URBAN DESIGN REPORT
FOR A RESIDENTIAL BUILDING AT 10 - 14 MERTON STREET, SUTHERLAND

DECEMBER 2014

CONTENT

1 INTRODUCTION

1.1 Executive Summary

This urban design report has been prepared by GEOFORM ARCHITECTS on behalf of PHILLIP OSBORNE to support a planning proposal to the Department of Planning and Environment to review a formal analysis against key planning controls for the amalgamated sites at 10-14 Merton Street, Sutherland.

The above amalgamation opportunity, was chosen for its central Sutherland location with advanced infrastructure and proximity to transit links, allowing for high level urban design outcomes that integrates quality residential living with an integrated urban neighbourhood experience.

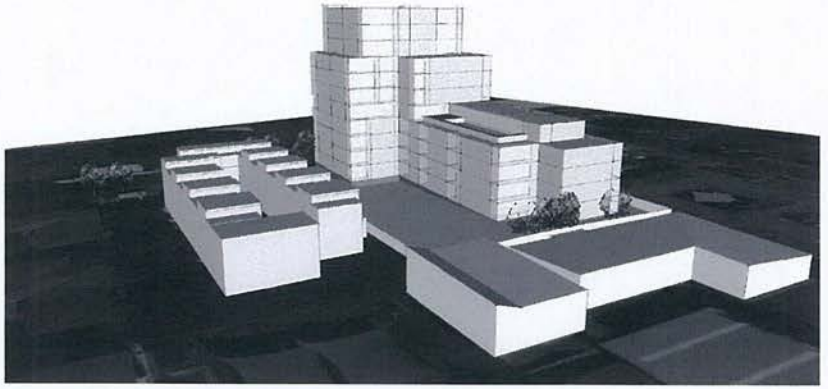
We have undertaken the following Urban Analysis Report with the understanding that Sutherland Council is currently undertaking a strategic review of its key statutory and development controls and specifically in respect of the Planning proposal to amend Sutherland Shire Local Environment Plan 2013.

In support of this submission to Council, this detailed Urban Form Analysis shows possible outcomes and arrives at a holistic residential response in an urban outcome that contributes positively to its neighbourhood, has integrative urban edges, ameliorates potential impacts and becomes a benchmark standard for future developments in the area.

1.2 Architect Statement

This Urban Design Analysis Report examines the following:

- The broader contextual frameworks that should support such a development.
- Existing and future planning frameworks, including the draft built form controls currently being considered by Council officers. Position all of the surrounding buildings, existing and proposed, their height limits and FSR, whether they are likely to be developed and their likely impacts in terms of the controls relative to this development.
- Existing context, constraints and opportunities at a micro level. This includes existing landscape and the local 'grain' of the street.
- The proximity of adjoining buildings to the subject site, and whether specific setbacks should be applied.
- Proposed built form on the subject site and impact on the adjacent properties [height, setback, floorplate, efficiencies, bulk, mass and overshadowing, SEPP 65 amenity/building separation]
- Extensive 3D modelling of built form proposed on subject site and on adjacent properties is to be provided to demonstrate impact control and contextual fit.



2 THE SITE

2.1 Location Study

The site is located within the block bounded by Merton Street to the west, Flora Street to the north, Belmont Street to the east and President Avenue to the south.

Currently on site are two existing dwellings. Immediately to the south is a three storey residential townhouse development. To the east is St Patrick's Primary School and across the road to the west is Sutherland Primary School.

The corner site immediately to the north is a potential development block. It is currently occupied by a commercial use building. To the north-east of the site is an aged care facility.

Photo 1: Aerial photo of the subject site (source Google Maps).

Photo 2: View of 10 Merton Street.

Photo 3: View of 14 Merton Street.

2.2 Streetscape

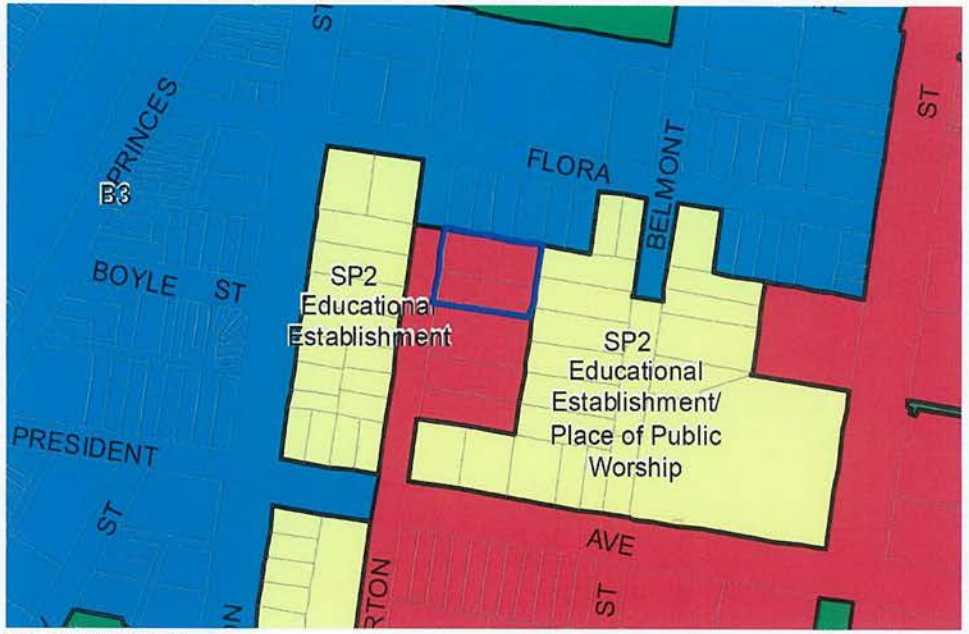
Site looking south along Merton Street (source Google Street View).

Site looking north along Merton Street (source Google Street View).

3 PLANNING FRAMEWORK

AMENDED DRAFT SSLEP3 - 2013
The subject site is shown with a solid blue outline.

3.1 Land Zoning



Sheet LZN_ 005A

Zone

B1	Neighbourhood Centre	R2	Low Density Residential
B2	Local Centre	R3	Medium Density Residential
B3	Commercial Core	R4	High Density Residential
B4	Mixed Use	RE1	Public Recreation
B5	Business Development	RE2	Private Recreation
B6	Enterprise Corridor	SP1	Special Activities
B7	Business Park	SP2	Infrastructure
E1	National Parks and Nature Reserves	SP3	Tourist
E2	Environmental Conservation	W1	Natural Waterways
E3	Environmental Management	W2	Recreational Waterways
E4	Environmental Living	UL	Unzoned Land
IN1	General Industrial	DM	Deferred Matter
IN2	Light Industrial		
IN3	Heavy Industrial		
IN4	Working Waterfront		

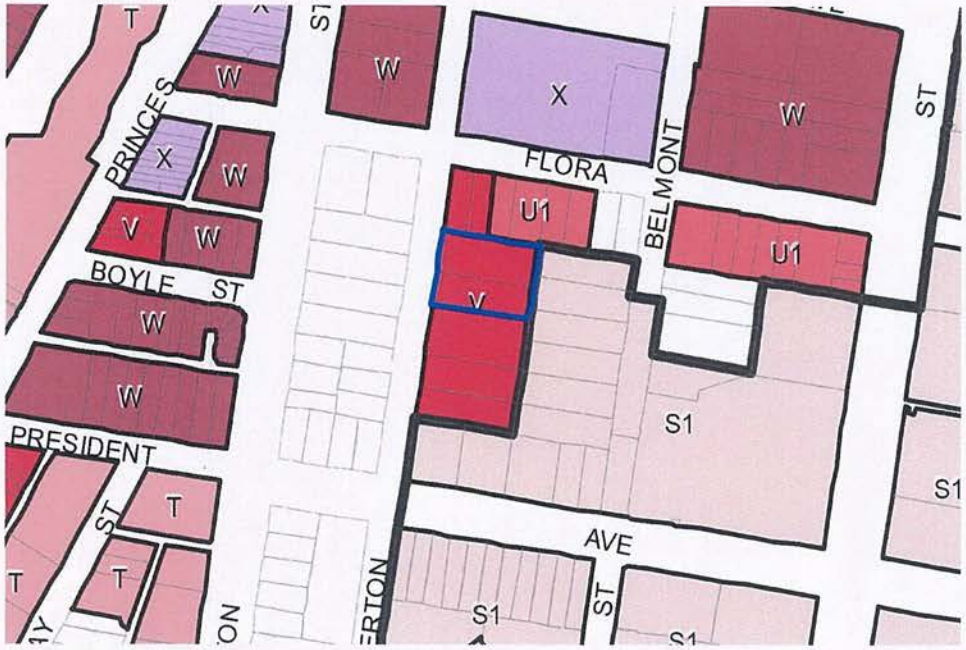
3.2 Building Heights

Sheet HOB_005A

Maximum Building Height (m)

I	8.5	Area 1	Refer to clause 4.3(7)(a)
J1	9	Area 2	Refer to clause 4.3(7)(b)
J2	9.5	Area 3	Refer to clause 4.3(7)(c)
N	13	Area 4	Refer to clause 4.3(7)(d)
O	16	Area 5	Refer to clause 4.3(7)(e)
Q	20	Area 5A	Refer to clause 4.3(7)(e)
T	25	Area 6	Refer to clause 4.5A(2)
U	30	Area 7	Refer to clause 6.20(2) & 6.20(4)(a)
V	35	Area 10	Refer to clause 4.3(7)(f)
W	40		
Y	50		

3.3 Floor Space Ratio



Sheet FSR-005A

Maximum Floor Space Ratio (n:1)

C	0.45	X	4
D	0.5	Area 5	Refer to clause 4.4(3)(b)
E	0.55	Area 5A	Refer to clause 4.4(3)(b)
G	0.65	Area 6	Refer to clause 4.5A(2)
H	0.7	Area 7	Refer to clause 6.20(2) & 6.20(5)(a)
I	0.75	Area 9	Refer to clause 4.4(3)(d)
N	1	Area 10	Refer to clause 4.4(3)(f)
P	1.2	Area 11	Refer to clause 4.4(3)(c)
S1	1.5	Area 12	Refer to clause 4.4(3)(e)
S2	1.6		
S3	1.8		
T	2		
U1	2.5		
U2	2.75		
V	3		
W	3.5		

3.4 Landscape Area

Sheet LSA_005A

Minimum Landscape Area (%)

A	10
E	30
J	35
K	40
Area 6	Refer to clause 4.5A(2)

3.5 Heritage

Sheet HER_005A

Heritage

- Item - General
- Item - Archaeological

3.6 Acid Sulfate Soils

Sheet ASS_005A

Acid Sulfate Soils

- 1 Class 1
- 2 Class 2
- 3 Class 3
- 4 Class 4
- 5 Class 5

Cadastre

Cadastre 02/09/2014 © Sutherland Shire Council

3.7 Flood Planning

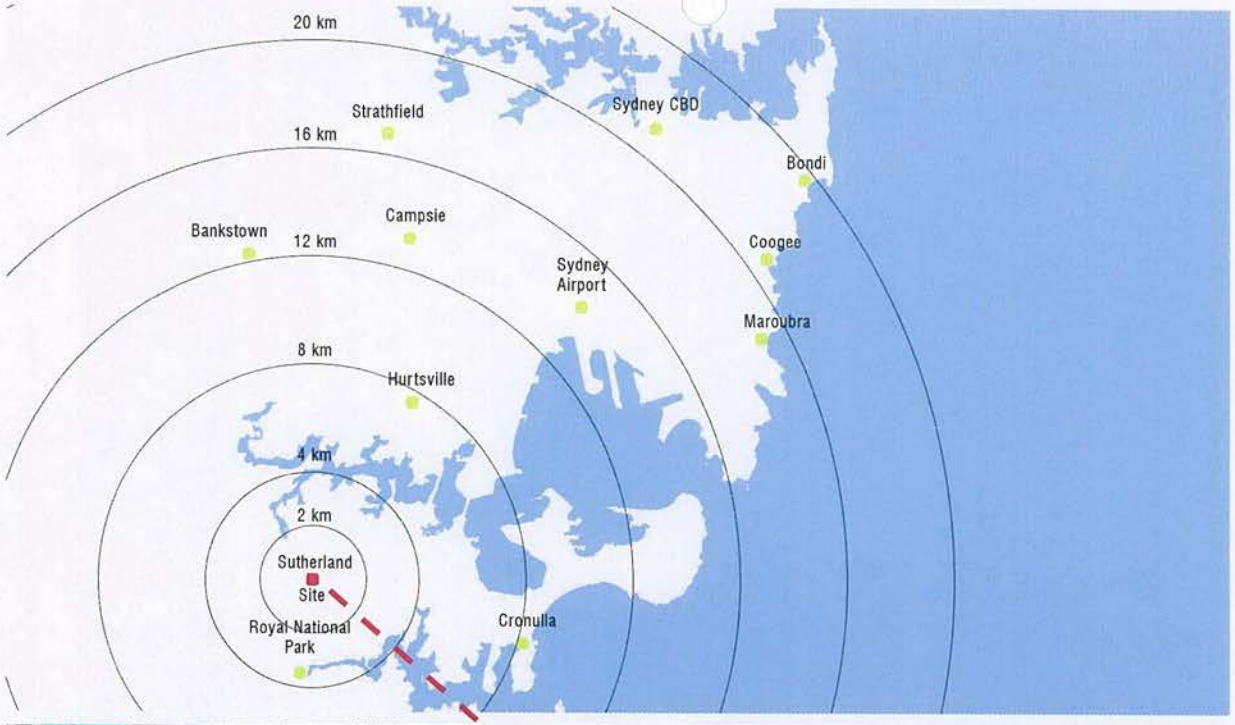
Sheet FLD_005A

Flood Planning Land

Flood Planning Area

Cadastre

Cadastre 02/09/2014 © Sutherland Shire Council



4. REGIONAL, LOCAL + TRANSPORT

4.1 Regional and Local Context

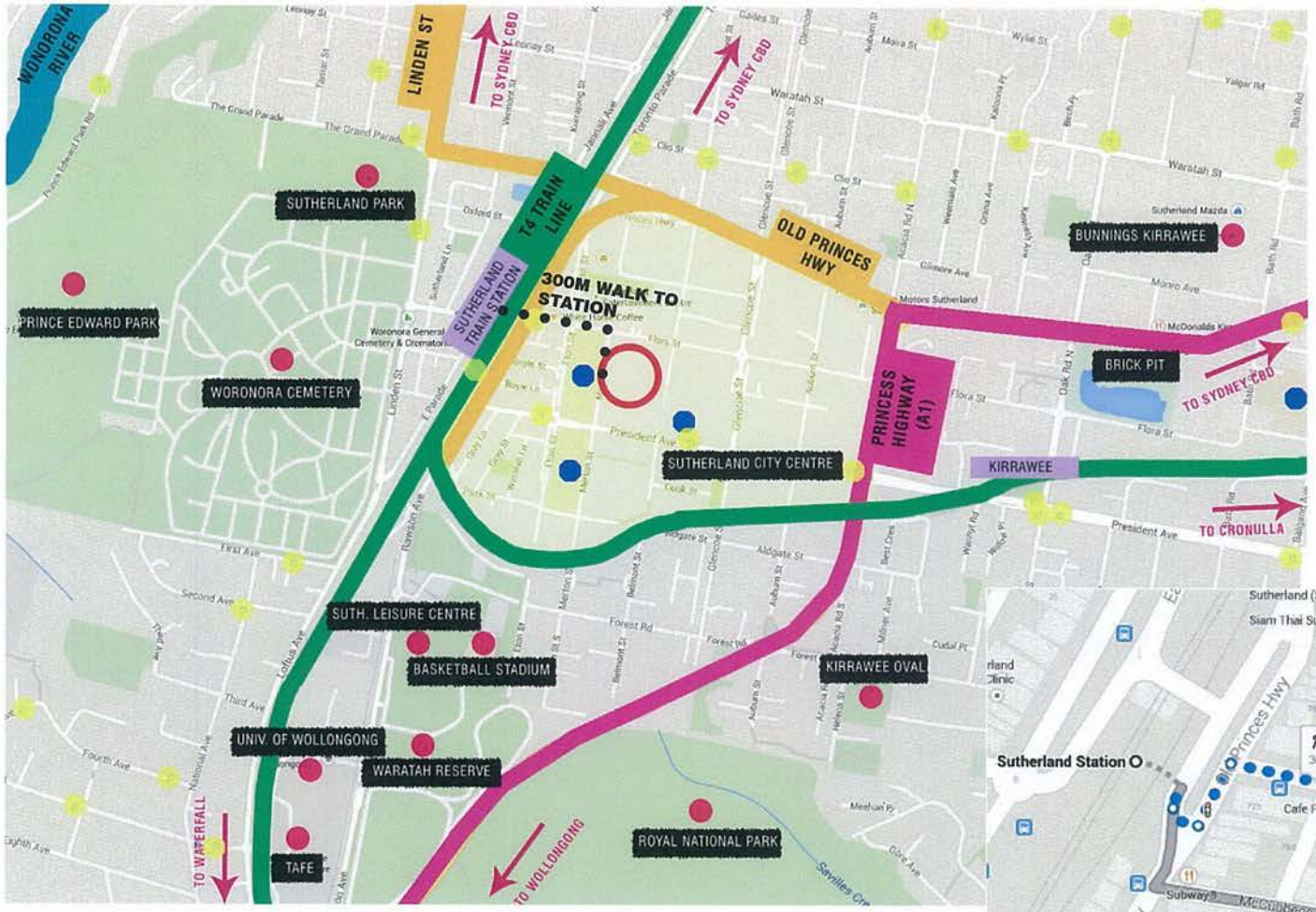
The site is in Sutherland, located 20km south of the Sydney CBD.

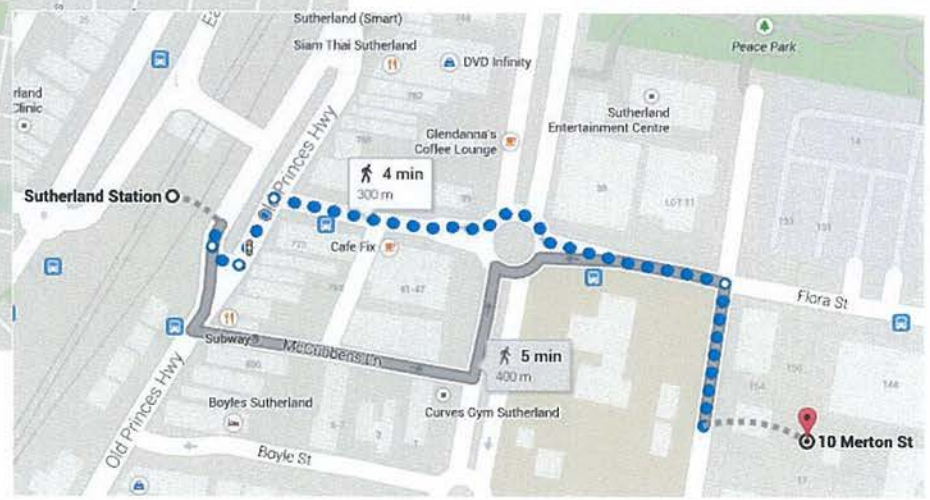
The site is in close proximity to the A1 Princes Highway, which is a major arterial road, and to Sutherland train station which links the Illawarra to the Sydney CBD. The site is well connected to its surrounding facilities, including parks, public transportation, hospital, shops and outlets.

The site is within residential zoned land and adjacent to commercial buildings along Flora Street with residential housing found along the side streets generally.

There are existing street trees along the Merton Street frontage which will be retained.

This area is likely to change as the area is redeveloped given its proximity to key infrastructure uses and its proximity to the city.





4.2 Transport

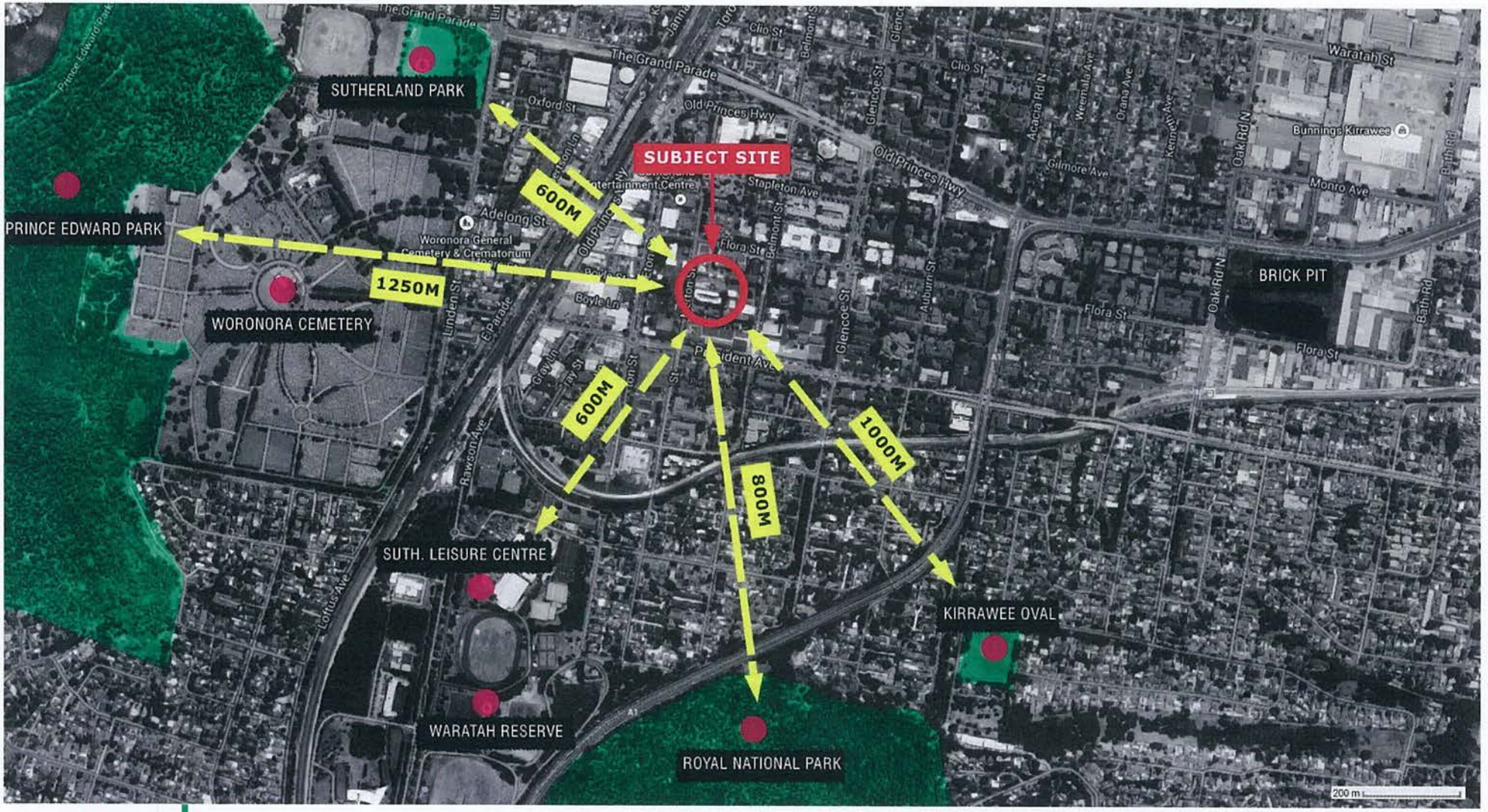
The site is very well serviced by bus and rail connections. Sutherland Railway Station is about a 4 minute walk from the site and there are also several bus routes that have regular daily services directly adjacent to the site and within very short walking distance.

The development site is a short 300m walk from Sutherland train station.

5 CONTEXTUAL ANALYSIS

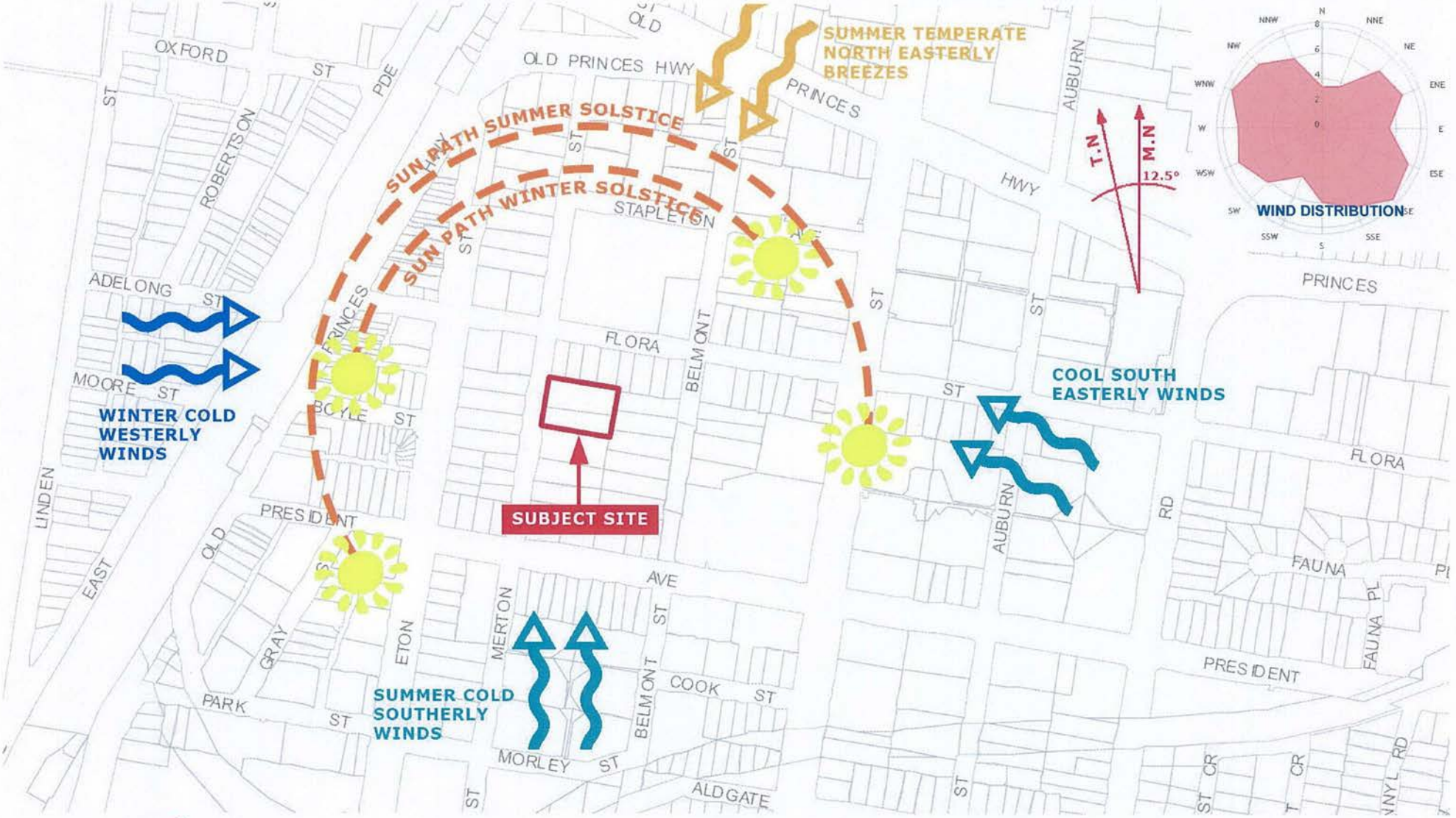
5.1 Greenscape

The site is located within 15 minutes walk to Sutherland Park and 20 minutes walk to Prince Edward Park located in the north-east. There are multiple reserves and parks to the south with Kirrawee Oval, Waratah Reserve and the Royal National Park all with in a 15 minute walk which provides a convenient balance between green space and built environment. Waratah Reserve also provides a leisure centre.



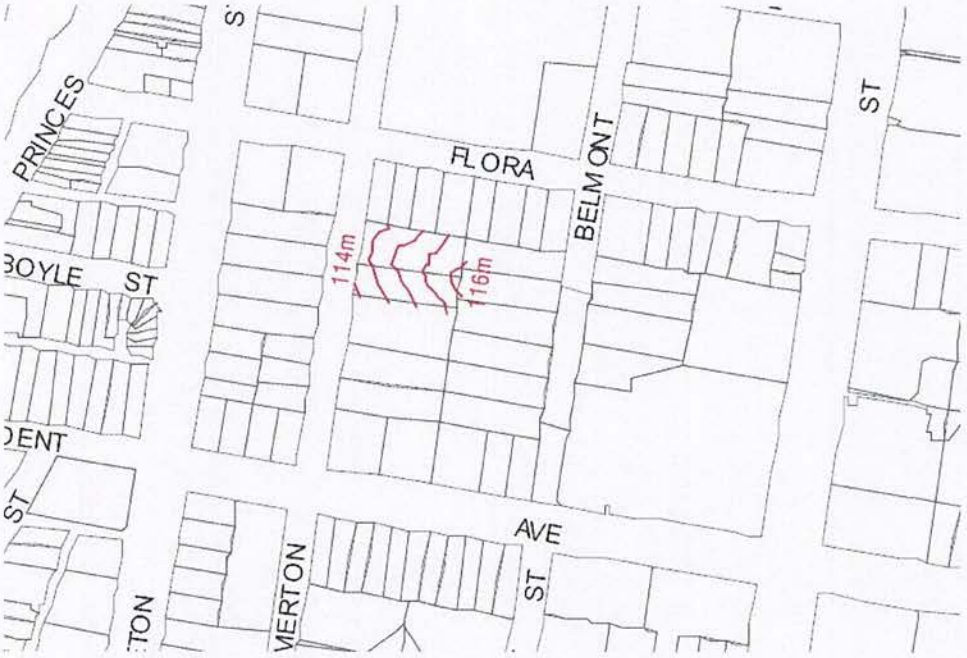
5.2 Environment

The site has an advantage of having a longer facade facing the north which has the greatest opportunity to receive sunlight throughout the year. During summer, there will be a need for shading to the west facade.



5.3 Topography

The site has a gentle fall towards Merton Street, from east to west, of about 2m and very little cross fall from north to south.



6 BUILT FORM MODELLING

6.1 Built Form Analysis - North-East Perspectives

Built Form Options:

Proposed Built Form Option 1
40m Height Limit @ 3:1 FSR

Proposed Built Form Option 2
36m Height Limit @ 2.9:1 FSR

Proposed Built Form Option 3
30m Height Limit @ 2.6:1 FSR

Additional Schemes - for Shadow Comparative Purposes Only:

Scheme A
20m Height Limit @ 1.8:1 FSR

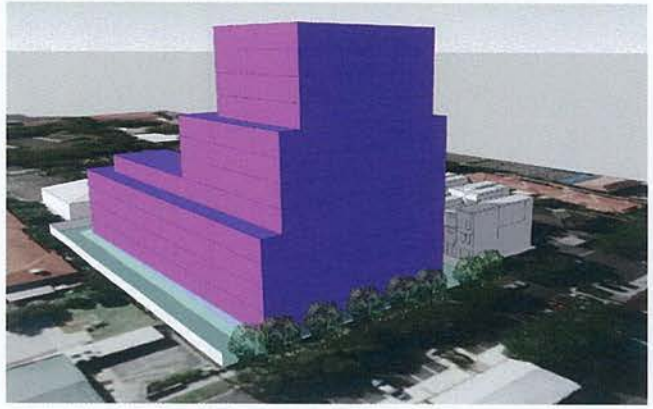
Scheme B
20m Height Limit @ 1.2:1 FSR

Scheme C
Complying Development @ 0.3:1 FSR

6.2 Built Form Analysis - North-West Perspectives

Built Form Options:

Proposed Built Form Option 1
40m Height Limit @ 3:1 FSR



Proposed Built Form Option 2
36m Height Limit @ 2.9:1 FSR

Proposed Built Form Option 3
30m Height Limit @ 2.6:1 FSR

Additional Schemes - for Shadow Comparative Purposes Only:

Scheme A
20m Height Limit @ 1.8:1 FSR

Scheme B
20m Height Limit @ 1.2:1 FSR

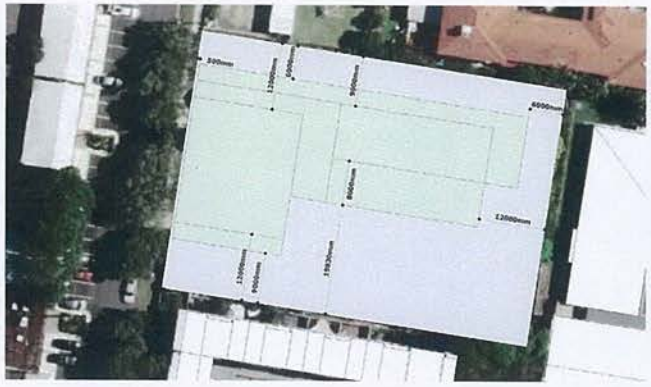
Scheme C
Complying Development @ 0.3:1 FSR

6.3 Building Setbacks

Built Form Options:

Proposed Built Form Option 1
40m Height Limit @ 3:1 FSR

Proposed Built Form Option 2
36m Height Limit @ 2.9:1 FSR



Proposed Built Form Option 3
30m Height Limit @ 2.6:1 FSR

Additional Schemes - for Shadow Comparative Purposes Only:

Scheme A
20m Height Limit @ 1.8:1 FSR

Scheme B
20m Height Limit @ 1.2:1 FSR

Scheme C
Complying Development @ 0.3:1 FSR

6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.1 Option 1
40m Height Plane Limit @ 3:1 FSR
Plan View

9 AM

10 AM

11 AM

12 PM

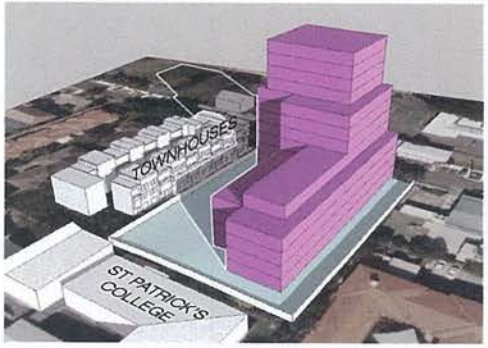
1 PM

2 PM

3 PM

6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.2 Option 1
40m Height Plane Limit @ 3:1 FSR
3D View to Townhouses Facade



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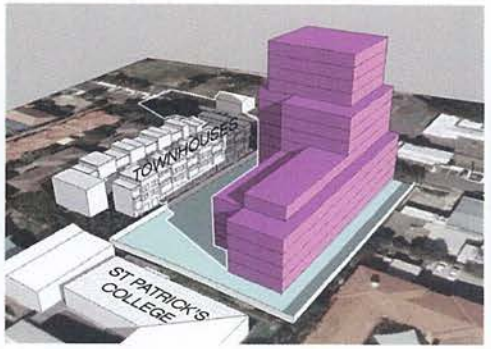

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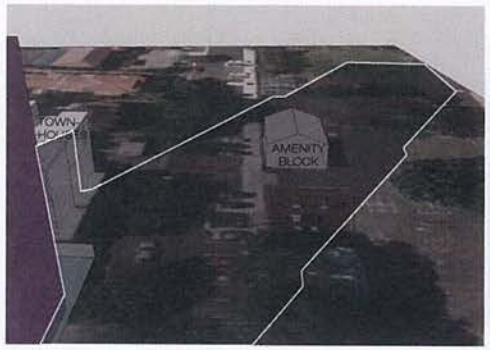
6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.3 Option 1
40m Height Plane Limit @ 3:1 FSR
3D View to Sutherland Primary School



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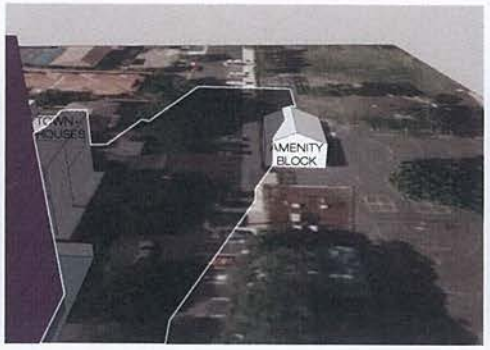

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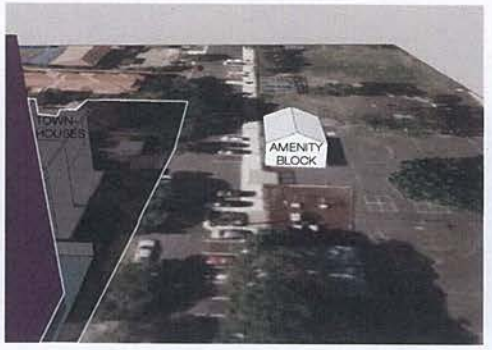

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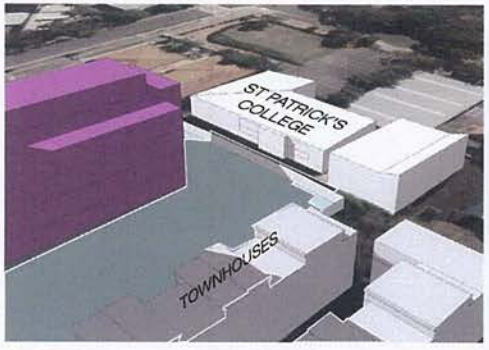
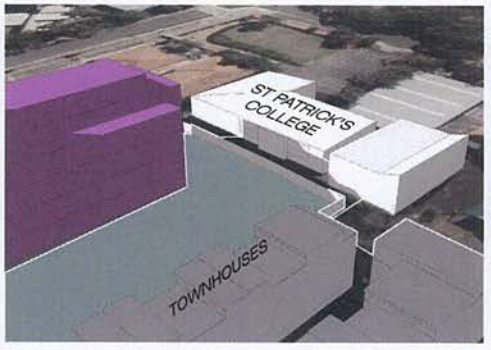
6.4.4 Option 1
40m Height Plane Limit @ 3:1 FSR
3D View to St Patricks College (School Classroom Facade)



1 PM - Classroom overshadowing



2 PM - Classroom overshadowing

3 PM - Classroom overshadowing

6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.5 Option 2
36m Height Plane Limit @ 2.9:1 FSR
Plan View

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6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.6 Option 2
36m Height Plane Limit @ 2.9:1 FSR
3D View to Townhouses Facade

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11 AM

12 PM

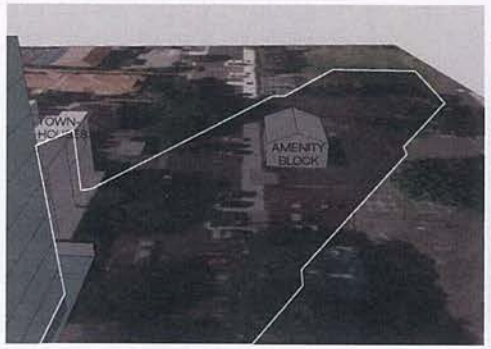
1 PM

2 PM

3 PM

6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.7 Option 2
36m Height Plane Limit @ 2.9:1 FSR
3D View to Sutherland Primary School



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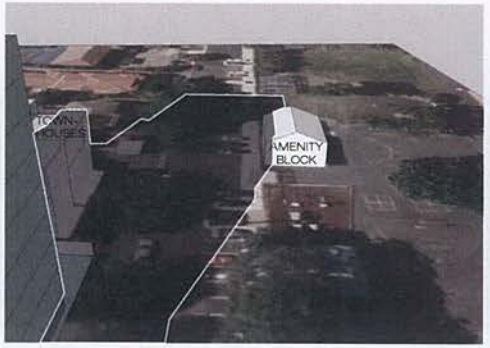

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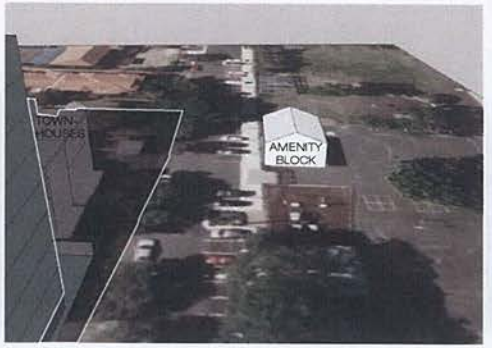
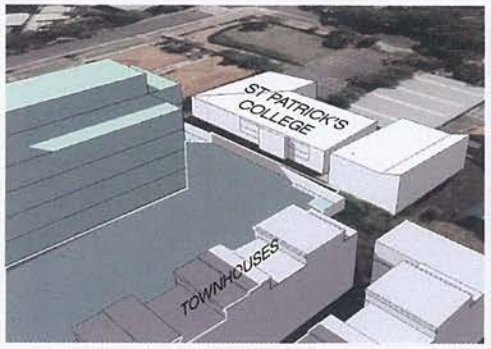
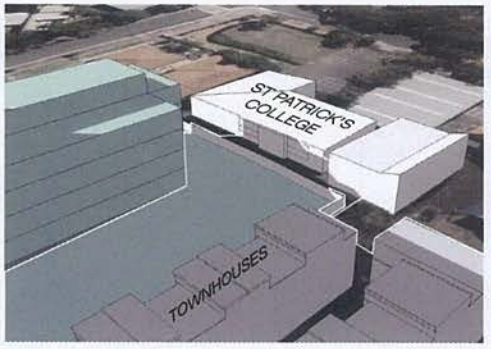


11 AM

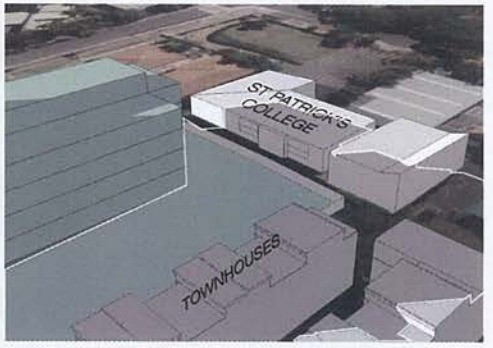
6.4.8 Option 2
36m Height Plane Limit @ 2.9:1 FSR
3D View to St Patricks College (School Classroom Facade)



1 PM - Classroom overshadowing



2 PM - Classroom overshadowing



3 PM - Classroom overshadowing

6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.9 Option 3
30m Height Plane Limit @ 2.6:1 FSR
Plan View

9 AM

10 AM

11 AM

12 PM

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6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.10 Option 3
30m Height Plane Limit @ 2.6:1 FSR
3D View to Townhouses Facade

9 AM

10 AM

11 AM

12 PM

1 PM

2 PM

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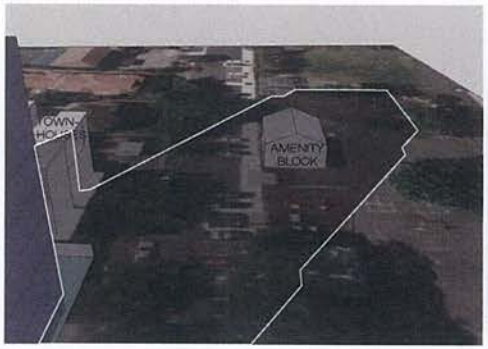
6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.11 Option 3
30m Height Plane Limit @ 2.6:1 FSR
3D View to Sutherland Primary School



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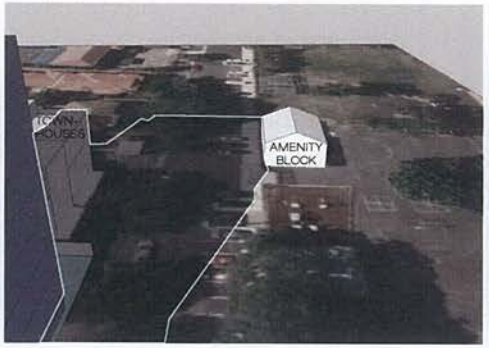

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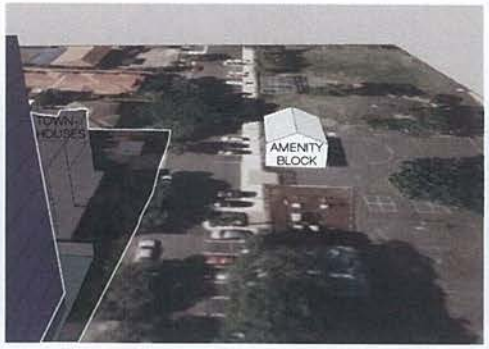
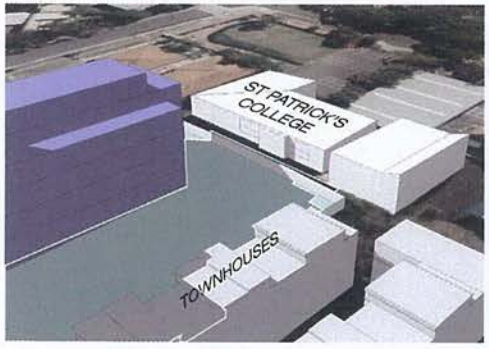
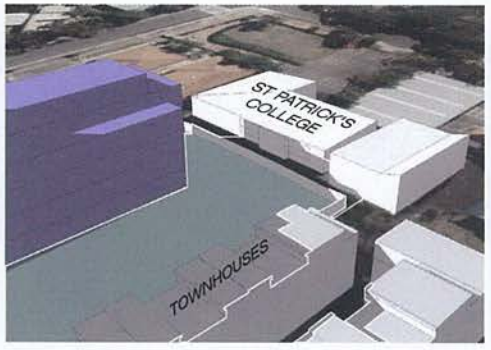


11 AM

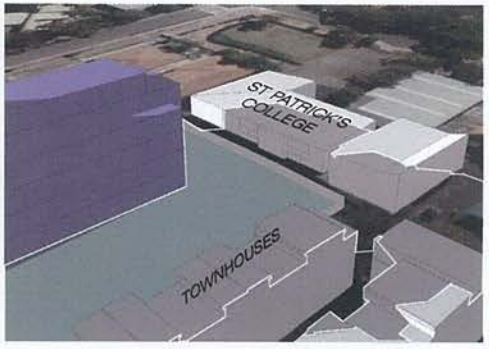
6.4.12 Option 3
30m Height Plane Limit @ 2.6:1 FSR
3D View to St Patricks College (School Classroom Facade)



1 PM - Classroom overshadowing



2 PM - Classroom overshadowing



3 PM - Classroom overshadowing

6.4 Overshadowing Analysis - Options 1, 2 + 3: June 21

6.4.13 Cumulative Impacts of Options 1, 2 and 3
Plan View

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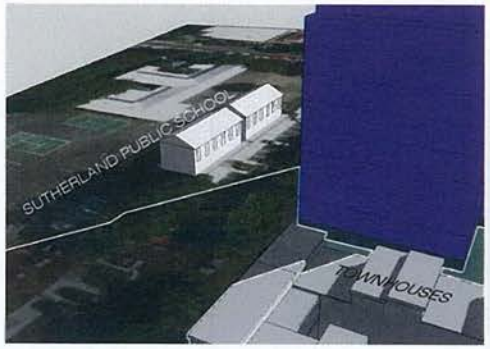
6.5 Overshadowing Analysis - Options 1, 2 + 3: June 21 - Dec 21

6.5.1 Option 1

40m Height Plane Limit @ 3:1 FSR

9am - 3D View to Sutherland Primary School Classroom Facade



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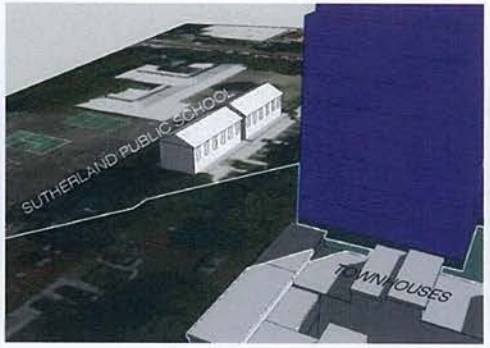

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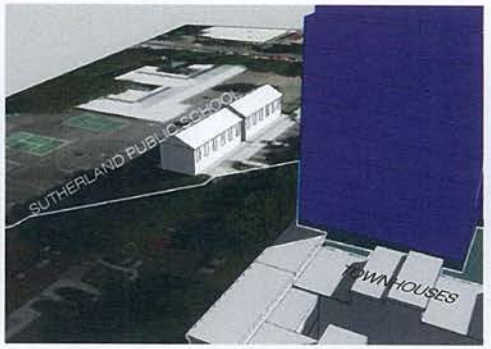

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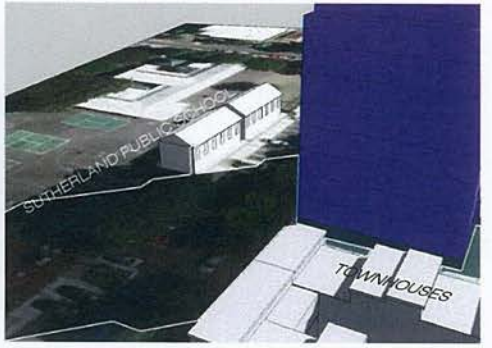


SEPTEMBER

OCTOBER

NOVEMBER

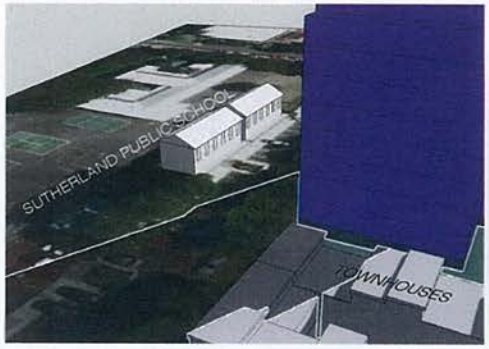
DECEMBER

6.5 Overshadowing Analysis - Options 1, 2 + 3: June 21 - Dec 21

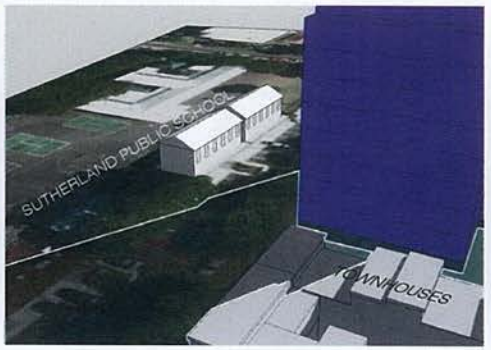
6.5.2 Option 1

40m Height Plane Limit @ 3:1 FSR

9.30am - 3D View to Sutherland Primary School Classroom Facade



JUNE



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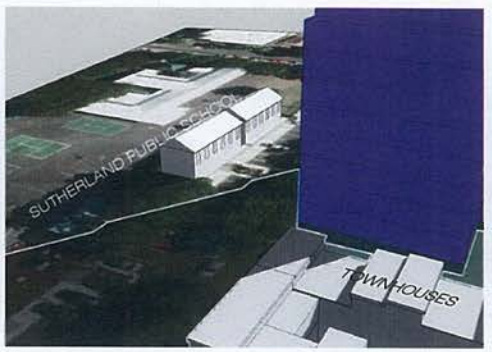
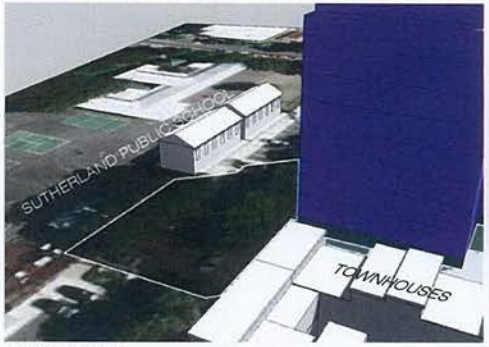
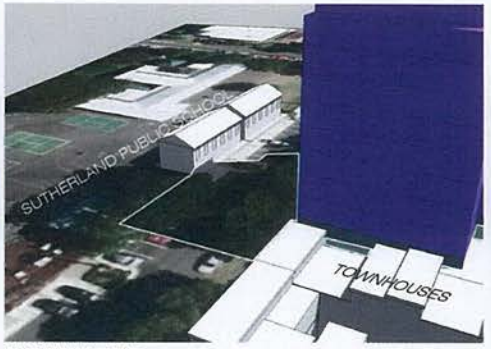


AUGUST

SEPTEMBER



OCTOBER



NOVEMBER

DECEMBER

6.5 Overshadowing Analysis - Options 1, 2 + 3: June 21 - Dec 21

6.5.3 Option 2

36m Height Plane Limit @ 2.9:1 FSR

9am - 3D View to Sutherland Primary School Classroom Facade

JUNE

JULY

AUGUST

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER

6.5 Overshadowing Analysis - Options 1, 2 + 3: June 21 - Dec 21

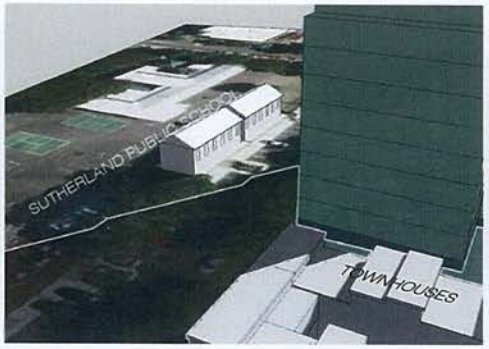
6.5.4 Option 2

36m Height Plane Limit @ 2.9:1 FSR

9.30am - 3D View to Sutherland Primary School Classroom Facade

JUNE

JULY



AUGUST

SEPTEMBER

OCTOBER

NOVEMBER

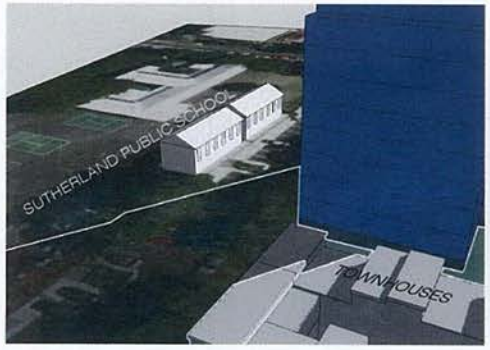
DECEMBER

6.5 Overshadowing Analysis - Options 1, 2 + 3: June 21 - Dec 21

6.5.5 Option 3

30m Height Plane Limit @ 2.6:1 FSR

9am - 3D View to Sutherland Primary School Classroom Facade



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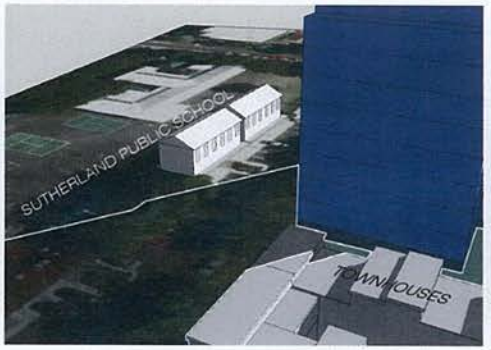

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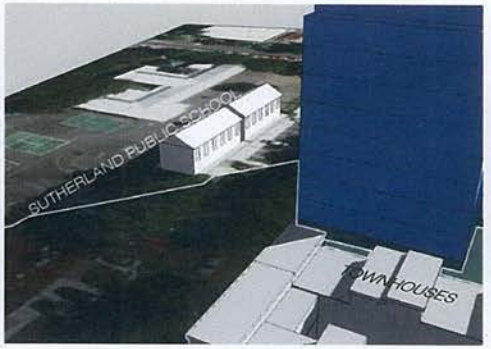

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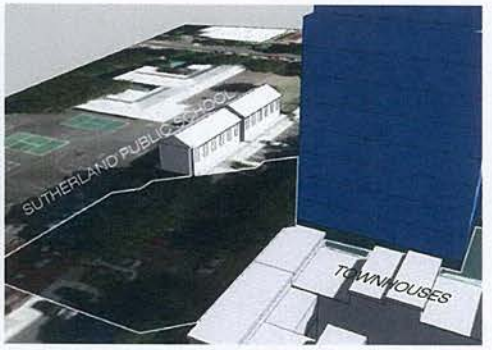


SEPTEMBER

OCTOBER

NOVEMBER

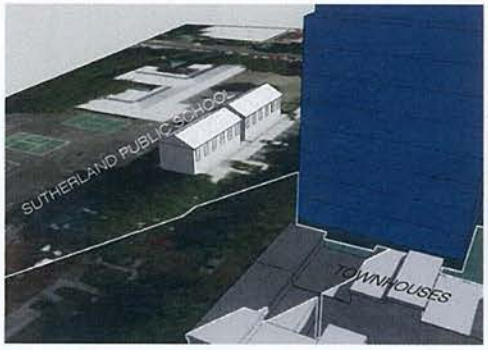
DECEMBER

6.5 Overshadowing Analysis - Options 1, 2 + 3: June 21 - Dec 21

6.5.6 Option 3

30m Height Plane Limit @ 2.6:1 FSR

9.30am - 3D View to Sutherland Primary School Classroom Facade



JUNE

JULY

AUGUST

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER

6.6 Overshadowing Analysis - Schemes A, B + C: June 21

FOR COMPARITIVE PURPOSES ONLY

6.6.1 Scheme A

20m Height Plane Limit @ 1.8:1 FSR
Plan View

9 AM

10 AM

11 AM

12 PM

1 PM

2 PM

3 PM

6.6 Overshadowing Analysis - Schemes A, B + C: June 21

FOR COMPARITIVE PURPOSES ONLY

6.6.2 Scheme A
20m Height Plane Limit @ 1.8:1 FSR
3D View to Townhouses Facade

9 AM

10 AM

11 AM

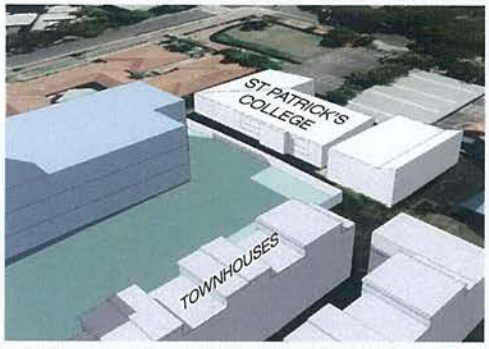
12 PM

1 PM

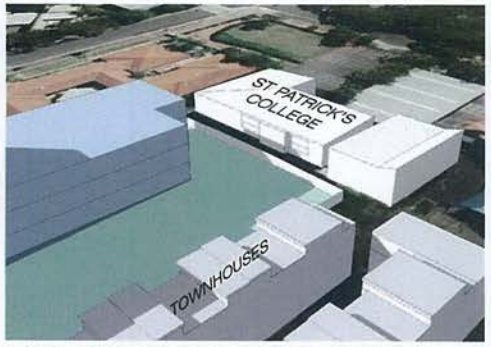
2 PM

3 PM

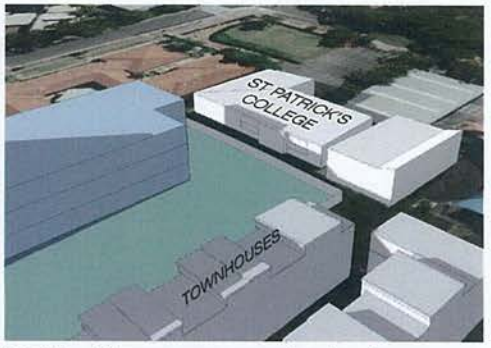
6.6.3 Scheme A
20m Height Plane Limit @ 1.8:1 FSR
3D View to School Classroom Facade



1 PM - Classroom overshadowing



2 PM - Classroom overshadowing



3 PM - Classroom overshadowing

6.6 Overshadowing Analysis - Schemes A, B + C: June 21

FOR COMPARITIVE PURPOSES ONLY

6.6.4 Scheme B

20m Height Plane Limit @ 1.2:1 FSR
Plan View

9 AM

10 AM

11 AM

12 PM

1 PM

2 PM

3 PM

6.6 Overshadowing Analysis - Schemes A, B + C: June 21

FOR COMPARITIVE PURPOSES ONLY

6.6.5 Scheme B
20m Height Plane Limit @ 1.2:1 FSR
3D View to Townhouses Facade

9 AM

10 AM

11 AM

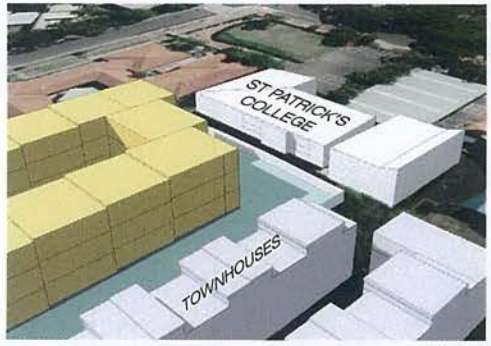
12 PM

1 PM

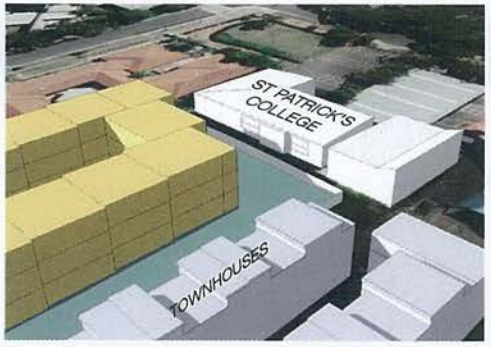
2 PM

3 PM

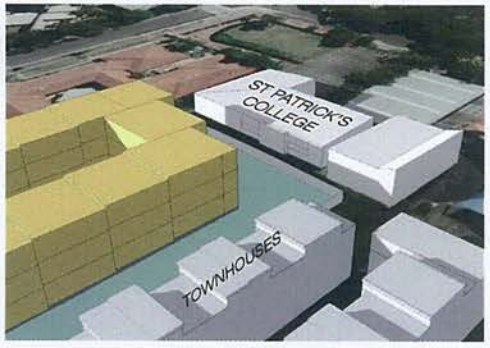
6.6.6 Scheme B
20m Height Plane Limit @ 1.2:1 FSR
3D View to School Classroom Facade



1 PM - Classroom overshadowing



2 PM - Classroom overshadowing



3 PM - Classroom overshadowing

6.6 Overshadowing Analysis - Schemes A, B + C: June 21

FOR COMPARITIVE PURPOSES ONLY

6.6.7 Scheme C
Complying Development @ 0.3:1 FSR
Plan View

9 AM

10 AM

11 AM

12 PM

1 PM

2 PM

3 PM

6.6 Overshadowing Analysis - Schemes A, B + C: June 21

FOR COMPARITIVE PURPOSES ONLY

6.6.8 Scheme C
Complying Development @ 0.3:1 FSR
3D View to Townhouses Facade

9 AM

10 AM

11 AM

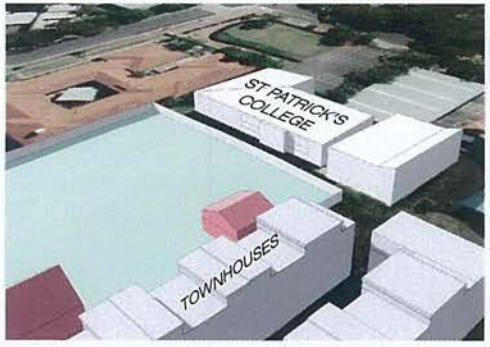
12 PM

1 PM

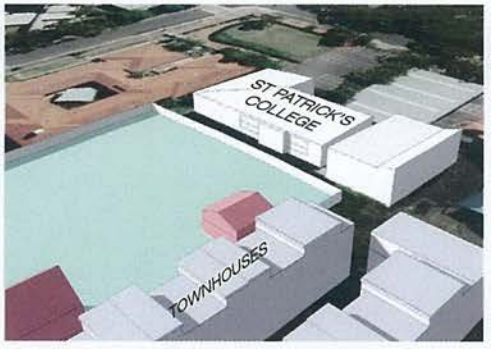
2 PM

3 PM

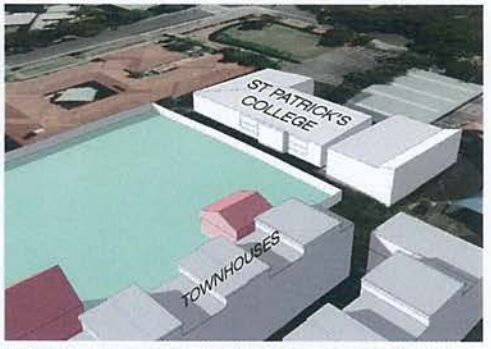
6.6.9 Scheme C
Complying Development @ 0.3:1 FSR
3D View to School Classroom Facade



1 PM - Classroom overshadowing



2 PM - Classroom overshadowing



3 PM - Classroom overshadowing

6.6.10 Development Data

10-14 Merton Street, Sutherland

No. 10	1 798.4
No. 12-14	1 349.1
Combined Site Area	**3 147.5 sqm**

Option 1, 2, 3	RFB
Scheme A	RFB
Scheme B	Townhouses
Scheme C	2 Storey Dwelling - Complying development

Setbacks	Low, Mid, High	Comments
Front (Merton St)	0.5m, 0.5m, 0.5m	To allow for building articulation
Side (south)	9m, 9m, 12m	To allow 12m separation to existing townhouses
Side (north)	6m, 9m, 12m	To comply with SEPP65
Rear	6m min.	

	Option 1	**Option 2**	**Option 3**	**Scheme A**	**Scheme B**	**Scheme C**
Height Control (m)	40	36	30	20	20	8.5
FSR	3:1	3:1	3:1	1.8:1	1.8:1	N/A
Max GFA (sqm)	9 442.5	9 442.5	9 442.5	5 665.5	5 665.5	430 +Outbuilding 100
Floor Plate Areas						
Whole Floor Plate Area	10 560	10 110	9 210	6 360	4 068	
Less Circulation -8%	844.8	808.8	736.8	508.8	162.72	
Less Services -2%	211.2	202.2	184.2	127.2	40.68	
Area of Units inc. Balconies	9 504	9 099	8 289	5 724	3 864.6	
Number of Units /80 + 8sqm	**108**	**101**	**94**	**65**	**44**	
GFS (ex Serv, ex Balc, inc. Circ)	**9 484.8**	**9 080.6**	**8 272.3**	**5 712.4**	**3 676.0**	**430**
FSR (x:1)	**3.0**	**2.9**	**2.6**	**1.8**	**1.2**	**0.3**

6.7 Preferred Development: Option 2 - 36m Height Limit @ 2.9:1 FSR

6.7.1 Outcome

The study assessed 3 types of form that compared impacts and SEPP 65 compliance which had height to FSR ratios of 40m/3:1, 36m/2.9:1 and 30m/2.6:1.

From the modelling it is clear to us that the scheme that has the 36m/2.9:1 ratio, which also achieving a minimum of 30% landscape, in the finger and tower form as presented, with the least effect to the immediate and local amenity (to the adjoining school and townhouse development to the south), whilst being under in both height and FSR, is Option 2.

6.7.2 Impact Analysis

The shadow and SEPP 65 analysis across the 3 schemes supports scheme 2 as the preferred outcome. Extensive shadow modelling to the finger and tower form shows minimal overshadowing to the townhouse development to the south, no mean feat given the existing development faces north to a site that has a 40m height limit. It can be seen from the scheme comparisons (A,B and C) that it fairs equal to a 20m high compliant scheme and a similar 3 level compliant townhouse scheme on the subject site.

SEPP 65 separation applies to the whole of the form, with and EXTRA 3m added to the southern boundary to achieve the minimum setback requirements to the existing townhouse development that is only 3m off its northern boundary.

North-western view - Building massing

North-eastern view - Building massing

Merton Street (west) facade modulation zone shown transparent

6.7 Preferred Development: Option 2 - 36m Height Limit @ 2.9:1 FSR

6.7.3 Facade Composition

Scale, rhythm, proportions - includes balcony recesses and building relief elements

View from north-west

View from south-west

View from south-east

View from north-west

6.7 Preferred Development: Option 2 - 36m Height Limit @ 2.9:1 FSR

6.7.4 Open Space

Communal open space is 30% of the site area provided at both ground level and mid-rise roof level.
Private open space for each unit is provided for with balconies having a minimum dimension of 2m.

Site area	3 147.5 sqm
Common open space	944 sqm
	30% of site area

6.7 Preferred Development: Option 2 - 36m Height Limit @ 2.9:1 FSR

6.7.5 Summary of Analysis

The resultant preferred building form model (Option 2) has been tested against the Council's new draft LEP controls of height and FSR, as well as it meeting SEPP 65 guidelines, across 3 possible solutions in form and is the model that achieves outcomes that in our opinion are in line with Council objectives with providing a medium density level of living within close proximity to rail and transport links.

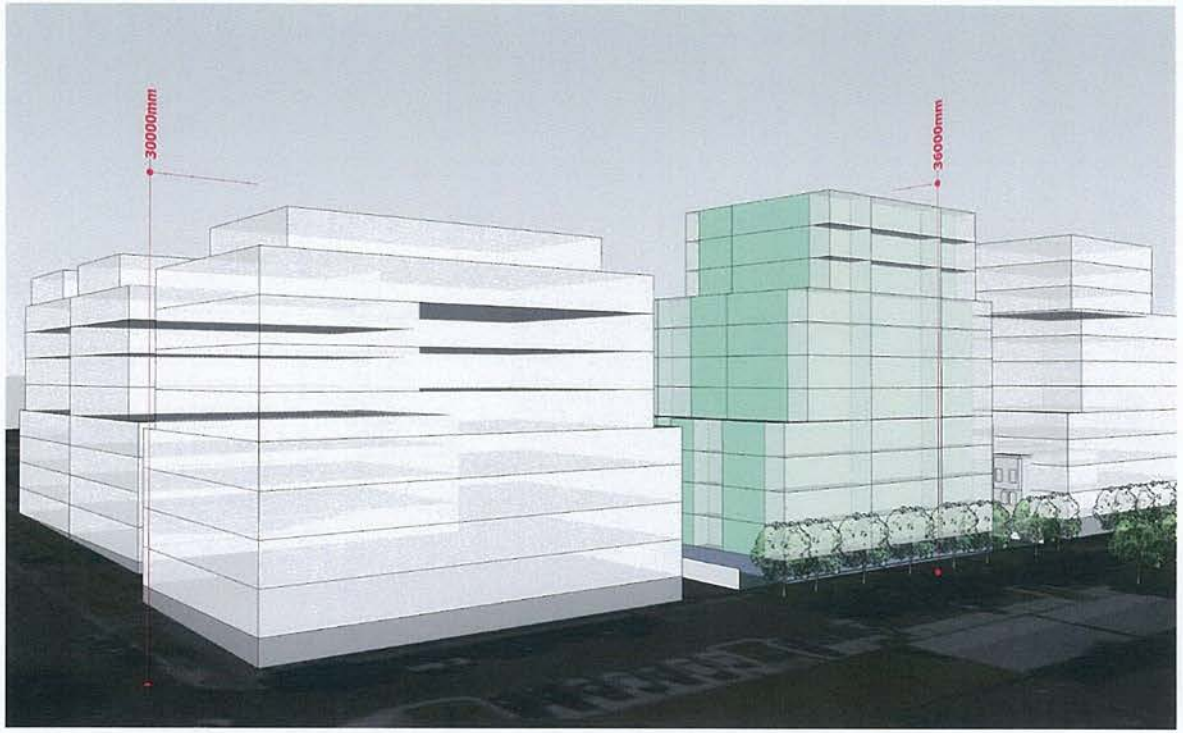
Given the maximums allowed under the draft LEP, and therefore by exploring forms up-to 40m in height and FSR of 3:1, whilst being scrutinised for solar access into the adjoining school and neighbouring townhouse development, as well as the adjoining houses further south, it can seen that Scheme 2 is the form that has the least amenity loss in a comparison study.

Furthermore, it can be seen that Scheme 2 is the 'tipping point' and anything added to this volume will have an increased effect of overshadowing to the townhouse development or the school playground.

It therefore can also be seen that this scheme affords no loss of sun to the school playground during its hours of use, as the lower finger form has been parametrically modelled as a direct response to control and not encroach the school playground with shadows at lunch time across the year.

We have also provided a probable best outcome scenario diagram (see Fig. 6.5.4 below), in the event the adjoining sites were to be developed, under the recommended height/FSR data in the draft LEP, that indicate ghost envelopes that give context to the proposal and justify future contextual fit.

6.7.6 Potential Future Development



6.7 Preferred Development: Option 2 - 36m Height Limit @ 2.9:1 FSR

6.7.7 Development Data

10-14 Merton Street, Sutherland

No. 10	1 798.4
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Combined Site Area	**3 147.5 sqm**

Setbacks	Low, Mid, High	Comments
Front (Merton St)	0.5m, 0.5m, 0.5m	To allow for building articulation
Side (south)	9m, 9m, 12m	To allow 12m separation to existing townhouses
Side (north)	6m, 9m, 12m	To comply with SEPP65
Rear	6m min.	

	Option 2
Height Control (m)	36
FSR	3:1
Max GFA (sqm)	9 442.5
Floor Plate Areas	
Whole Floor Plate Area	10 110
Less Circulation -8%	808.8
Less Services -2%	202.2
Area of Units inc. Balconies	9 099
Number of Units /80 + 8sqm	**101**
GFS (ex Serv, ex Balc, inc. Circ)	**9 080.6**
FSR (x:1)	**2.9**

Unit mix

3 bedroom apartments	4 (4%)
2 bedroom apartments	84 (83%)
1 bedroom apartments	13 (13%)
Total	101 units

Car Parking

3 bedroom apartments	2 spaces/unit
2 bedroom apartments	1.5 spaces/unit
1 bedroom apartments	1 space/unit
Visitors	1 space/4 units
Total	173 spaces inc. 26 visitor spaces

6.7 Preferred Development: Option 2 - 36m Height Limit @ 2.9:1 FSR

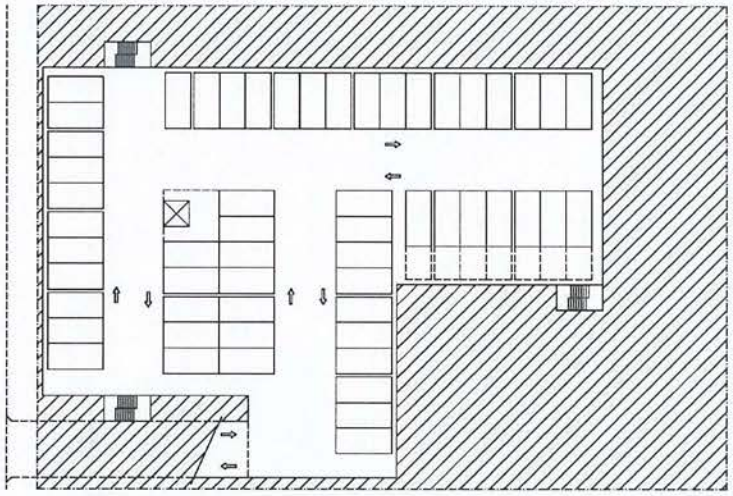
6.7.8 Daylight Access + Natural Ventilation Schematic Basement and Level 1-4

KEY

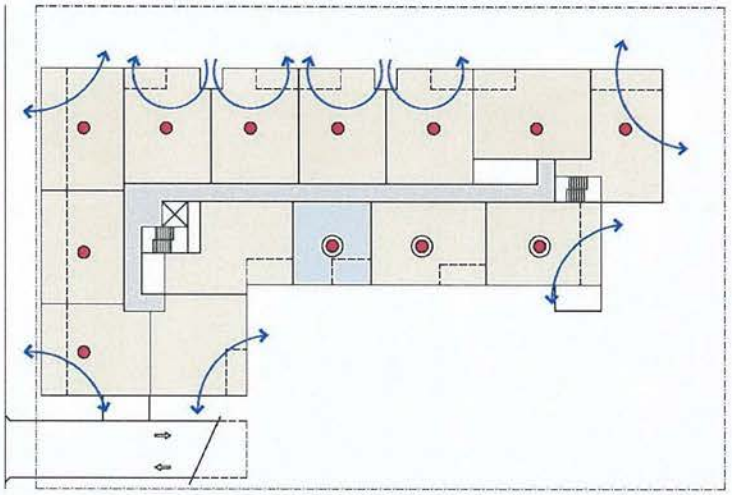
NATURAL VENTILLATION
to 65 of 101 units (64%)

DAYLIGHT ACCESS
to 74 of 101 units (73%)

indicates daylight access to L4 unit only



TYPICAL BASEMENT (approx 60 car spaces per level, over 3 levels)

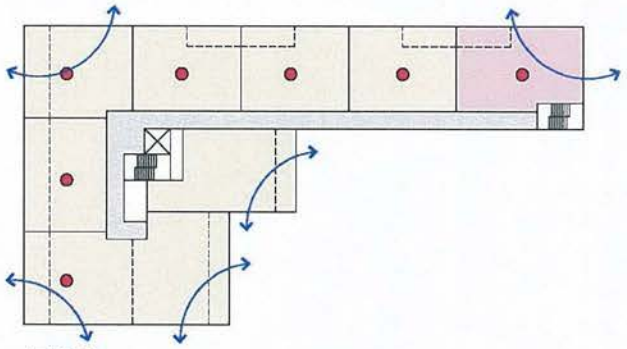


LEVEL 1-4

TN

6.7 Preferred Development: Option 2 - 36m Height Limit @ 2.9:1 FSR

6.7.9 Daylight Access + Natural Ventilation Schematic Basement and Level 1-4

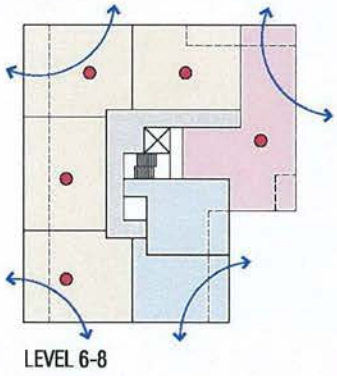


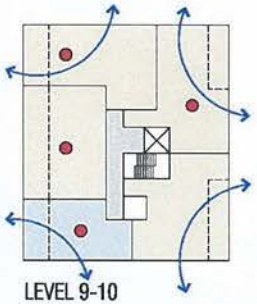
KEY

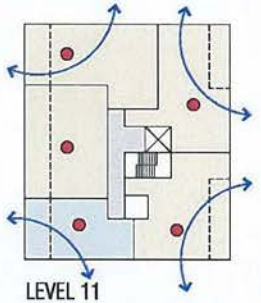
NATURAL VENTILLATION
to 65 of 101 units (64%)

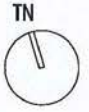
DAYLIGHT ACCESS
to 74 of 101 units (73%)

indicates daylight access to L4 unit only









7 PRECEDENTS
| conceptual framework

The State Environmental Planning Policy No. 65- Design Quality of Residential Flat Development (SEPP 65) aims to improve the design quality of new residential flat buildings in New South Wales. Adherence to SEPP 65 involves the integration and the application of the ten design principles in the design process.

Principle	Design quality	Proposal
1	Context	
	"Good design responds and contributes to its context which can be defined as the key natural and built feature of the area."	

Principle	Design quality	Proposal
2	Scale	
	"Good design provides an appropriate scale in terms of bulk and height that suits the scale of the street and the surrounding buildings." Establishing an appropriate scale requires a considered response to the scale of the immediate surroundings and a respect to the adjoining uses. The proposed bulk and form also need to achieve the scale identified for the desired future character of the area.	

Principle	Design quality	Proposal
3	**Built form**	
	"Good design achieves an appropriate built form for a site and for the building's purpose, in terms of building alignments, proportions, building type and manipulation of building elements." Appropriate built form defines the public domain, contributes to the character of the streetscapes and public open spaces including their views and vistas as well as providing internal amenity and outlook.	

Principle	Design quality	Proposal
4	**Density**	
	"Good design has a density appropriate for the site and its context in terms of floor space yields or number of units or residents." Appropriate densities are sustainable and consistent with the existing density in an area or, for precincts undergoing a transition, are consistent with the stated desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.	

Principle	Design quality	Proposal
5	Resource, energy and water efficiency	
	"Good design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction." Sustainability is integral to the design process. Relevant aspects include demolition of existing structures, recycle and re-use of materials, selection of appropriate and sustainable materials, adaptability and reuse of buildings where suitable, layouts and built form, passive solar design principles, efficient appliances and mechanical services, soil zones for vegetation and reuse of water.	

Principle	Design quality	Proposal
6	Landscape	
	"Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both the residents and or the public domain." Landscape design enhances the development's natural environmental performance and contributes to the positive image and contextual fit of development.	

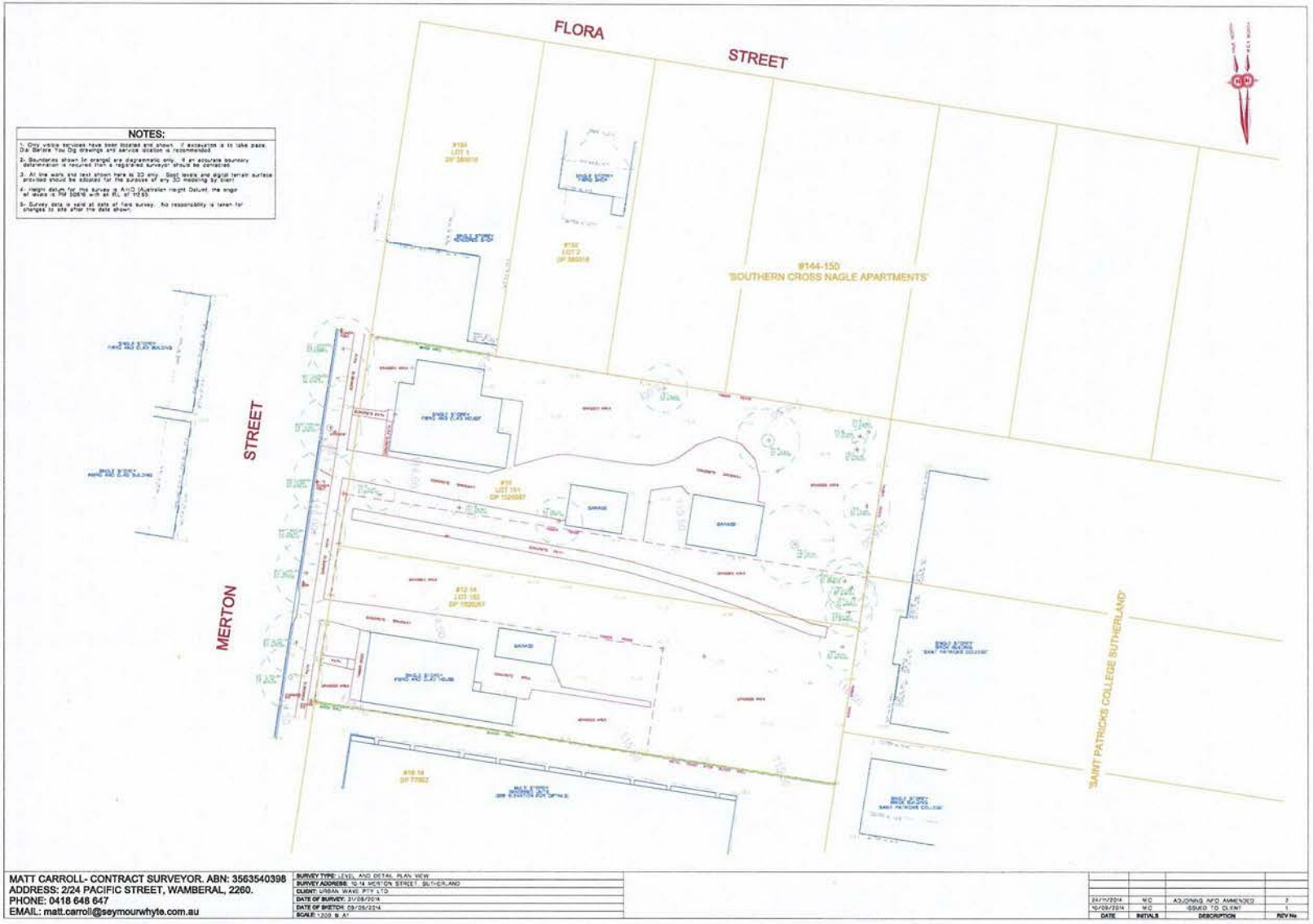
Principle	Design quality	Proposal
7	Amenity	
	"Good design provides amenity through the physical, spatial and environmental quality of a development." Optimising amenity requires appropriate room dimensions and shapes, access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, outlook and ease of access for all age groups and degrees of mobility.	

Principle	Design quality	Proposal
8	Safety and security	
	"Good design optimises safety and security, both integral to the development and for the public domain." Safety is achieved by maximising the oversight of public and communal spaces while maintaining internal privacy and avoiding dark areas. Activity on the street is maximised through different uses, providing clear and safe access points and providing quality public spaces that cater for desirable recreational uses.	

Principle	Design quality	Proposal
9	**Social dimension and affordability**	
	"Good design responds to the social context and needs of the local community in terms of lifestyles, affordability, and access to social facilities."	

Principle	Design quality	Proposal
10	**Aesthetics**	
	"Quality aesthetics require the appropriate composition of building elements, textures, materials and colours and reflect the use, internal design and structure of the development." Aesthetics respond to the environment and context, particularly to desirable elements of the existing streetscape or, in precincts undergoing transition, contributes to the desired future character of the area. They also respond to the aspiration of the local precinct and its significance within the city.	

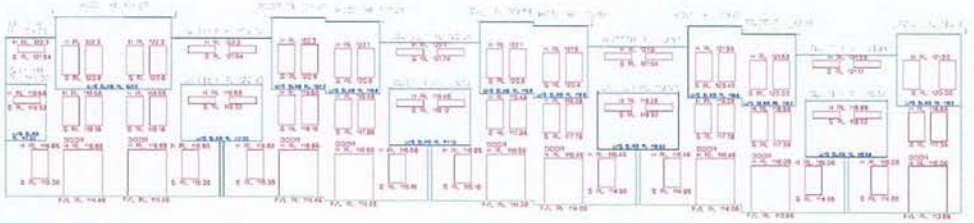
9 APPENDIX 1 - SURVEY PLAN



9 APPENDIX 2 - SURVEY TOWNHOUSE NORTHERN FACADE

NOTES:

1. Only visible services have been located and shown. If excavation is to take place, Dial Before You Dig drawings and service location is recommended.
2. Boundaries shown on drawing are diagrammatic only. If an accurate boundary determination is required then a registered surveyor should be contacted.
3. All line work and text shown here is 2D only. Spot levels and digital terrain surface provided should be adopted for the purpose of any 3D modelling by client.
4. Height datum for the survey is AHD (Australian Height Datum) the origin of which is PM 55616 with an RL of 10.285.
5. Survey data is valid at date of field survey. No responsibility is taken for changes to and after the date shown.



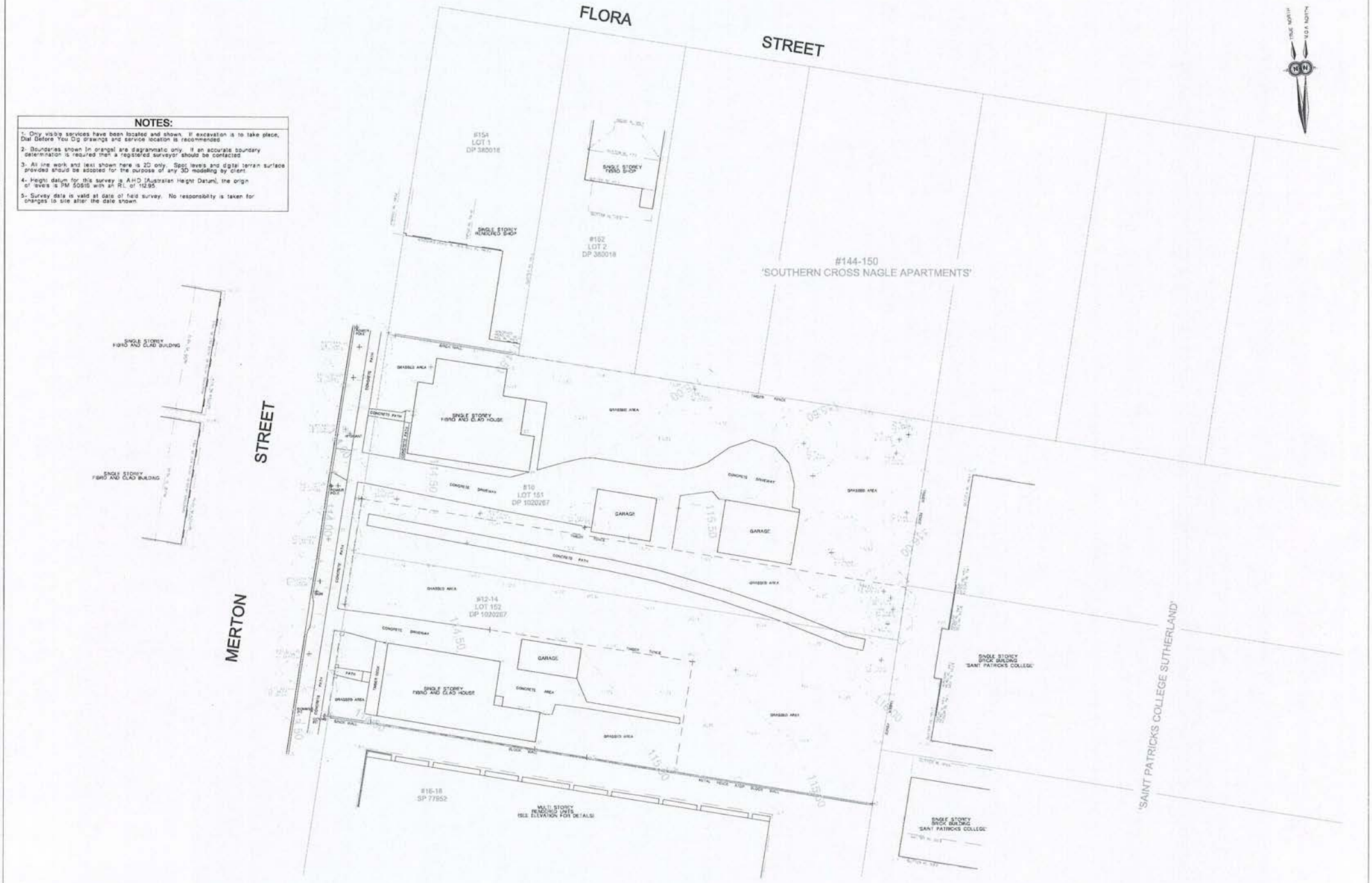
MERTON STREET

NORTH FACING ELEVATION OF 16-18 MERTON STREET

MATT CARROLL- CONTRACT SURVEYOR. ABN: 3563540398
ADDRESS: 2/24 PACIFIC STREET, WAMBERAL, 2260.
PHONE: 0418 648 647
EMAIL: matt.carroll@seymourwhyte.com.au

SURVEY TYPE: LEVEL AND DETAIL ELEVATION OF ADJOINING PROPERTY
SURVEY ADDRESS: 10-14 MORTON STREET, SUTHERLAND
CLIENT: URBAN WAVE PTY LTD
DATE OF SURVEY: 20/08/2014
DATE OF SKETCH: 12/09/2014
SCALE: 1:100 @ A1

DATE	INITIALS	DESCRIPTION	REV No.
19/09/2014	MC	ISSUED TO CLIENT	1



NOTES:

1- Only visible services have been located and shown. If excavation is to take place, Dial Before You Dig drawings and service location is recommended

2- Boundaries shown (in orange) are diagrammatic only. If an accurate boundary determination is required then a registered surveyor should be contacted

3- All line work and text shown here is 2D only. Spot levels and digital terrain surface provided should be adopted for the purpose of any 3D modelling by client.

4- Height datum for this survey is AHD (Australian Height Datum), the origin of levels is PM 50616 with an R.L. of 112.95

5- Survey data is valid at date of field survey. No responsibility is taken for changes to site after the date shown.

MATT CARROLL- CONTRACT SURVEYOR. ABN: 3563540398
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SURVEY TYPE: LEVEL AND DETAIL PLAN VIEW
SURVEY ADDRESS: 10-14 MERTON STREET, SUTHERL
CLIENT: URBAN WAVE PTY LTD
DATE OF SURVEY: 31/08/2014
DATE OF SKETCH: 09/09/2014
SCALE: 1200 @ A1

DATE	INITIALS	DESCRIPTION	REV No.
24/11/2014	MC	ADJOINING INFO AMENDED	2
10/09/2014	MC	ISSUED TO CLIENT	1