroom - 50-51 2 bedroom - 63-78

NB. Information runs across the four pages

* Permits outside the RGZ

App No.	No. of Car Parking Spaces	Type of Car Parking	Depth (below ground) (storeys & m)	Front setback (range, m)	Side setbacks (range, m)	Rear setback	Vehicle Access	Depth of Site	Width of Site
WH/2016/718	(reduced)	Basement	2 levels (5.9m)	6	2.82	3.48		53.34	30.48
WH/2015/370		Basement	1 level	Built to Boundary	Built to Boundary	2.815	Surrey Road	irregular shape Min: 31.96 Max: 48.77	irregular shape Min: 29.1 max: 30.43
WH/2014/568	152	Basement	2 levels (5.9m)	6.2 at north end, 4 at south end	3.5	4	Whitehorse Road, Middleborough Road- New access from these roads	irregular shape min: 24.12 max: 54.86	irregular shape min: 45.76 max: 80.47
WH/2016/1172	38	Basement	3 levels	13.6	4.5	4.5		56.62	
WH/2016/130	(reduced visitor)	Ground level	N/A	2.78	6	2.73	Finch Street	39.62	52.11
WH/2015/505	24	Basement	2 levels (9m)	7.5	3 (west), 2.8 (east)	3	Burwood Highway	46.42	45.72
WH/2011/187	38	Basement	1 level	6	4.025	3.776	Burwood Highway	39.31	36.86
WH/2015/131		Basement	2 levels	7	2.96 (north), 3 (south)	3	Burwood Highway	45.57	34.83
WH/2016/743	15	Basement	1 level (3.8m)	6	1	2.4		41.95	15.24
WH/2017/6	67	Basement	2 levels	3.82	2.78 (west), 3 (east)	2.05	Burwood Highway	45.57	37.8
WH/2017/679	66	Basement	2 levels (6.1m)	4.01	"3.1 (north) 1.45 (south)"	2.09	La Frank Street	50.06	38.63
* WH/2017/646	Not specified	Basement	4 levels	6	5 (west), 6.7 (east)	5	Burwood Highway	62	83.63
* WH/2016/489	170	Ground+Level 1		10.49	"1.67 (west) 10 (east)"	1.7	Burwood Highway, Mahoneys Road	73.3	80.76
WH/2016/622	94	Basement	2 levels	2.5	4.5	5.46		irregular shape min: 18.29 max: 48.77	irregular shape min: 45.72 max: 91.44
* WH/2016/1109	103	Basement	5 levels (16.2m)	Built to Boundary	Built to Boundary	1.25			
WH/2016/30	153	Basement	2 levels	3.433	Built to Boundary	2.65		67.15	78.04
WH/2016/314	65	Basement	2 levels (8.63m)	6.97	2.68	4.5	Livingstone Road	58.47	33.53

NB. Information runs across the four pages

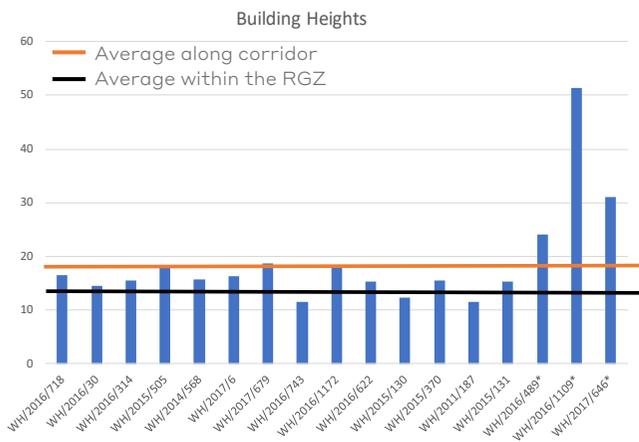
* Permits outside the RGZ

App No.	Date lodged	Date decided	Type of decision	Notes
WH/2016/718	3/08/2016	20-Oct-2017	VCAT Permit	
WH/2015/370	18/05/2015	23-May-2016	Council Permit	
WH/2014/568	17/06/2014	22-Dec-2015	Delegate Permit	
WH/2016/1172	21/12/2016	19/12/2017	VCAT Permit	
WH/2016/130		4-May-2017	Delegate Permit	Possibly incorporates 340 and 342 Burwood Hwy as well.
WH/2015/505	29/06/2015	13-Jan-2016	Delegate Permit	
WH/2011/187	11/03/2011	23-Dec-2015	VCAT Permit	379-381
WH/2015/131	5/03/2015	25-Aug-2015	Delegate Permit	
WH/2016/743	18/08/2016		Withdrawn	Withdrawn on 15/1/18
WH/2017/6	10/01/2017		Decision Pending	Amendment Request lodged and received by council
WH/2017/679	30/08/2017		Awaiting VCAT Decision	Failure - To be confirmed
* WH/2017/646	13/08/2017		Decision Pending	
* WH/2016/489	1/06/2016	19-Jun-2017	Delegate Permit	
WH/2016/622	4/07/2016	30/11/2017	VCAT Permit	Council permit issued 26/6/17
* WH/2016/1109	2/12/2016	13-Oct-2017	VCAT Permit	
WH/2016/30		20-Jul-2017	VCAT Permit	
WH/2016/314	22/04/2016	8-May-2017	Delegate Permit	

NB. Information runs across the four pages

* Permits outside the RGZ

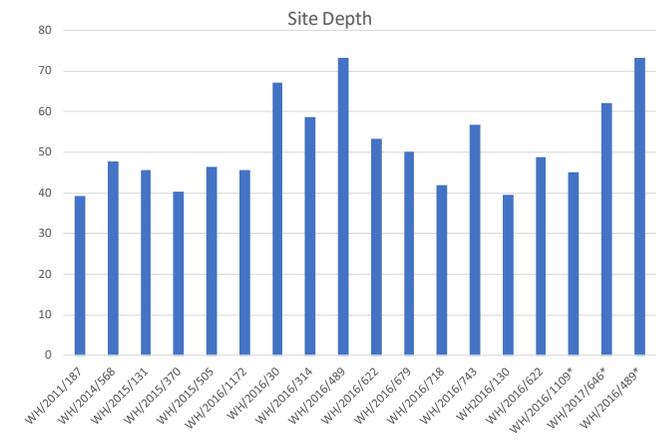
Permit Analysis - Graphs



Permit Analysis - Building Heights



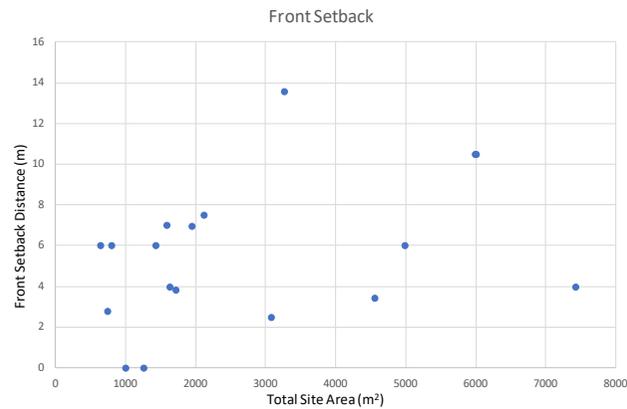
Permit Analysis - Site Coverage



Permit Analysis - Site Depth

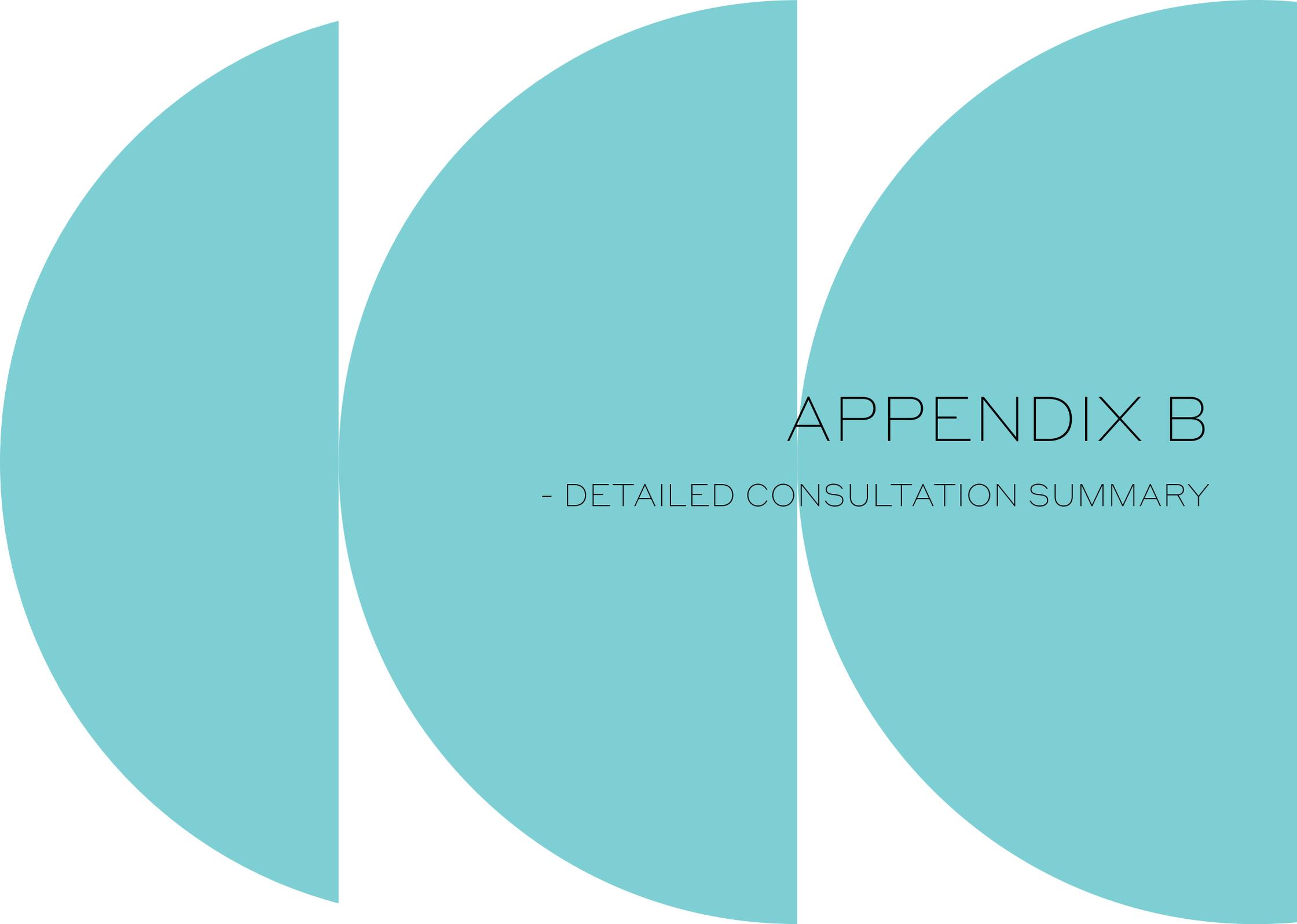


Permit Analysis - Site Width



Permit Analysis - Front Setback

NB. All permits marked with a * are outside the RGZ

The background features three overlapping teal circles of varying sizes, arranged from left to right. The circles overlap in a way that creates a sense of depth and movement. The text is centered over the rightmost and largest circle.

APPENDIX B

- DETAILED CONSULTATION SUMMARY

Executive Summary

The community engagement process for this project includes two phases of engagement.

Phase 1: (March/April 2018)

The objectives for this phase of community engagement were to:

- promote the project and opportunities for community input and feedback;
- build the community's understanding of the planning controls and issues impacting the design of residential corridors located in the RGZ;
- gain insights about what issues the community thinks should be considered in this review and why;
- gain insights about what the community thinks are positive or negative housing development examples; and,
- promote the next steps for the project.

Engagement tools

The first phase of the community engagement involved two engagement tools.

Newsletter

The newsletter was distributed to all properties within, and adjacent to the RGZ corridor. The newsletter included information about the project and a web link to an online survey.

Online survey

The survey was open for four-weeks and respondents were encouraged to submit their responses by 22nd March 2018.

There were 397 responses to the online survey.

The online survey took between 5-10minutes to complete and asked the following questions:

- Q1.** When thinking about the design of new apartments and units in your neighbourhood, what do you think are the three most important issues to be considered in this review and why?
- Q2.** What does success look like? Is there an example of what you think is an appropriate apartment or unit development in your local area or somewhere nearby? What street is this apartment or unit located in?
- Q3.** Any other comments?

Summary

Overall, the design of new residential buildings along road corridors is important to residents. While there is not one specific design that new developments should adhere to, residents want high quality design that complements the style of existing residential structures and neighbourhood character and limits the impact on nearby properties.

Carparking and management of traffic and access to properties along the road corridors was a popular theme. Many respondents want to see more on-site car parking and less overflow to neighbouring streets. This includes resident and visitor car-parking.

There is strong opinion that new development should not come at the expense of green space or landscaped areas. Participants want Council to ensure that new developments do not overshadow adjoining properties, restrict access to natural light or affect the privacy or safety of existing residential areas.

Height limits, quality design, setbacks, space between buildings and the incorporation of more landscaped space in and around buildings were identified as important design features that improve residents' perceptions and acceptance of new developments.

Respondents also expressed the need to link the increase in population growth to additional support infrastructure and services, while balancing the needs of existing and new residents.

Key issues

The responses have been reviewed and grouped into key issues of;

- Appearance & design
- Scale & density
- Landscape
- Vehicle parking, access & traffic
- Existing character/heritage
- Population growth and increased demand on services and infrastructure
- Balancing the needs of existing and future residents.

Appearance/design

Generally, residents are concerned about the appearance, quality and design of new developments. Respondents strongly oppose development that they do not believe is aesthetically pleasing. They advocate for consistency between developments, including quality design and building material. New developments should blend in or complement the

existing environment rather than appear “stark”.

There were some comments about lack of spaces for washing lines, bike storage, rubbish bins and that this negatively impacts the look and appearance of the street.

Examples of quotes:

- “appearance must harmonize with neighbourhood, not eye catching colours or too futuristic building because it will ruin the scenery”
- “design should complement existing houses (ie no 'boxes')”
- “I can’t stand seeing rubbish bins full and washing hanging off balconies”

Scale & density

The majority of respondents commented on the scale and density of development in Whitehorse. Most believe building heights should not surpass 3-4 storeys, but some participants do not support anything above 2 storeys. There is a perception that new development is too dense, and belief that Whitehorse should not resemble the central business district of Melbourne. Respondents are especially concerned about new developments overshadowing existing residential areas and

affecting access to light and privacy.

There was some explicit rejection of “high-rises” and “skyscrapers”, which residents believe are not appropriate for the area. Some suggest that more variety of medium-density developments would be appropriate including townhouses and smaller unit developments. In addition, they suggest setbacks and increased open/green space between and around buildings would improve perception of new development.

Examples of quotes:

- “Setback and street appeal with some vegetation to break the starkness”
- “A mix of townhouse and apartments along the zone, not just all apartment blocks. Lots locals been in area 40 years would like to downsize to smaller townhouse, which area lacks”

Landscape

Respondents suggest that developments should incorporate green spaces around buildings. Setbacks could include trees and other landscaping responses to make larger developments appear less stark. Overall, existing and new green space and landscape should not be sacrificed for the building footprint. Residents advocate for protecting native landscape and tree canopy cover in residential areas.

Examples of quotes:

- “Proper gardens not token greenery. Where once was a garden with canopy trees and lawn for the rain to soak into now it is all hard surfaces concrete and boring minimalist greenery”
- “Loss of green areas and consequent loss to native wildlife”
- “tree protection”

Vehicle parking, access & traffic

This is the topic that received the most attention from respondents. There are significant concerns regarding how sufficient parking and access to development will be provided to accommodate residential growth. Comments focused towards the lack of on-street parking, the perceived lack of parking included with new apartment developments, and a perceived lack of access or adequacy of access for residents of new developments.

Examples of quotes:

- “The traffic along the major road/intersection will be affected”
- “Off street parking must be included for ALL apartments/dwellings and businesses”

Existing character/heritage

Residents wish to preserve the existing character of Whitehorse residential corridors. Respondents believe that rather than contrast with existing residential development, new development should fit the overall aesthetic and not detract from the heritage, suburban atmosphere of Whitehorse communities. There is fear that new development will occur through destruction of existing character that they feel makes Whitehorse unique.

Examples of quotes:

- “The ‘feel’ of the suburb needs to be maintained if possible - there are important heritage areas that must be protected”
- “Avoid destroying the character of the suburb, because the people already living in the suburb have chosen to live there because they like the character”

Population growth and increased demand on services/infrastructure

Respondents are concerned about negative amenity impacts resulting from population growth. They believe this will further strain drainage, rubbish collection, water, sewerage, electricity, and other community infrastructure and services in residential areas. There was also

concerns about safety and a perception that increased densities will increase crime.

Examples of quotes:

- “We need more services to cater for influx of population”
- “utilities - can the infrastructure meet the demands of all the new people. sewerage, water, electricity, internet/NBN”

Balancing the needs of existing and future residents

There is sentiment that this policy is not balancing the needs of current residents with future residents. Some suggest that council should do more to meet the needs of current residents above others, because they have lived in the area longer than new residents. Some respondents believe Council is powerless against the processes of VCAT and developers.

Examples of quotes:

- “Existing residents. Council is there to represent residents first and foremost”
- “Residents already living in the area and their opinion: inappropriate building is rife in Whitehorse and we lose every time we go to VCAT”

Other feedback: Examples of development

Respondents identified several characteristics of good, or poor quality, existing development in the residential corridors.

Of those who responded to this question (395 responses),

- About one third of respondents (33.67% 133 respondents) provided examples of good design,
- Two thirds (66.33% 262 respondents) provided examples of poor quality design.

Good development examples were found to:

- incorporate vegetation and green open space around buildings;
- consider scale and design of development that was appropriate to their surroundings;
- be no more than 3 storeys; and
- provide sufficient vehicle parking and access to avoid adverse impacts on the existing residential areas.

Conversely, poor quality development was found to:

- not provide sufficient parking;
- caused traffic congestion;
- overlooked or overshadowed existing housing

or impeded access to sunlight or privacy;

- were of an inappropriate scale and height to their surrounding area; and
- were considered to be poorly designed and/or comprised poor construction quality
- There is a prevailing sentiment against overpopulation of the area and the concern that the study areas will experience change similar to Box Hill.

Phase 2: (August 2018)

The objectives for this phase of community engagement were to:

- promote the project and opportunities for community input and feedback;
- inform the community about how their feedback has been incorporated into the study; and
- present and test the draft Residential Corridor Built Form guidelines.

Engagement tools

Two drop-in sessions:

- Wednesday 25 July; East Burwood Hall, 31 Burwood Hwy, Burwood East
- Tuesday 31 July, Willis Room (Whitehorse Civic Centre), 379-397 Whitehorse Rd, Nunawading

Question 1: What do you think about the seven draft principles?

Approximately half of respondents appreciate the greater level of certainty the principles aim to give residents and developers regarding the ways in which growth will take place in the municipality, and expect that the principles will deliver better

outcomes for both current and future residents. They note that with the growth taking place in and around Whitehorse, a strategy such as this is urgently needed.

There is doubt regarding how the principles will be enforced; some respondents do not believe that Council will be able to hold developers accountable if challenged at VCAT. Respondents suggest that some of the principles may be too loosely worded and will not provide enough clarity and certainty to be enforced as intended.

The other half of respondents do not think the principles are conservative enough. That is, they believe that the principles will allow for too much medium- to high-density development at inappropriate heights that will negatively impact the existing character of Whitehorse. Some respondents cite concerns around the obstruction of views and sunlight, overlooking, and unattractive visual bulk of developments over two storeys.

Approximately one-tenth of respondents suggested that additional principles focussing on traffic and parking concerns and/or delivery of infrastructure and services are required as these are directly related to growth and larger scale development.

Example comments:

- “I agree with the 7 principles since it forms more certainty about balancing appropriate built form with the available land.”
- “The proposed draft guidelines of 6 storey maximum height is totally unwanted and out of character for this area. This is too high and does not fit into the character of the area and will cause over development and congestion.”
- “Good guidelines - am not clear how they can be enforced or how I can be assured that they will be adhered to.”
- “They do not address peripheral issues like increased residential capacity = more traffic and congestion”

Question 2: What do you think about each of the draft controls?

This section provides a summary analysis of responses to each of the proposed draft controls, with example comments.

Building setbacks

Of the 54 respondents who commented on this draft control, 23 (43%) voiced support for the proposed setbacks. Respondents believe the

proposed setbacks are appropriate and adequate, and many believe this will encourage more opportunities for vegetation/trees around new developments.

Approximately 16 respondents (30%) felt that the setbacks need to be greater to address privacy and overshadowing concerns and suggest that anything above two storeys should take on a “wedding cake” form, with each ascending façade further set back into the site. Another group of four respondents would prefer more flexible controls that allow for setbacks to be determined on a case-by-case basis, depending on what is most appropriate for the specific site. For example, where there is a railway line rather than residences abutting a property, a larger setback may not need to be imposed.

Example comments:

- “Agree the new setbacks would provide decent space between existing residential homes and new development.”
- “Bigger setbacks are welcome but privacy controls/screening/barriers still need to be considered to protect privacy of neighbouring properties. If there is nothing in between you still have no privacy even if a few metres back”.
- “I do not support the current proposal in regards to rear, front and side setbacks, they

are not sufficient for any useful purpose. I would prefer front setbacks of 8 metres, rear setbacks of 12 metres and side setbacks of 6 metres would allow for landscaping and recreation.”

Building height

A total of 57 respondents addressed this issue. Support for the proposed building height is mixed. While approximately one-third of respondents believe a 6-storey height limit—or higher—is appropriate, almost two-thirds would prefer the maximum building height to be reduced to 4 storeys, or even 2-3 storeys, especially adjacent to existing single- and double-storey residential areas.

- A small minority group of respondents (approximately 5%) argue for heights greater than 6 storeys or no limit at all, to accommodate future growth and match the high-rise development that has already occurred.

Example comments:

- “More than 6 level is acceptable as population increases fast may need amendment again soon”
- “Not in favour of anything over 4 storeys. Consideration should be given to the character and existing buildings in the area/

neighbourhood.”

- “I feel really disappointed. This is too high for a local suburban area.”

Landscaping

A total of 50 respondents addressed this principle. Respondents support the inclusion of landscaping controls, but several (6 respondents) note that the proposed controls do not explicitly address landscaping requirements or desired outcomes. There are some questions as to how Council may enforce private landscapes, particularly maintenance. According to respondents, a major priority in landscaping controls should be that setbacks allow enough space for substantial, mature vegetation roots and canopy. Adequate vegetation can reduce energy costs, prevent urban heat islands, and act as privacy screens. Respondents also encourage the protection and creation of shared green spaces and innovative greening solutions such as vertical planting and rooftop gardens.

Example comments:

- “Excellent!! Encourages more vegetation.”

- “Pleased to see it mentioned. Mature trees need to be planted, but who will ensure they are protected and cared for?”
- “These controls need to be refined to make sure they are enforced”

The Streetscape

Of the 42 respondents to this principle, almost one-third explicitly support the draft controls regarding streetscape, or pedestrian interfaces; streetscapes should be active, attractive, safe, and functional. Approximately 24% of respondents (10 individuals) suggested that streetscape is negatively impacted by high rise buildings, but three respondents noted that Box Hill still has a ‘good’ streetscape with the presence of high rises. Most agree that vegetation, quality design and materials, lighting, and pedestrian access are important contributors to a positive streetscape.

Example comments:

- “The proposal of large setbacks and landscaping is good, but also to be conscious of the visual effect with quality of materials and design to blend in with existing residents surrounding these new developments.”
- “Once again, very good guideline to encourage thought about the visual impact the built form will have on the neighbourhood.”

- “The streetscape would be more welcoming and less like a concrete tunnel if developments were kept to and below 3 storeys (8 meters) with front, sides and rear setbacks from the boundaries to allow for residential use and landscaping, trees and gardens.”

Shadowing

The commentary on this draft control suggests that respondents agree that shadowing is an important aspect to consider with new development. Approximately 10 (22%) of the total 46 responses to this principle voice support for this draft control. Nine respondents suggest that Council should limit shadowing of private spaces as well, not only public open spaces. A small group (4 respondents) proposes evaluating overshadowing impacts on surrounding homes on a case-by-case basis with the planning application.

Another issue raised with the draft control was the specific sunlight requirement; 7 residents questioned whether the 11am – 2pm sunlight period is a large enough window to assess the extent of overshadowing. This proposed control also gave rise to more comments suggesting stricter setback and height controls to address shadowing concerns.

Example comments:

- “The variable of shadowing between 11am and 2pm should be increased as more people are out either earlier in the day or later, particularly with school children and adults returning from work.”
- “Only a mention of shadowing on open spaces. What about adjacent homes and gardens?”
- “High rise buildings will create unwelcome shadows.”

Wind Effects

Of the 41 responses to this principle, approximately one-third expressed approval for its inclusion, noting that wind is important to consider. Another 9 respondents suggest that this control is too vague, that it is unclear how a wind assessment is conducted, or that this control should be extended to all developments over a single storey. A smaller group (7 respondents) pointed out that wind effects would not be necessary consideration if stricter height and setback controls were implemented.

Example comments:

- “This is crucial. Wind tunnel testing is important. It should be applied not just to the Height of the development, but the site”

- “I believe this is very important. Walk past some of the new buildings in box hill and you are almost swept off of your feet on a calm day”
- “The effects of wind would be negligible if developments were kept to and below 3 storeys (8 meters). Landscaping and trees would also act as natural wind breaks.”
- light and noise pollution
- provision of infrastructure and services
- protection of existing character; and environmental impacts of development.

Question 3: Additional comments

A total of 56 responses addressed additional comments that speak to the full range of issues around built form in Whitehorse. Most respondents used the opportunity to provide additional feedback to re-emphasise their earlier comments regarding the draft controls and principles, especially those that opposed aspects of the proposals. Again, some respondents expressed the sentiment that Council’s attempts to control development will ultimately be futile.

Other issues related to the built form that respondents recommend be addressed moving forward include:

- building design
- location of new development
- traffic and parking

ETHOS
URBAN