



DRAFT

171-179 Great North Road & 1A-1B Henry Street, Five Dock **Exploration of Options**

Draft Report

Prepared by Studio GL for City of Canada Bay Council

May 2024

Acknowledgement of Country

We acknowledge the Wangal People of the Eora nation, the Traditional Custodians of the land on which this project is located.

We pay respect to Elders past and present and extend that respect to all First Nations people.

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Note: This document takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party. The report layout is designed to be printed at A4 portrait.



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Chapter 1 Introduction

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01 Introduction

1-1 Background

In January 2024, Studio GL, in consultation with John Oultram Heritage & Design, were commissioned by the City of Canada Bay (Council) to undertake an Urban Design Review of the Planning Proposal (PP) for 171-179 Great North Road and 1A-1B Henry Street, Five Dock, dated December 2023.

The 4,076m² site has three street frontages and contains three locally listed heritage items (St Alban's Anglican Church, St Alban's Anglican Church Rectory, and St Alban's Anglican Church Hall and Shops). The site is currently zoned MU1 Mixed Use, with a maximum FSR of 2.5:1 and a maximum building height of 15m.

A Planning Proposal for the site was prepared by Mecone on behalf of Sydney Anglicans and Traders in Purple. The PP reference scheme shows the development of two 20-storey mixed use towers, each with a 4-storey podium. The scheme retains the existing heritage listed St Alban's Church, St Alban's Church Rectory and the three shops fronting Great North Road, but demolishes the Church Hall. The proposed amendments to the CBLEP 2013 include:

- Amending the height of buildings control from 15m to 75m.
- Amending the floor space ratio (FSR) control from 2.5:1 to 4.5:1.

Studio GL's urban design review of the PP was generally not supportive of the proposed height and scale of the proposed development. The 20 storey towers were not considered to reflect the existing or desired future context of the Five Dock town centre and the overshadowing impacts were considered high, particularly of Fred Kelly Place.

Studio GL prepared a recommended alternate scheme which achieved a FSR of 1.73:1 across the site. This included a 9-storey mixed use development in the north-western corner of the site as well as a four-storey retail/ commercial development along Great North Road in the south-eastern corner. This scheme also retained the heritage listed Church Hall as well as the Church, Rectory and shops.

1-2 Report Overview

This 'Exploring Options' Report is an addition to Studio GL's Urban Design document (March 2024).

This report considers three additional Options for the site as suggested by Council.

The three Options documented in this report are:

- Option A - Redistribute the GFA of the four storey building to the residential tower in the north western corner of the site.
- Option B - Redistribute the GFA of the four storey building to a six storey building at the location of the current church hall.
- Option C – A combination of Option A and Option B which provides a slightly higher overall GFA.

All Options are intended to ensure no additional overshadowing impacts are created to Fred Kelly Place.

Chapter 2 includes detailed GFA calculations for each Option and illustrates the overshadowing impacts of each Option at mid winter.



Figure 1 Planning Proposal Reference Scheme (Dec, 2023)

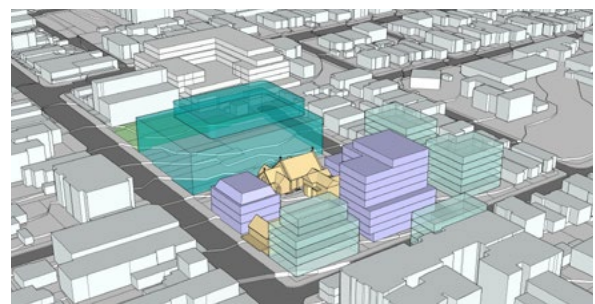


Figure 2 Studio GL recommended scheme (March 2024)

01 Introduction

1-3 Built Form Typologies

The Apartment Design Guide (ADG) identifies a variety of different building typologies and outlines their suitability for different contexts and locations. These include infill apartments, courtyard apartments, perimeter block apartments and tower apartments.

Tower Typology

The Planning Proposal could generally be classified as a tower apartment typology. The ADG describes towers as best "suited to central business districts, major centres and urban renewal areas. This building type can be freestanding or combined with block developments (podiums). The location and siting needs to reflect environmental considerations such as wind, overshadowing and visual impacts on surrounding properties and the public domain. Tower apartments are typically more than nine storeys and best used when:

- located in dense urban areas
- other towers exist in the surrounding context
- an area requires greater density than can be delivered by perimeter block buildings
- a strong vertical form or landmark is desired."

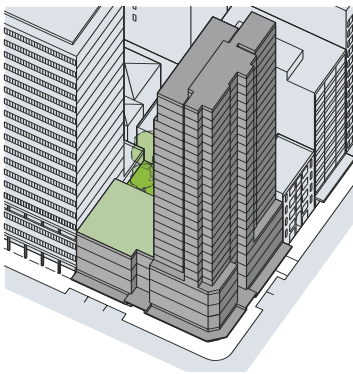


Figure 3 Tower typology as shown in the ADG

Perimeter Block Typology

The scheme recommended by Studio GL could be best classified as a perimeter block typology. The ADG describes perimeter blocks as best "suited to urban areas and are often integrated into street blocks. This building type is a key component of most European cities and its compact form achieves comparably high urban densities.

They range from four to nine storeys and are best used when:

- an increase in residential density is desired
- a clear definition and continuous street wall edge is desired
- active frontages with commercial and/or retail uses are encouraged at lower levels
- towers and tall buildings are not desired."

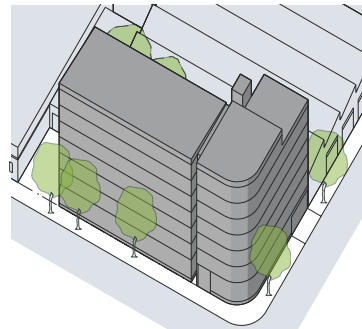


Figure 4 Perimeter block typology as shown in the ADG

Strategy for New Options

Option A and Option C, explored in this report, include allocating three additional storeys to the previously recommended 9-storey development on the site. As a result this new 12 storey building more closely resembles a 'tower' typology than a 'perimeter block' development. To further articulate the tower form and ensure the proportions of this built form are appropriate, Options A and C redistribute some of the FSR and height within this building.

A 4-storey podium is proposed along Henry Street and East Street for all the Options explored in this report.

01 Introduction

1-4 Assumptions

Identification of existing buildings on the site

For clarity, this report refers to the existing buildings on the site as the following:



Figure 5 Aerial plan identifying existing buildings on the site

3D Assumptions

To assist with developing an understand of the context and scale of the buildings and infrastructure surrounding this site, Studio GL have created a simple 3D model.

The 3D modelling of the surrounding context, such as the topography, location and height of surrounding buildings and infrastructure (including the future Five Dock Metro Station) is estimated based off publicly accessible data. Context buildings are therefore only a suggestion of the possible surrounding future built form.

The SGL 3D modelling of built form adjacent to the subject site reflects Part 2 of the TOD SEPP, which allows residential apartment buildings up to 24m in a mixed use zone within 400m of 31 train stations. Context buildings have been shown in a different colour and illustrate the potential future scale of development within and around the Five Dock town centre. It is noted that the TOD SEPP does not yet directly apply to the Five Dock Town Centre, nor is adopted by Council, however it provides an indication of the future development envisioned by the Government in similar locations.



Chapter 2 Exploring Options

2-1 Options Overview

2-2 Option A

2-3 Option B

2-4 Option C

2-5 Option A - FSR Calculations

2-6 Option B - FSR Calculations

2-7 Option C - FSR Calculations

02 Exploring Options

2-1 Options Overview

As requested by Council, Studio GL has tested 3 Options in this report.

All the Options retain the existing landscaped Church forecourt space along Great North Road. This protects the heritage qualities of the landscaped setting/ circular driveway and provides greater visibility of the retained heritage buildings, from Great North Road.

All Options retain a 4 storey street wall along Henry Street and East Street. This is in keeping with the Five Dock Town Centre DCP and the desired character of Great North Road.

Option A and B achieve the same FSR (1.73:1) as the previous scheme recommended by Studio GL in the March 2024 Urban Design report (Figure 9).

None of the three Options create additional overshadowing of Fred Kelly Place or the eastern Fred Kelly Place extension.

Option A may need to locate basement car parking under the existing landscape setting and circular driveway. Option B and C would likely integrate basement car parking under the 6-storey building which also may extend beneath the landscape setting.

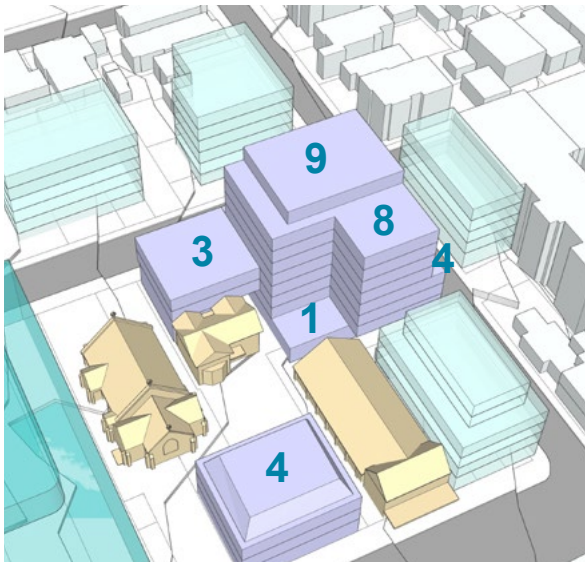


Figure 9 Studio GL Recommended Scheme (March 2024)

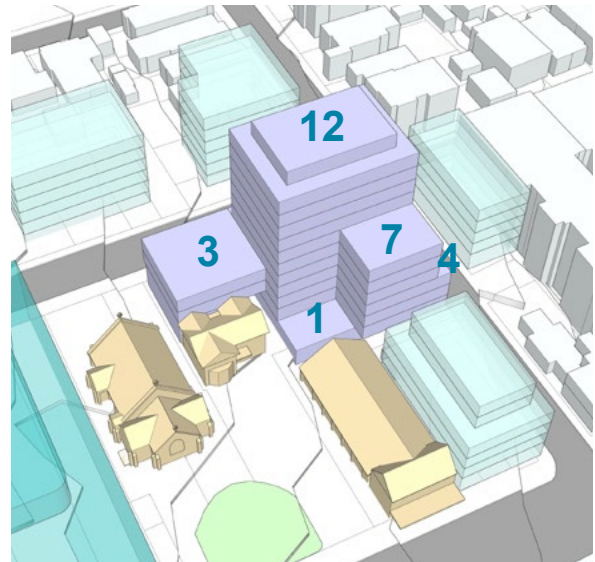


Figure 6 Option A

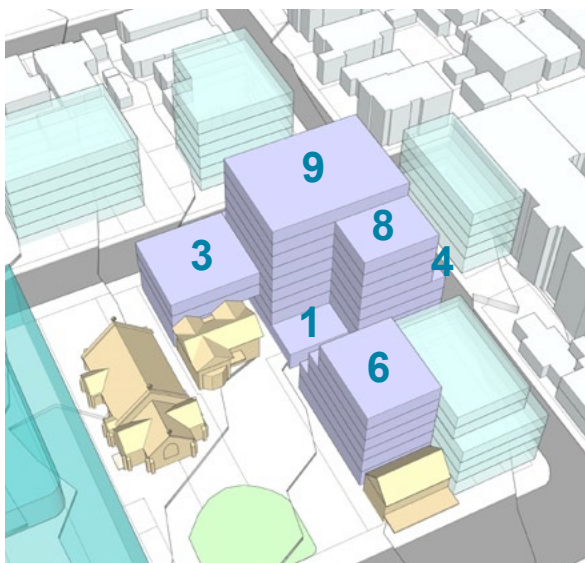


Figure 7 Option B

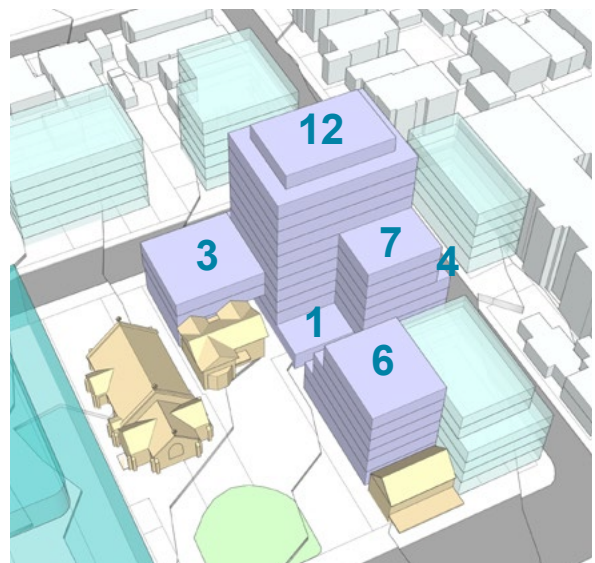


Figure 8 Option C

02 Exploring Options

2-2 Option A

Option A redistributes the FSR previously proposed in a 4 storey non-residential development along Great North Road, to additional storeys in the residential tower in the north-western corner of the site.

Total Site Area	4,076 m ²
-----------------	----------------------

Total GROSS FSR	1.73:1
Total GFA	7,044 m²

Uses	GFA
Existing church + rectory + rec hall	964 m ²
New ministry functions	623 m ²
Retail/ commercial / childcare	849 m ²
Residential	4,607 m ²

For detailed FSR breakdown see page 16 and page 17.

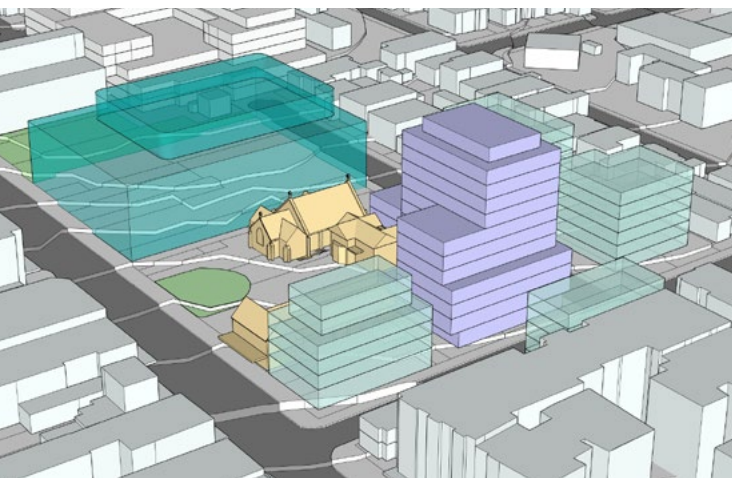
Strengths

- Retains the heritage listed Church Hall.
- Retains the existing landscape setting and circular driveway along Great North Road.
- Retains the majority of solar access to the landscape setting and circular driveway particularly between morning to midday.

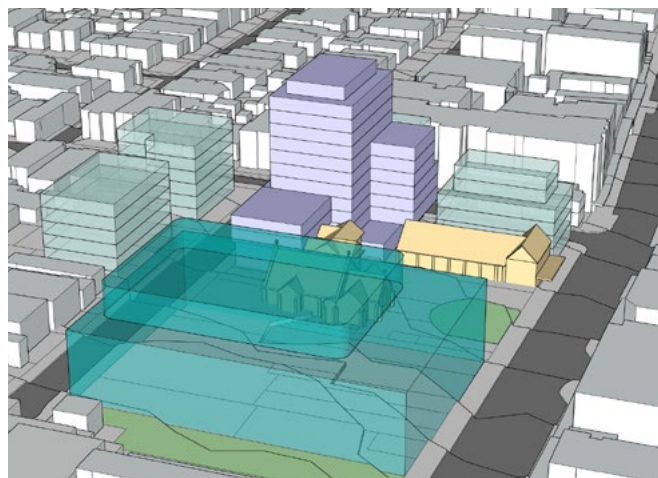
Weaknesses

- The taller tower height (12 storeys) sets an undesirable precedent for future maximum building heights in the centre.
- Creates the greatest overshadowing impacts to surrounding properties, particularly houses west of East St in the mornings.

Birds eye looking south-west



Birds eye looking north



- | | |
|-----------------------------|--|
| Heritage built form on site | Potential future built form |
| Option A built form | Indicative existing surrounding built form |
| Indicative Metro built form | |

Figure 10 Option A building envelopes birds eye views

02 Exploring Options



Figure 11 Option A design building envelopes and heights in storeys

02 Exploring Options

2-3 Option B

Option B involves the demolition of the Church Hall and redistributes the FSR previously proposed in a 4 storey non-residential development along Great North Road, to a 6 storey development behind the existing heritage shops. The first two storeys of this new development are proposed to be non-residential with residential above.

Total Site Area	4,076 m ²
Total GROSS FSR	1.73:1
Total GFA	7,063 m²
Uses	GFA
Existing church + rectory + rec hall	714 m ²
New ministry functions	623 m ²
Retail/ commercial / childcare	1,276 m ²
Residential	4,450 m ²

For detailed FSR breakdown see page 18 and page 19.

Strengths

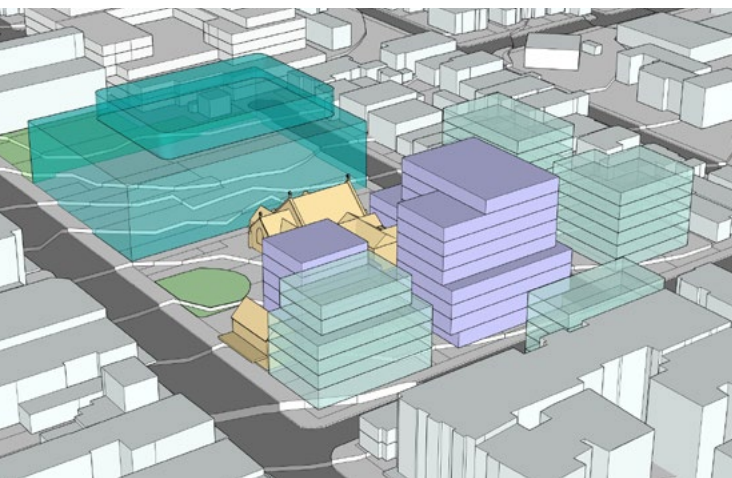
- Retains a lower overall maximum building height and does not set a precedent for future height in the centre.
- Retains the existing landscape setting and circular driveway along Great North Road.
- Creates the lowest overshadowing impacts to the surrounding context.

Weaknesses

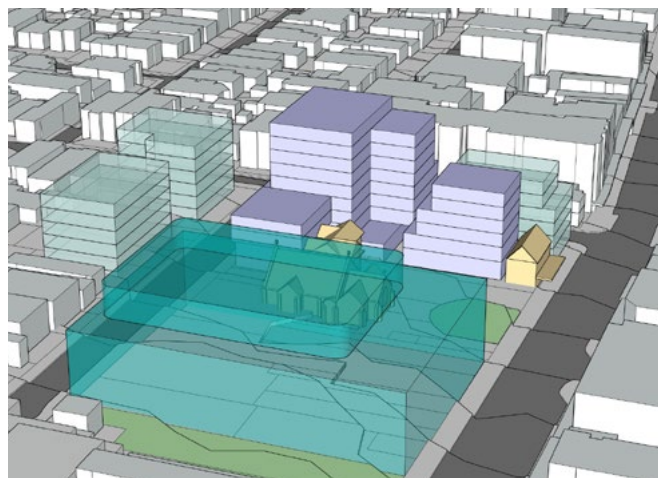
- Demolishes the existing heritage listed Church Hall.
- 6 storey development at the rear of retained heritage listed shops would be highly visible from the retained landscape setting along Great North Road.
- Creates a high level of overshadowing of the landscape setting and circular driveway particularly mornings to midday.
- Difficult to achieve ADG solar access requirements* for apartments within the proposed predominately south facing 6 storey development along Great North Road.

* (Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter)

Birds eye looking south-west



Birds eye looking north




- | | |
|---|--|
|  Heritage built form on site |  Potential future built form |
|  Option B built form |  Indicative existing surrounding built form |
|  Indicative Metro built form | |

Figure 12 Option B building envelopes birds eye views

02 Exploring Options



Figure 13 Option B building envelopes and heights in storeys

02 Exploring Options

2-4 Option C

Option C is a combination of option A and B. It assumes the replacement of the Church Hall with a 6 storey mixed use residential development as well as additional storeys to the residential tower in the north western corner of the site.

Total Site Area	4,076 m ²
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Total GROSS FSR	1.95:1
Total GFA	7,958 m²

Uses	GFA
Existing church + rectory + rec hall	714 m ²
New ministry functions	623 m ²
Retail/ commercial / childcare	1,276 m ²
Residential	5,346 m ²

For detailed FSR breakdown see page 20 and page 21.

Strengths

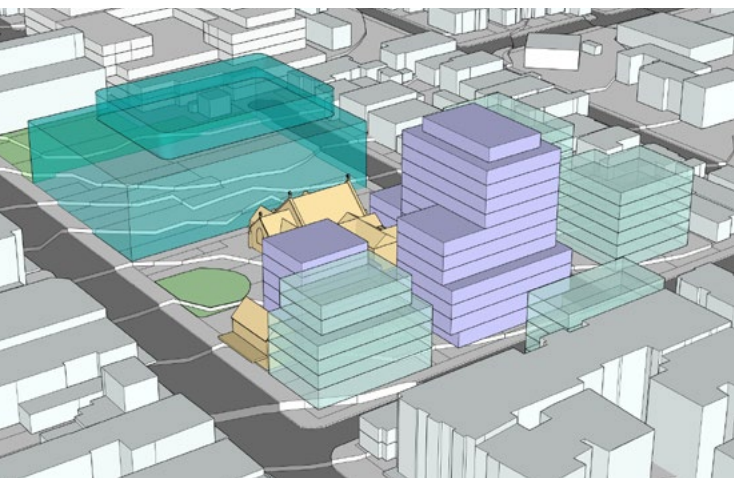
- Provides the highest FSR.
- Retains the existing landscape setting and circular driveway along Great North Road.

Weaknesses

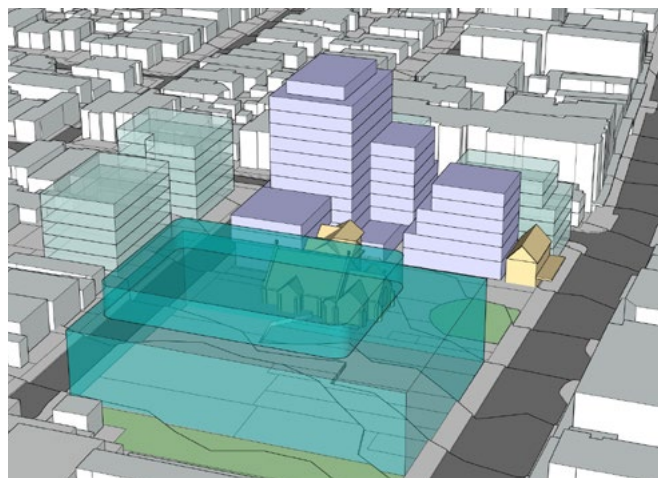
- Demolishes the existing heritage listed Church Hall.
- 6 storey development at the rear of retained heritage listed shops would be highly visible from the retained landscape setting along Great North Road.
- Creates a high level of overshadowing of the landscape setting and circular driveway particularly mornings to midday.
- Creates overshadowing impacts to surrounding properties, particularly houses west of East St in the mornings.
- The taller tower height (12 storeys) sets an undesirable precedent for future maximum building heights in the centre.
- Difficult to achieve ADG solar access requirements* for apartments within the proposed predominately south facing 6 storey development along Great North Road.

* (Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter)

Birds eye looking south-west



Birds eye looking north







- | | |
|---|--|
|  Heritage built form on site |  Potential future built form |
|  Option C built form |  Indicative existing surrounding built form |
|  Indicative Metro built form | |

Figure 14 Option C building envelopes birds eye views



02 Exploring Options

2-5 Option A - FSR Calculations

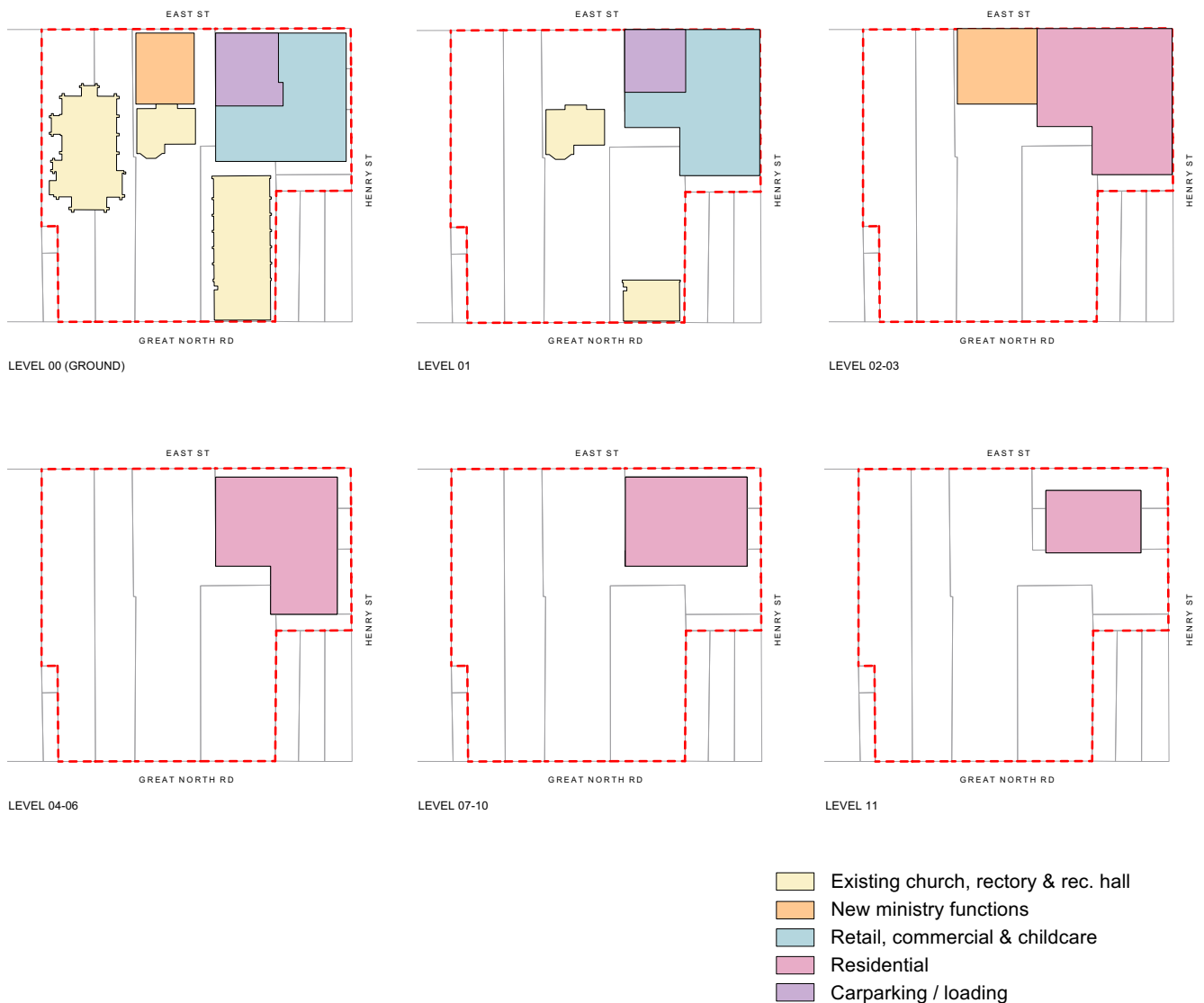


Figure 16 Envelopes used to calculate GBA for Option A

02 Exploring Options

SGL GFA Ratios	
Site Area	4,076 m ²
Total Site FSR (GFA/ site area)	1.73 : 1
Total GFA (res, comm, retail, other)	7,044 m ²

Area calculation by level		GBA	GFA Calculated	GFA/GBA
		as measured in CAD	GBA x Ratio	Ratio Used
Existing church, rectory + rec hall	Ground floor (00)	893 m ²	757 m ²	
	Level 1	244 m ²	207 m ²	
	Subtotal	1,137 m²	964 m²	0.85
New ministry functions	Ground floor (00)	210 m ²	159 m ²	
	Level 1	-	-	
	Level 2-3	609 m ²	463 m ²	
	Subtotal	819 m²	623 m²	0.76
Retail, commercial & childcare	Ground floor (00)	611 m ²	405 m ²	
	Level 1	670 m ²	445 m ²	
	Subtotal	1,281 m²	849 m²	0.66
Residential	Level 2-3	1,727 m ²	1,253 m ²	
	Level 4-6	2,131 m ²	1,546 m ²	
	Level 7-10	2,193 m ²	1,591 m ²	
	Level 11	300 m ²	217 m ²	
	Subtotal	6,350 m²	4,607 m²	0.73
Total		9,587 m²	7,044 m²	
Total Non-Resi GFA			2,437 m ²	
Total Resi GFA			4,607 m ²	

Figure 17 FSR calculations prepared by Studio GL for Option A

Note: Studio GL have applied consistent GBA to GFA efficiencies as achieved in the reference design scheme when calculating the FSR for tested options

02 Exploring Options

2-6 Option B - FSR Calculations

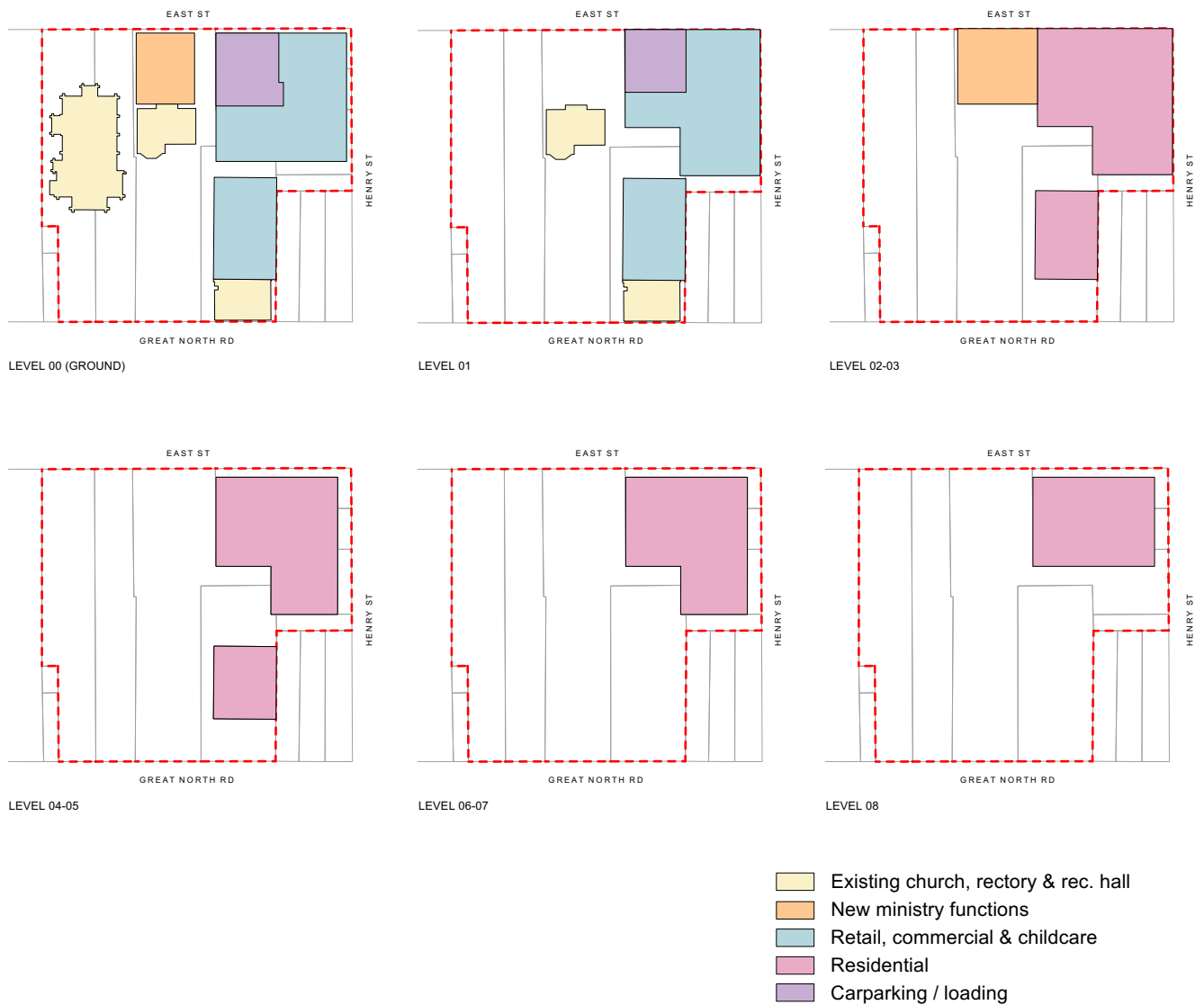


Figure 18 Envelopes used to calculate GBA for Option B

02 Exploring Options

SGL GFA Ratios	
Site Area	4,076 m ²
Total Site FSR (GFA/ site area)	1.73 : 1
Total GFA (res, comm, retail, other)	7,062 m ²

Area calculation by level		GBA	GFA Calculated	GFA/GBA
		as measured in CAD	GBA x Ratio	Ratio Used
Existing church, rectory + rec hall	Ground floor (00)	598 m ²	507 m ²	
	Level 1	244 m ²	207 m ²	
	Subtotal	842 m²	714 m²	0.85
New ministry functions	Ground floor (00)	210 m ²	159 m ²	
	Level 1	-	-	
	Level 2-3	609 m ²	463 m ²	
	Subtotal	819 m²	623 m²	0.76
Retail, commercial & childcare	Ground floor (00)	932 m ²	618 m ²	
	Level 1	992 m ²	658 m ²	
	Subtotal	1,924 m²	1,276 m²	0.66
Residential	Level 2-3	2,286 m ²	1,658 m ²	
	Level 4-5	1,879 m ²	1,363 m ²	
	Level 6-7	1,420 m ²	1,030 m ²	
	Level 8	548 m ²	398 m ²	
	Subtotal	6,134 m²	4,450 m²	0.73
Total		9,718 m²	7,062 m²	
Total Non-Resi GFA			2,612 m²	
Total Resi GFA			4,450 m²	

Figure 19 FSR calculations prepared by Studio GL for Option B

Note: Studio GL have applied consistent GBA to GFA efficiencies as achieved in the reference design scheme when calculating the FSR for tested options

02 Exploring Options

2-7 Option C - FSR Calculations

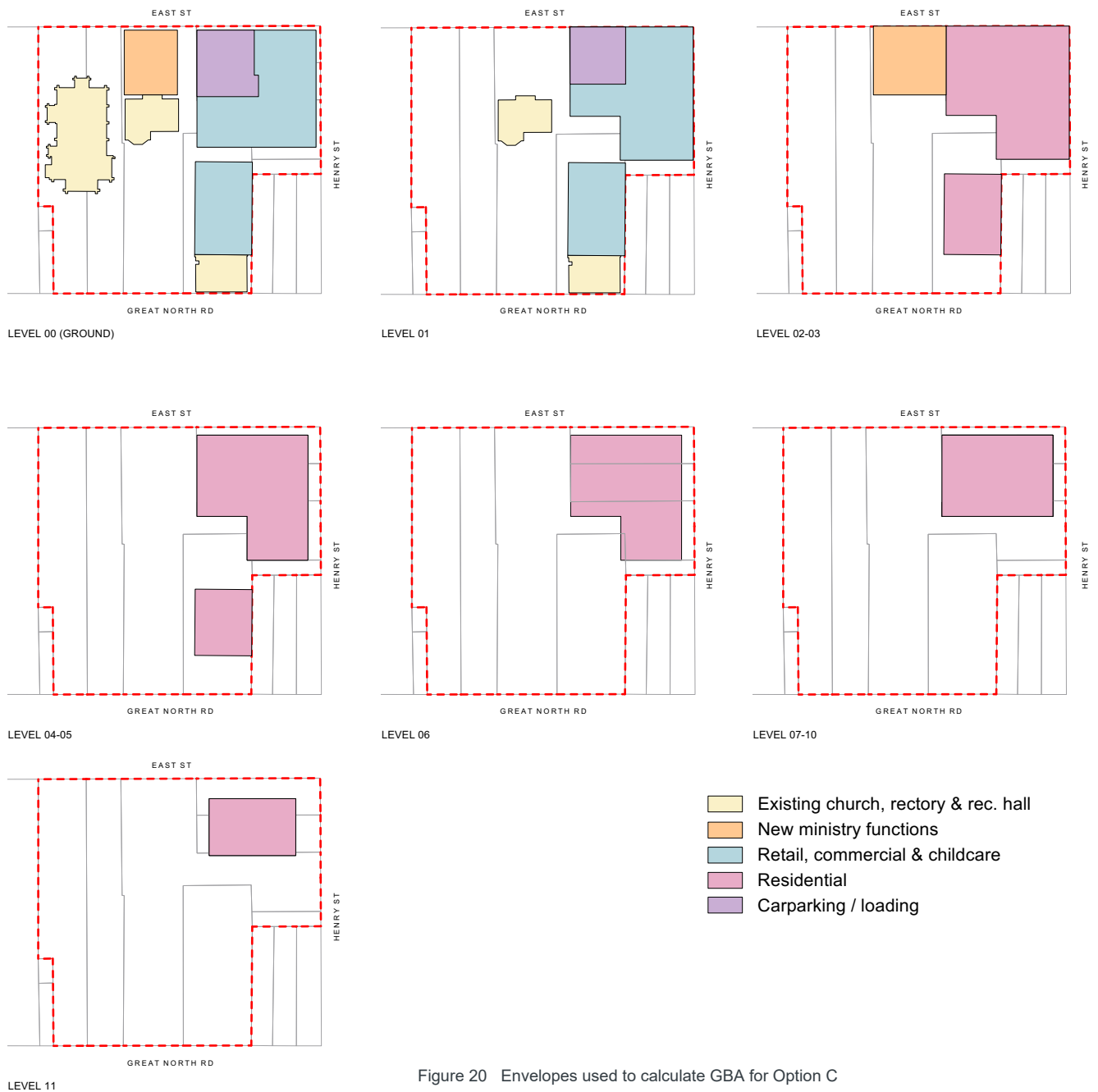


Figure 20 Envelopes used to calculate GBA for Option C

02 Exploring Options

SGL GFA Ratios	
Site Area	4,076 m ²
Total Site FSR (GFA/ site area)	1.95 : 1
Total GFA (res, comm, retail, other)	7,958 m ²

Area calculation by level		GBA	GFA Calculated	GFA/GBA
		as measured in CAD	GBA x Ratio	Ratio Used
Existing church, rectory + rec hall	Ground floor (00)	598 m ²	507 m ²	
	Level 1	244 m ²	207 m ²	
	Subtotal	842 m²	714 m²	0.85
New ministry functions	Ground floor (00)	210 m ²	159 m ²	
	Level 1	-	-	
	Level 2-3	609 m ²	463 m ²	
	Subtotal	819 m²	623 m²	0.76
Retail, commercial & childcare	Ground floor (00)	933 m ²	618 m ²	
	Level 1	992 m ²	658 m ²	
	Subtotal	1,924 m²	1,276 m²	0.66
Residential	Level 2-3	2,286 m ²	1,658 m ²	
	Level 4-5	1,880 m ²	1,364 m ²	
	Level 6	710 m ²	515 m ²	
	Level 7-10	2,193 m ²	1,591 m ²	
	Level 11	300 m ²	217 m ²	
	Subtotal	7,368 m²	5,346 m²	0.73
Total		10,953 m²	7,958 m²	
Total Non-Resi GFA			2,613 m²	
Total Resi GFA			5,346 m²	

Figure 21 FSR calculations prepared by Studio GL for Option C

Note: Studio GL have applied consistent GBA to GFA efficiencies as achieved in the reference design scheme when calculating the FSR for tested options

02 Exploring Options

A-1 Planning Proposal approximate comparative shadow analysis: Winter solstice

Shadow Analysis Disclaimer

This shadow analysis is not based on detailed survey information and is approximate only. The height of the Proposed built form is based on an estimation of the proposed ground level of the building. Modelling of the future Metro station is also based off publicly accessible information and additional information provided by Council.

Existing with future Metro Station modeled

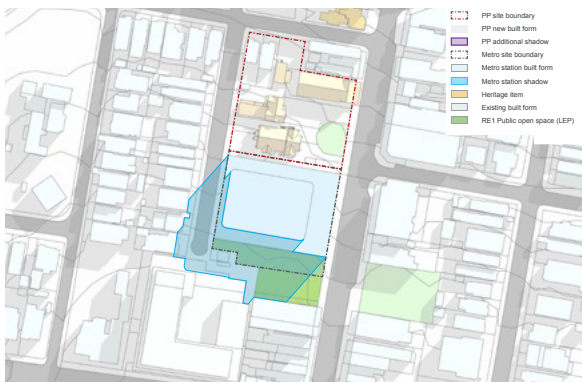


Figure 22 Shadow extent of existing context & future Metro station at 9:00am on June 21st

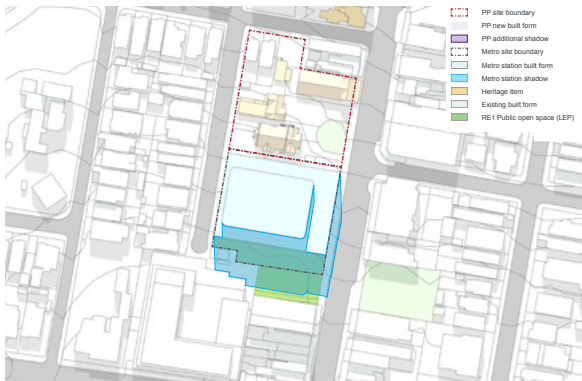


Figure 24 Shadow extent of existing context & future Metro station at 12:00pm on June 21st

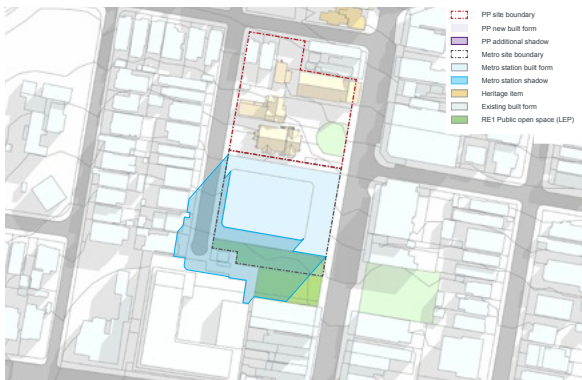


Figure 26 Shadow extent of existing context & future Metro station at 3:00pm on June 21st

Option A modeled in context

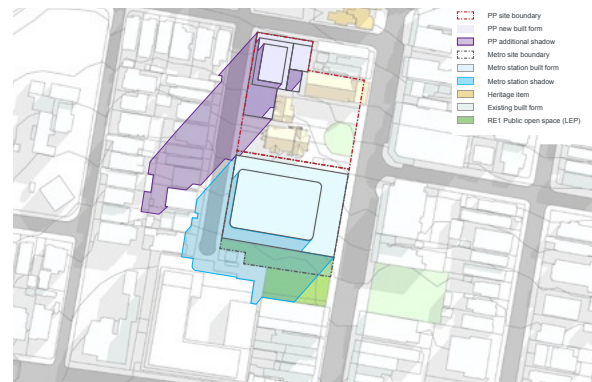


Figure 23 Option A additional shadow extent at 9:00am on June 21st

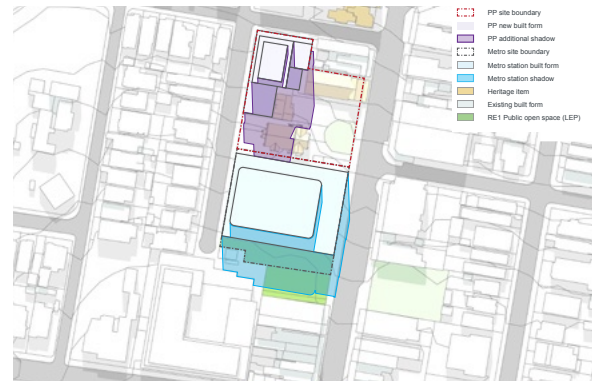


Figure 25 Option A additional shadow extent at 12:00pm on June 21st

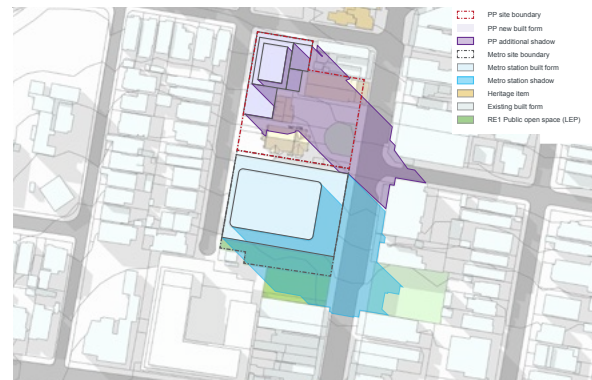


Figure 27 Option A additional shadow extent at 3:00pm on June 21st

02 Exploring Options

Shadow Analysis Disclaimer

This shadow analysis is not based on detailed survey information and is approximate only. The height of the Proposed built form is based on an estimation of the proposed ground level of the building. Modelling of the future Metro station is also based off publicly accessible information and additional information provided by Council.

Option B modeled in context

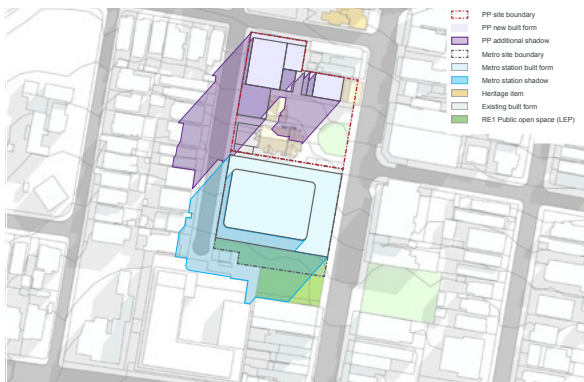


Figure 28 Option B additional shadow extent at 9:00am on June 21st

Option C modeled in context

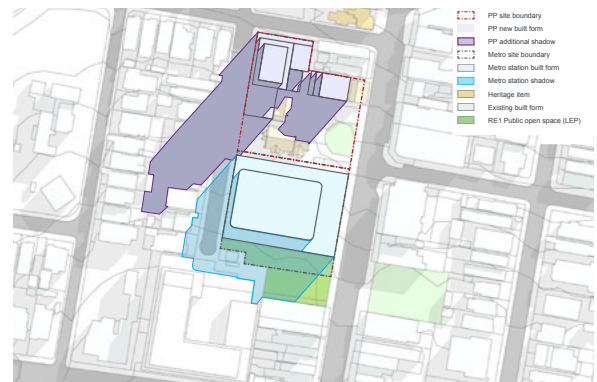


Figure 29 Option C additional shadow extent at 9:00am on June 21st

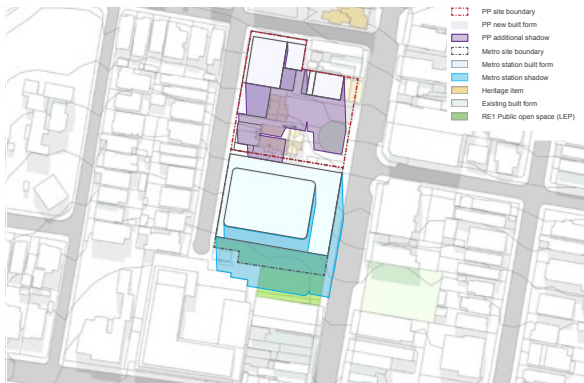


Figure 30 Option B additional shadow extent at 12:00pm on June 21st

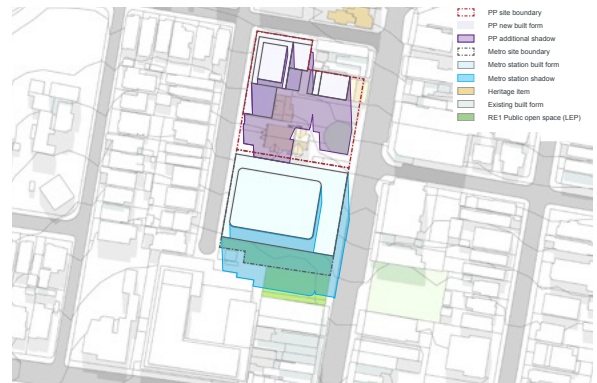


Figure 31 Option C additional shadow extent at 12:00pm on June 21st

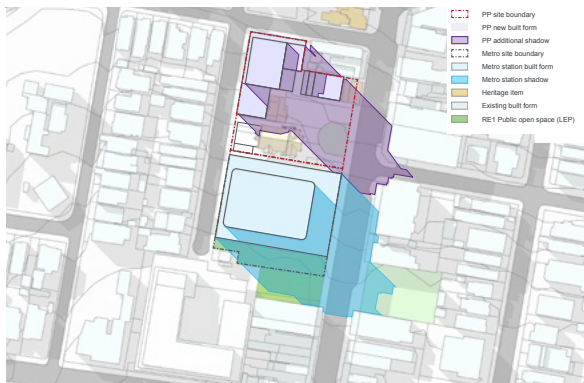


Figure 32 Option B additional shadow extent at 3:00pm on June 21st

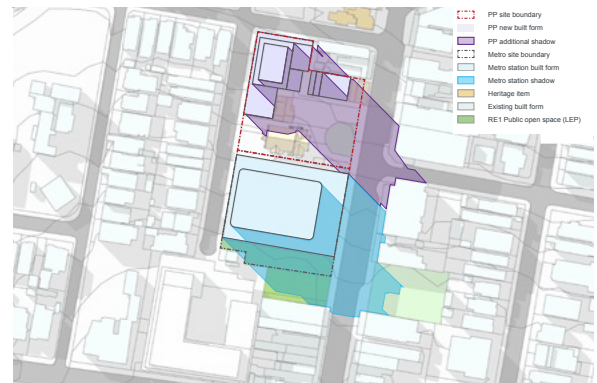


Figure 33 Option C additional shadow extent at 3:00pm on June 21st

