

Urban Design & Planning Report 10-14 Merton Street, Sutherland

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Urban Design & Planning Report | 10-14 Merton Street, Sutherland | architectus

01

Introduction

- 1.1 Site context
- 1.2 Local context



Planning context

- 2.1 Strategic Planning Context2.2 Existing local planning controls
- Site analysis Local character 3.1 Recent development 3.2 3.3 Public transport 3.4 Movement and access 3.5 Social infrastructure and community facilities Open space and recreation 3.6 Development Potential 3.7 3.8 Street Character

Combined Constraints

Combined Opportunities

⁷ 04

Design testing

4.1 Design Par4.2 Options Su

05

11

12

14

17

18

19

20

21

22

23

24

25

26

27

5.1 Recommendation

03

3.9

3.10

	29
arameters	30
ummary	31

ns and conclusion	51
endations	52



Overview

Purpose of the report

The Department of Planning and Environment has commissioned Architectus to undertake an urban design analysis to determine appropriate built form controls for 10-14 Merton Street, Sutherland.

This report presents a summary of our site analysis, key findings and design options for discussion with the Department of Planning and Environment to determine the preferred design and planning scheme for the subject site.

The objective is to maximise the site's development potential, while delivering a high level of amenity, managing impacting and ensuring consistency with local character.

Background

The site is zoned R4 High Density Residential under the Sutherland Shire Local Environmental Plan (LEP) 2015. The R4 zone allows a range of residential uses including residential flat buildings and shop top housing. The site has a maximum building height of 20m and a maximum floor space ratio of 1.5:1.

The proponent's initial planning proposal sought to amend the Sutherland Shire Local Environmental Plan 2015 in relation to 10-14 Merton Street, Sutherland by:

- increasing the FSR from 1.5:1 to 3:1; and
- increasing the maximum building height from 20m to 36m.

On 13 February 2017, the proponent submitted a letter to the Department requesting that a maximum FSR control of 2.5:1 (as opposed to 3:1) and maximum building height control of 30 metres (as opposed to 36 metres) be supported. After further discussions, a revised scheme of 29 metres (9 storeys) and 2.5:1 was proposed by the proponent. Architectus has tested the lowest proposed scheme given if it could not deliver a more favourable development outcome, any high scheme would also not achieve a favourable outcome.

Council has suggested a maximum building height of 25m (8 storeys) and a floor space ratio of 1.8:1.

The site

The subject site known as 10-14 Merton Street, Sutherland has a combined site area of approx. 3,132 square metres. The site is currently contains two single storey detached houses.

The site is bound by Merton Street to the west, a 3-storey residential flat building to the south, St Patrick's College to the east, and a medical centre, single storey house and two storey residential aged care centre to the north, along Flora Street.

Key findings

In response to our detailed understanding of the site and its context, we identified the following key findings. These findings have informed our recommendations for the site.

- Sutherland is identified as a Strategic Centre in the Greater Sydney Region Plan. It is an important civic, employment, education, retail and services centre for the south.
- Densities are the highest within the town centre, with buildings up to 8 storeys. Away from the town centre densities decrease, with buildings up to 6 storeys.

- The site is not considered to be part of the town centre. Sutherland Primary School is a clear delineation between the town centre and surrounding residential neighbourhood. Heights for the site should not exceed those in the town centre.
- The site is located in a relatively low scale residential neighbourhood, with heights up to 3-storeys adjoining the site to south.
- The site's location between two schools requires a sensitive design approach to ensure overlooking, visual impacts and privacy concerns can be managed. There should be setbacks at upper levels to minimise overlooking.
- Sutherland Primary School is a local heritage item. The scale and character of the built form, as well as visual impacts and overshadowing, must not impact on the heritage significance of the school buildings and its setting.
- A key challenge is minimising overshadowing properties to the south. Testing has shown that even a complying scheme would have impacts on solar access to these apartments.
- Due to the orientation of the site, achieving two hours of solar to the communal space on the subject site will be a challenge. Incorporating a high quality rooftop terrace will be required to ensure a high level of amenity for residents.
- The B3 zoned land to the north provides the only redevelopment potential in the local area. Testing indicates that under the current controls, the maximum hight of 30m would not be achieved.
 Future development must be compatible with, and respond to the future context.
- Merton Street has a beautiful landscape character, with excellent street trees. The existing street trees are approximately 12m and should be used to guide the street wall height.

Recommendations

Based on detailed urban design testing, we recommend the following maximum planning controls for the site:

maximum height of building control of 21.7mmaximum floor space ratio control of 1.8:1

We recommend no change to the current R4 High Density Residential land use zone.

We also recommend a number of site specific design controls for the site, to ensure future development will achieve a high level of internal and external amenity, manage impacts and deliver high quality built form outcomes.





01 Introduction

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1.1 Site context

The site is made up of two existing lots at 10 & 12-14 Merton Street, Sutherland (legally known as Lots 151 & 152, DP1020267).

The subject site currently accommodates two existing single storey dwellings. When amalgamated, the subject site achieves a total site area of approx. 3,132m², with a frontage of 46m.

The site is bound by Merton Street to the west, a 3-storey residential flat building to the south, St Patrick's College to the east, and Flora Street to the north which contains a medical centre, a single storey house and two storey residential aged care centre.

To the west of the site on Merton Street is Sutherland Primary School, a listed local heritage item.



Introduction

1.2 Local context

The subject site is located within the Sutherland Shire Local Government Area (LGA), approximately 30km south-east of Sydney CBD.

The site is well supported by public transport, located within walking distance (400m) to Sutherland Train Station. The site is also well serviced by buses with connections to Miranda, Alfords Point and Engadine.

The Old Princes Highway to the west provides an important main street, providing a low-scale retail strip with a range of retail and commercial services including Coles and IGA supermarkets, banking services, a local newsagency, and a range of specialty stores.

Merton Street is a north-south street, characterised by low to medium density housing in the south, with heights ranging from 3 to 5 storeys, along with a schools precinct comprising Sutherland Primary School, St Patrick's College and the Minerva School.

Conversely, the north of Merton Street incorporates a range of civic, entertainment and community uses including the Sutherland Entertainment Centre, Sutherland Shire Council building and Sutherland Uniting Church. This precinct is also strengthened with the Sutherland multi-purpose community centre, and Flora Street car park (used for weekend farmers markets) located along Flora Street.

There is also a number of local parks within walking distance of the site providing a range of passive and recreational uses.





1 - View looking south along Merton Street.



2 - 3-storey residential flat building adjoining subject site



3 - Low-scale retail and commercial uses along Old Princes Hwy



Introduction





02 Planning context

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Strategic Planning Context 2.1

2.1.1 Greater Sydney Region Plan

The Greater Sydney Region Plan, finalised in March 2018, is the new metropolitan plan for Sydney. It provides a 40 year vision for Sydney, where people will live within 30 minutes of jobs, education, health facilities, services and great places.

In order to meet the needs of a growing and changing population, the vision seeks to transform Greater Sydney into a metropolis of three cities; the Western Parkland City, the Central River City and the Eastern Harbour City.

Sutherland, located in the South District, is identified as a **strategic centre**. Building on its high concentration of health and education jobs, Sutherland will play an increasingly important civic role in the District.

A key focus of The Greater Sydney Region Plan is to increase jobs, but also to increase the housing within walking distance of strategic centres. Creating a vibrant and diverse centre, supported by increasing residential development within strategic centres must be prioritised.

Increasing densities within close proximity to centres and transport is a key driver for the Greater Sydney Commission and the vision of a 30-minute city.



Image above: Metropolis of three cities extract from the Greater Sydney Region Plan 2056 (Source: Greater Sydney Commission, 2018)

CENTRES				OTHER	
1	• •	STRATEGIC	LOCAL	COMMERCIAL OFFICE PRECINCT	HEALTH AND EDUCATION PRECINCT (SEE OBJECTIVE 21)
Eastern Harbour City	Metropolitan centre: • Harbour CBD	 Bondi Junction Brookvale-Dee Hurstville Kogarah Macquarie Park Campsie Chatswood Eastgardens- Maroubra Junction Frenchs Forest Green Square- Mascot Hornsby Hurstville Kogarah Macquarie Park Manly Miranda Mona Vale Randwick St Leonards Sutherland 		Chatswood Green Square-Mascot Harbour CBD Macquarie Park Rhodes St Leonards	 Frenchs Forest Harbour CBD Kogarah Macquarie Park Randwick Rhodes St Leonards

Image above: Extract of Centres hierarchy from the Greater Sydney Region Plan 2056 (Source: Greater Sydney Commission, 2018)

Planning context

nary Parkland
Reserve
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Link/MassTransit
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Investigation
years
Investigation
) years
Visionary

ECONOMIC CORRIDOR

(SEE OBJECTIVE 16) (SEE OBJECTIVE 15 Sydney Airport Eastern Economic Corridor Port Botany

TRADE GATEWAY

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2.1.2 South District Plan

The South District Plan, finalised in March 2018, sets out planning priorities and actions for improving the quality of life for residents as the District grows and changes.

Sutherland is identified as a strategic centre within the south district. Key strengths of Sutherland are:

- A strong diversity of uses including retail, entertainment, commercial and community services;
- An important **civic role** with a District Court;
- A nearby education presence which includes the University of Wollongong satellite campus and Sutherland College Sydney TAFE.

Building on the above strengths, actions and priorities for Sutherland include:

- Build upon the centres administration and civic role;
- Facilitate the attraction of office and commercial floor space with opportunities for commercial and retail innovation;
- Encourage new lifestyle and entertainment uses to activate streets and grow the night time economy
- Encourage activation of secondary streets.

The plan sets a five year housing supply target for Sutherland LGA of 5,200 dwellings by 2021.



Image above: Extract of the Structure Plan for the South District (Greater Sydney Commission, 2018)

Planning context

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Rural Area						
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and Reserves						
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s Transit Visionary						
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Existing local planning controls 2.2



R4 High Density Residential RE1 Public Recreation SP2 Infrastructure

Land Zoning

The subject site is zoned R4 High Density residential which allows for a variety of uses including residential flat buildings and shop top housing.

The objectives of the R4 zone are to provide a variety of housing types that meets the needs of the Sutherland Shire's population, particularly housing for older people and people with a disability. The objectives also focus on promoting a high standard of urban design and residential amenity, within a high quality landscape setting.

The site adjoins land zoned B3 Commercial Core to the north, and SP2 Special Infrastructure to the east. Land to the immediate south is also zoned R4 High Density Residential.

Ν	13	U	30
0	16	V	35
Q	20	W	40
Т	25	Y	50

Height of Buildings

The maximum building height for the subject site is 20m.

OLD PRINCES HWY

Land immediately north on the corner of Merton and Flora Street allows for a maximum building height of 30m.

Land surrounding the train station, to the west of the subject site allows a maximum building height of 40m, transitioning to 30m along the western side of Eton St, and 20m west of Eton St.

Land north of the site toward the Princes Hwy mostly allows for heights up to 30m, with some land allowing up to 40m.



S1 1.5	U2 2.7
S2 1.6	V 3
S3 1.8	W 3.5
T 2	X 4
11 25	

Floor space ratio

1.5:1.

Land immediately north of the site allows for a maximum FSR of part 3:1 and part 2.5:1.

Land east and south of the subject site have a maximum FSR of 1.5:1. This land also falls within 'Area 12', which under Clause 4.4(2A) allows for an additional FSR of up to 0.3:1 if development is on a lot with an area greater than 2,500m². It is noted the subject site is not included within Area 12.

There is no maximum FSR for land west of the subject site (also known as Sutherland Public School).

Planning context

The maximum floor space ratio for the subject site is



Landscape Area

Under Clause 6.14 of Sutherland LEP 2015, a minimum landscape area of 30% applies to the subject site.

The objective of this clause is to ensure the retention and provision of vegetation that contributes to biodiversity and enhances the tree canopy of Sutherland Shire. It also allows for a number of ecologically sustainable benefits such as;

- minimising urban run-off;
- minimising visual impacts of development through landscaping; and
- providing shade and screening parking areas.

<u>Heritage</u>

The subject site is not listed as a heritage item, however, there are a number of local heritage items within the vicinity of the site including:

- Item 3614: Former Sutherland Intermediate High School, (now part of Sutherland Primary School)
- Item 3618: Sutherland Primary School, including original building and grounds.

Terrestrial Biodiversity

LEP mapping confirms the subject site does not contain environmental sensitive land. However, land immediately to the east contains terrestrial biodiversity.

Additional mapping info

Furthermore, LEP mapping confirms the site does not contain additional permitted uses and acid sulphate soils and is neither subject to minimum lot size mapping, the foreshore building line, flood planning, ground water vulnerability, land reservation for acquisition, natural landforms mapping, and riparian lands and watercourses.





03 Site analysis

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Local character 3.1

The subject site is located in a generally low-scale context of varying built form type and character. Recent residential development along President Avenue, of up to 8 storeys is an exception to this.

Sutherland Town Centre is located 300m from the site and includes Sutherland Railway Station and low-scale retail and commercial uses with a general street wall height of 1 to 2 storeys.

The subject site is located in an education precinct comprising Sutherland Public School, St Patrick's College and Minerva School. These large sites consist of a series of 1 to 3 storey school buildings with playgrounds and green spaces. Civic, commercial and community facilities lie to the north of the site along Flora Street. Residential development ranges from low to medium density, including predominantly 3 storey apartment buildings to the south of the site.

The immediate area consists of local streets, with mature street tree plantings. Street setbacks range from zero setback to 8m setbacks.



Existing single storey housing located on 10-12 Merton Street



3-storey residential flat building adjacent to subject site



View Location Map



St Patrick's College, located to the rear of the site



Subject site, with adjoining 3-storey residential flat building



Example of recent development along President Avenue



Fine grain retail uses along Old Princes Hwy, Sutherland



18

Site analysis



Existing street trees and landscape character along Merton Street

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6)



Mixed use development on the cnr of Eton St and President Ave

Sutherland Public School, located to the west of the site

3.2 Recent development

Based on a review of the Sutherland Development Tracker and Sydney East Joint Regional Planning Panel Register, there have been a number of recent developments and approvals in Sutherland.

Building heights range between 4 and 8 storeys, with the tallest buildings located closest to the town centre.



Address: 588-566 President Avenue, Sutherland

Application No: DA11/1138

Description: Construction of a **20m** residential flat building containing 31 units and 2 levels of basement car parking and 31 lot strata subdivision.

Approved: March 2012



Address: 664-666 Old Princes Highway & 66 Glencoe Street, Sutherland

Application No: DA17/0425

Description: Construction of a **6-storey** residential flat building comprising 34 residential units and 2 levels of basement car parking containing 55 car parking spaces.

Approved: January 2018



Address: 568-572 President Avenue, Sutherland

Application No: DA05/1222

Description: Construction of two **8-storey mixed residential/business developments** containing 34 residential units, 12 commercial units and 3 basement car parking levels.

Approved: October 2007 (amended January 2010)



Recent Development Location Map

Site analysis





Address: 16-18 Merton Street, Sutherland (adjacent to subject site)

Application No: DA03/1068

Description: Construction of a **3-storey residential flat building** with basement car parking level and strata title subdivision.

Approved: 2003 (amended June 2006)

Public transport 3.3

Trains

The site extremely well serviced by trains, being located within 400m of Sutherland Train Station.

Sutherland Train Station is serviced by the T4 Eastern Suburbs and Illawarra Line, and South Coast Line with connections north (Bondi Junction via Central Station and Martin Place) and south (Kiama and Wollongong). The T4 Eastern Suburbs line also provides excellent connections to other important retail centre such as Hurstville and Miranda.

Buses

The site is also well serviced by bus, with the closest bus stops located along Flora and Eton Streets. These stops provided services to Miranda Westfield, Engadine and Alfords Point.





Site analysis

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3.4 Movement and access

The site is located on Merton Street, a minor local street. The site is well serviced by the existing local road network, with access to the town centre via Flora Street and President Avenue.

There is a high concentration of on-street car parking on Merton Street, catering for Sutherland Public School. Merton Street experiences high traffic volumes during school drop off and pick up.

To the south of Merton Street is President Avenue, a collector road, providing access to the Princes Highway, and important arterial road connecting Wollongong and Sydney.

There is currently a high level of congestion at the intersection of President Avenue and the Princes Highway; however, traffic volumes are significantly lower on the western side of President Avenue, closer to Sutherland town centre.





3.5 Social infrastructure and community facilities

The site is well located in relation to existing social infrastructure and community facilities in Sutherland.

The plan to the right shows the site falls within 800m of a number of facilities including:

- Sutherland Multi-purpose Centre (180m)
- Sutherland Entertainment Centre (200m) _
- Sutherland Library (350m)
- Sutherland Pensioners Centre (400m)
- Sutherland Girl Guides Hall (550m)

Sutherland Police Station and Court House are also located nearby, approx. 200m north-east of the site along Flora St.

There are three schools within the immediate vicinity of the site including Sutherland Public School, St Patrick's College and the Minerva School. There are also two child care centres within proximity of the site including Sutherland Child Care Centre located to the north and Sutherland Shire Council Long Day Care Centre, located on the western side of the rail line.

The site is in excellent proximity to a range of retail services along Old Princes Highway. The Sutherland Shire Farmers Markets are also held every Saturday at the Flora Street carpark offering quality Australian farm-fresh produce to the local community.

PCYC Sutherland and Sutherland Leisure centre are also located south of the site, on the southern side of the rail line (approx 800m walking distance).





Site analysis

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3.6 Open space and recreation

Sutherland is well serviced by local and regional level open space facilities.

There are a number of local reserves within walking distance of the subject site including Gray Street Reserve, Glencoe Street Reserve, Forby Sutherland Memorial Park and Peace Park and Chuo City Garden. These primarily consist of:

Passive spaces

Children's playgrounds

District open spaces including Sutherland Park and Sutherland Leisure Centre, located west and south of the railway line, respectively, offer a wide range of sporting facilities. These include:

- Rugby fields
- Soccer fields
- Cricket pitches
- Swimming Centre
- **Q** Tennis Courts

Adjacent to Sutherland Park is Woronora Memorial Park, which is dedicated as a cemetery on over 110 acres of land.





3.7 Development Potential

The subject site is located between a mix of large educational sites that are unlikely to change and residential and commercial sites that are identified as having development potential.

Directly to the north of the site at the corner of Flora Street and Merton Street are existing single-storey commercial buildings that have the potential to redevelop. Any future development on this site is considered to have potential impacts on the subject site due to its current controls of 3:1 FSR and 30m height of building. This has been taken into account in the design testing and solar analysis within this report.

To the east and west of the site are St Patrick's College and Sutherland Public School, respectively, which are large existing educational sites unlikely to redevelop.

Directly to the south of the site are recently constructed 3-storey apartments, which is unlikely to change in the near future. However further south along Merton Street are existing 3-storey residential developments that have been identified as having development potential. These sites have the same current controls as the subject site.





Sutherland Public School across from the subject site



Legend
Site Boundary
Existing Residential Uses - Potential
redevelopment
Recently Constructed Apartments unlikely to redevelop
Schools
Existing Commercial Uses - Potential
future redevelopment
Existing Court House
Existing Church
Heritage items

3.8 Street Character

Merton Street is a tree-lined north-south local street flanked by 1-3 storey residential development, a single-storey commercial building and educational uses including Sutherland Public School and St Patrick's College, which both consist of low-scale buildings.

Merton Street is a 13m wide carriageway consisting of 4 lanes, including 2 driving lanes, a lane of parking on the east and a lane of perpendicular parking on the west. Merton Street also acts as a key drop-off/ pick-up point for Sutherland Public School.

Several mature street trees ranging from 10-15m in height line the eastern side of Merton Street, which contribute to the landscape character and amenity of the street. The eastern side of street also contains continuous grassed verges. Sutherland Public School consists of mature trees within its grounds as well as grassed areas.

The setbacks along the eastern edge of Merton Street vary from a zero street setback for the commercial building at the corner of Flora Street and Merton Street, to a general 4-7.5m street setback for the existing residential buildings and educational building fronting Merton Street.

The grounds (both green spaces and hard surfaces) of Sutherland Public School face Merton Street, and along with this frontage having only 3 small single storey buildings along it, adds to the openness and green nature of the street.



Existing mature street trees along the frontage of the subject site



Single storey school building opposite the subject site



Trees masking the 3-storey apartments adjoining the subject site



13m carriageway with car parking on both sides





3.9 Combined Constraints

- 1. Retaining existing mature street trees range from 10-15m high.
- Existing site to the north of the subject site has the potential to redevelop. Current controls include an FSR of 3:1 and 30m building height (approximately 8-9 storeys).
- 3. Existing built form character consists of low scale built form (1-3 storeys).
- •••• 4. To the south of the site is a 3-storey residential flat building, which includes north-facing apartments. Proposed built form on the subject site would need to consider amenity impacts to the adjacent development.
- •••• 5. St Patrick's College adjoins the subject site at the rear and consists of 1-2 storey buildings. This interface should consider adequate setbacks to address overlooking and privacy issues..
- •••• 6. Current and future interface with the site to the north would need to consider adequate building separation and amenity impacts.
- 7. General side and rear setbacks compliant with the Apartment Design Guide.
- 8. 7.5m front setback as per Sutherland Council's DCP requirement.



3.10 Combined Opportunities

- •••• 1.
- The subject site is located within 300m walk of Sutherland railway station and Sutherland Town Centre.



- Sutherland Town Centre. Peace Park and Chuo City Garden is
- located at 150m walk from the subject site. Other local reserves and regional parks are located within at least 400m.
- '///// 3. The subject site is are located in close proximity of various educational institutions and other community facilities.
- A proposed cycle network that runs along Merton Street and connecting to Flora Street, President Avenue and beyond will connect the site to both local and regional places.
- 5. The subject site can act as a transition in building form and height from the general low scale development (1-3 storeys) that lies to the south, east and west of the site and the potential 8-9 storey development directly north of the site.



- . Retain the existing mature trees along the frontage of the site.
- 7. The generous 7.5m setback (as per DCP requirements) allows for deep soil tree planting and landscaping that would contribute to the leafy and green nature of the street.
- 8. Provide generous landscape setbacks and communal open space that includes deep soil.







04 Design testing

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Design Parameters 4.1

Site Parameters:

- 6m side setback from neighbouring residential to the south. As per the ADG requirements for habitable to the habitable room for residential buildings up to four storeys.
- 6m rear setback to minimise overlooking to neighbouring school.
- 7.5m front setback as per Sutherland Council's DCP requirement.
- 30% of the total site area to be landscaped area, as required under the Sutherland LEP 2015. This equates to approximately 930sqm of the site to be landscaped area, which includes the setback zones and communal open space.
- Modelling for all options has been completed to comply with State Environmental Planning Policy (SEPP 65), which sets out a consistent policy direction for residential apartment development in NSW.

Built Form Parameters:

- Street wall height of 3-4 storeys (12m) as to be visually screened by the existing street trees.
- Built form to minimise additional overshadowing and overlooking to the neighbouring properties, particularly to the school and residential development to the south.
- 3.1m floor to floor has been used measure storey height.

Adjacent site testing:

As part of the options testing, the modelling assumptions have taken into consideration the future redevelopment of the B3 zone, located to the north of the subject site. Under the current LEP controls the site has a maximum building height of 30m and a floor space ratio of 3:1.





Options Summary 4.2

As part of the modelling options, a series of built form have been tested to assess the outcomes for:

- **Option One:** tests the existing planning controls under the current Sutherland LEP in two formats. The reason we tested two layouts was to establish principles for overshadowing and visual impact to the south.
 - FSR: 1.5 :1 - Building Height: 18.6m
- Option Two: will test the applicants proposed density, and an alternative built form option which achieves the same FSR in a preferred configuration and reduced building height.
 - FSR: 2.5 :1 - Building Height: 31m
- Option Three: will test an option under Sutherland Council's preferred controls.
 - FSR: 1.8 :1
 - Building Height: 24.8m
- Option Four: is the preferred outcome for the _ site, which has been informed by the previous model testing.

– FSR:	1.8:1
 Building Height: 	21.7m





Option 1A: Complying option, prioritising solar access to the communal open space

Height in metres:	18.6m
FSR achieved:	1.5 :1
Total Open space:	59%



Option 2A: Proponent's preferred option, as submitted

	Height in metres:	31m	Hei
	FSR achieved:	2.5 :1	FSF
)	Total Open space:	55%	Tota



on the southern neighbour

Height in metres: FSR achieved: Total Open space: alternative configuration

18.6m	Height in metres:
1.5 :1	FSR achieved:
62%	Total Open space:

:1	FSR a
5%	Total (



27.9m 2.5 :1 54%

Design testing





eight in metres: achieved: Open space: 24.8m 1.8 :1 54%

4.4 Option 1A - Complying option, prioritising solar access to the communal open space

Built form Summary

- Two north/south oriented buildings.
 - 6 storey building is dual aspect at 22m wide, and has a 800sqm floor plate.
 - 4 storey building is single aspect at 12m wide and has a 475sqm floor plate.
- 4 storey street wall along Merton Street, with a 2-3m setback for the upper storeys.
- Site access along the southern edge of the site.

Pros:

- 4 storey street wall fits comfortably with the low scale character of the street and surrounding context.
- The north-south orientation of the buildings increases solar access.
- Achieves 2 hours of sunlight to the communal open space.
- Maximises the number of units with 2 hours of sunlight to the adjoining residential development to the south.
- The 4 storey single aspect built form, along with a 6m rear setback, reduces overlooking into the school.

Cons:

- Additional density cannot be accommodated in this option. Minimum building separation and building depth requirements prevent the opportunity to increase yield.



Option 1A - Complying scheme - 3D Massing

Setback zone from boundary - potential

Proposed communal open space

Residential use (Above podium)

landscaping





elopment Summary							
ary	Site	GFA	FSR	Dwelling			
mplying Option	3,098	4,620 sqm	1.49 :1	51			
se	Storeys	GFA (m²)	NSA/NLA (m²)	Dwellings			
esidential partment	6	3,195 sqm	2,716 sqm	36			
esidential partment	4	1,425 sqm	1,211 sqm	16			
		4,620 sqm	3,927 sqm	51			
Space	Area (sqm)		Percentage of Site Area				
unal Open Space	550 sqm		18%				
cape Setbacks	1,278 sqm		41%				
	1,872 sqm		59%				
orment Calculations wing efficiencies for residential uses have been applied in all of the options: GBA to GFA= 75% GFA to NSA= 85%							

4.4.1 Solar Analysis

Shadow Analysis:

The adjacent shadow analysis diagrams show the proposed additional shadows for Option 1A: Complying Option at 9am, noon and 3pm during the winter solstice. This scheme will potentially partially overshadow 18 Merton Street to the south and St Patrick's College to the east. The north-south orientation of the proposed built form separated by a large communal open space allows for greater solar access to 18 Merton Street.

The proposed communal open space achieves at least 3 hours of solar access to 50% of the open space area in midwinter.

Solar Access:

The adjacent heat mapping tests solar access to the proposed built form on site between 9am to 3pm. The solar access impact of the option to the northern facade of 18 Merton Street is also tested.

The test is run on a frequency of 5 minutes across a 0.5m grid. Results provide a range from 0-6 hours of solar access to the facades tested. This does not directly relate to SEPP compliance which would require detailed floor plan testing.

In Option 1A, 80% of the facades tested achieves over 2 hours of sunlight.

18 Merton Street receives over 2 hours sunlight to 63.3% of its north facade in this option.





Note: Solar Analysis includes an indicative built form on 152-154 Flora Street based on the current LEP controls.

4.4.2 Visual Impact Assessment

A Visual Impact Assessment (VIA) for Option 1A tests the proposed built form in its potential future context. Views chosen include a view along Merton Street looking north, a view along Merton Street looking south, and a view along Flora Street looking south through the existing aged care centre site.



1 - View along Merton Street looking north



2 - View along Merton Street looking south

2 - View from Flora Street looking south



View Location Map



Note: This Visual Impact Assessment uses a lens length of 28mm and 1.6m camera height.



4.5 Option 1B: Complying option, minimising impacts on the southern neighbour

A alternative built form has been tested under the existing planning controls.

Built form Summary

- A 6-storey building positioned in an east-west configuration at the north of the site.
- 4-storey podium with an additional 2-storeys setback 3m.
- Site access along the north of the site.
- Communal open space along the south of the site.

Pros:

- Locates the development along the northern edge of the site to maximise the separation from the neighbouring southern residential development, and reduce overshadowing impacts.
- Maximise north facing apartments within the development site.
- Smaller frontage width along Merton Street.

Cons:

- Majority of the communal open space will be shadow between 9am and 3pm, and will therefore need to rely on rooftop communal space.
- 6 storey height with a 6m setback to the rear of the site, may increase the potential for overlooking to the school.





1B Alternative Complying Option - 3D Massing



Design testing

elopment Summary							
ary	Site	GFA	FSR	Dwelling			
ernative	3,098	4,614 sqm	1.49 :1	51			
se	Storeys	GFA (m²)	NSA/NLA (m²)	Dwellings			
esidential partment	6	4,614 sqm	3,922 sqm	51			
		4,614 sqm	3,922 sqm	51			
· · · · · · · · · · · · · · · · · · ·							
Space	Area (sqm)		Percentage of Site Area				
unal Open Space	615 sqm		20%				
cape Setbacks	1,320 sqm		43%				
	1,935 sqm		63%				
p Communal	~ 700 sqm						
ment Calculations							

GBA to GFA= 75% GFA to NSA= 85%

Average Unit Size = 90sqm

4.5.1 Solar Analysis

Shadow Analysis:

The adjacent shadow analysis diagrams show the proposed additional shadows for Option 1B: Complying Option at 9am, noon and 3pm during the winter solstice. This scheme will potentially partially overshadow 18 Merton Street to the south and St Patrick's College to the east. As the development is located on the northern edge of the site, this maximises separation from the apartments to the south and reduces overshadowing impacts.

The communal open space to the south will be overshadowed during winter, and will therefore need a communal rooftop space.

Solar Access:

The adjacent heat mapping tests solar access to the proposed built form on site between 9am to 3pm. The solar access impact of the option to the northern facade of 18 Merton Street is also tested.

The test is run on a frequency of 5 minutes across a 0.5m grid. Results provide a range from 0-6 hours of solar access to the facades tested. This does not directly relate to SEPP compliance which would require detailed floor plan testing.

In Option 1B, 62% of the facades tested achieves over 2 hours of sunlight.

18 Merton Street receives over 2 hours sunlight to 74.7% of its north facade in this option.







Note: Solar Analysis includes an indicative built form on 152-154 Flora Street based on the current LEP controls.
4.5.2 Visual Impact Assessment

A Visual Impact Assessment (VIA) for Option 1B tests the proposed built form in its potential future context. Views chosen include a view along Merton Street looking north, a view along Merton Street looking south, and a view along Flora Street looking south through the existing aged care centre site.



1 - View along Merton Street looking north



2 - View along Merton Street looking south

2 - View from Flora Street looking south



View Location Map

Legend Proposed built from on site Indicative future built form on 152-154 Flora Street

Note: This Visual Impact Assessment uses a lens length of 28mm and 1.6m camera height.



4.6 Option 2A: Proponent's preferred option, as submitted

This option tests the built form proposed by the applicant.

Built form Summary:

- A 10-storey building positioned in an east-west configuration.
- 4-storey podium with an additional storey setback.
- No above podium setback along Merton Street.
- 2 tower elements orientated north-south.

Pros:

- Building separation adheres to ADG requirements.
- 4 storey podium reduces bulk and scale at lower levels.

Cons:

- 10 storey building height to the front and rear of the site, which does that match the surrounding low scale development.
- Built form is not consistent with the future context and significantly exceeds the adjoining development.
- Increased height to the rear of the rear of the site, as well as a reduced rear building setback, may have overlooking impacts to the neighbouring school.
- South facing communal open space in shadow between 9am to 3pm during winter.
- No above podium setback along Merton Street frontage



Option 2A - applicant's proposal - 3D Massing

Setback zone from boundary - potential

Proposed communal open space

Residential use (Above podium)

- - - Site boundary

landscaping

Residential use (Podium)

Proposed Road





Design testing

elopment Summary						
ary	Site GFA		FSR	Dwelling		
ponent's option	3,098	3,098 7,183 sqm		80		
se	Storeys GFA (m ²)		NSA/NLA (m²)	Dwellings		
esidential partment	10 7,183 sqm		3,922 sqm	80		
		7,183 sqm	6,105 sqm	80		
Space	Area (sqm)		Percentage of Site Area			
unal Open Space	780 sqm		25%			
cape Setbacks	938 sqm		30%			
	1,718 sqm		55%			
owing efficiencies for residential uses have been applied in all of the options: GBA to GFA= 75% GFA to NSA= 85%						

Average Unit Size = 90sqm

4.6.1 Solar Analysis

Shadow Analysis:

The adjacent shadow analysis diagrams show the proposed additional shadows for Option 2A: Proponent's preferred option at 9am, noon and 3pm during the winter solstice. This scheme will potentially overshadow 18 Merton Street to the south and St Patrick's College to the east. The placement of the 2 towers to the west and east of the site aims to reduce overshadowing impacts to 18 Merton Street, however the 5-storey podium would still cause overshadowing to some ground floor and 1st floor apartments.

The proposed communal open space will be overshadowed during midwinter and would need to rely on alternative open spaces on the podium.

Solar Access:

The adjacent heat mapping tests solar access to the proposed built form on site between 9am to 3pm. The solar access impact of the option to the northern facade of 18 Merton Street is also tested.

The test is run on a frequency of 5 minutes across a 0.5m grid. Results provide a range from 0-6 hours of solar access to the facades tested. This does not directly relate to SEPP compliance which would require detailed floor plan testing.

In Option 2A, 67% of the facades tested achieves over 2 hours of sunlight.

18 Merton Street receives over 2 hours sunlight to 51.6% of its north facade in this option.





Note: Solar Analysis includes an indicative built form on 152-154 Flora Street based on the current LEP controls.

4.6.2 Visual Impact Assessment

A Visual Impact Assessment (VIA) for Option 2A tests the proposed built form in its potential future context. Views chosen include a view along Merton Street looking north, a view along Merton Street looking south, and a view along Flora Street looking south through the existing aged care centre site.



1 - View along Merton Street looking north



2 - View along Merton Street looking south



2 - View from Flora Street looking south



View Location Map

Legend Proposed built from on site Indicative future built form on 152-154 Flora Street

Note: This Visual Impact Assessment uses a lens length of 28mm and 1.6m camera height.

4.7 Option 2B: Proponent's preferred FSR, in an alternative configuration

A alternative built form has been tested that achieves the same FSR as the Applicant's Proposal.

Built form Summary:

- A dual aspect L-shaped built form, orientated east west.
- Maximum building depth of 22m for the 4 storey podium, with a reduced building depth of 19m for the upper 5 levels.
- 4 storey street wall along Merton Street, with a 3m 9 storey building height at the rear may have setback for the upper storeys.
- Site access along the southern edge of the site.
- Potential communal open space at grade at the southeast corner of the site with additional above podium and rooftop communal open space.

Pros:

- Increased rear setback, and increased upper level setbacks on a 4-storey podium, to increase separation and overlooking to the school.

Cons:

- 9 storey building height does not match the surrounding low scale development and character.
- overlooking impacts to the neighbouring school.
- Building height and mass causes overshadowing to the southern residential development.
- South facing communal open space in shadow between 10am and 3pm during winter.



Option 2B - Alternative Uplift - 3D Massing

Setback zone from boundary - potential

Proposed communal open space

landscaping





Design testing

elopment Summary						
ary	Site	GFA	FSR	Dwelling		
ernative Uplift	3,098	7,710 sqm	2.49 :1	86		
se	Storeys	GFA (m²)	NSA/NLA (m²)	Dwellings		
esidential partment	9	7,710 sqm	6,554 sqm	86		
		7,710 sqm	6,554 sqm	86		
2						

Area (sqm)	Percentage of Site Area
395 sqm	13%
1,283 sqm	41%
1,678 sqm	54%
~ 420 sqm	
	395 sqm 1,283 sqm 1,678 sqm

Development Calculations

The following efficiencies for residential uses have been applied in all of the design options: GBA to GFA= 75% GFA to NSA= 85%

Average Unit Size = 90sqm

4.7.1 Solar Analysis

Shadow Analysis:

The adjacent shadow analysis diagrams show the proposed additional shadows for Option 2B at 9am, noon and 3pm during the winter solstice. This scheme will cause considerable overshadowing to 18 Merton Street to the south and partially overshadow St Patrick's College to the east.

The communal open space to the south will be predominantly overshadowed during winter, and will therefore need a communal rooftop space.

Solar Access:

The adjacent heat mapping tests solar access to the proposed built form on site between 9am to 3pm. The solar access impact of the option to the northern facade of 18 Merton Street is also tested.

The test is run on a frequency of 5 minutes across a 0.5m grid. Results provide a range from 0-6 hours of solar access to the facades tested. This does not directly relate to SEPP compliance which would require detailed floor plan testing.

In Option 2B, 61% of the facades tested achieves over 2 hours of sunlight.

18 Merton Street receives over 2 hours sunlight to 20.7% of its north facade in this option. Due to the bulk and height of this option, the amenity of the adjacent development is adversely affected.





Note: Solar Analysis includes an indicative built form on 152-154 Flora Street based on the current LEP controls.

4.7.2 Visual Impact Assessment

A Visual Impact Assessment (VIA) for Option 2B tests the proposed built form in its potential future context. Views chosen include a view along Merton Street looking north, a view along Merton Street looking south, and a view along Flora Street looking south through the existing aged care centre site.



1 - View along Merton Street looking north



2 - View along Merton Street looking south

2 - View from Flora Street looking south



View Location Map

Legend Proposed built from on site Indicative future built form on 152-154 Flora Street

Note: This Visual Impact Assessment uses a lens length of 28mm and 1.6m camera height.



4.8 Option 3: Option under Sutherland Council's preferred controls

This option tests Sutherland Council's preferred controls of an FSR of 1.8:1 with a heigh of 25m (8 storeys).

Built form Summary

- A dual aspect L-shaped east-west orientated built form.
- An L-shaped tower form orientated north-south at the west edge of the site.
- Maximum building depth of 18-22m for the 4 storey podium, with a reduced building depth of 12-16m for the upper 4 levels.
- 4 storey street wall along Merton Street, with a 3m setback for the upper storeys.
- Site access along the southern edge of the site.
- Potential communal open space at the southwest corner of the site with an additional above podium communal open space.

Pros:

- 6m rear building setback, with an additional 26m above podium setback to the tower element, ensures sufficient separation from the school and will minimise the potential for overlooking.
- Height concentrated to the west of the site minimises overshadowing impacts to the neighbouring residential development to the south.
- Building separation adheres to ADG requirements. Cons:
- 8 storey building height does not match the surrounding low scale development and character.
- South facing communal open space in shadow between 10am and 3pm during winter.



Option 3 - Option under Council's controls - 3D Massing



Design testing

Development Summary					
Summary Site GFA FSR Dwelling				Dwelling	
3 Council's controls		3,098	5,565sqm	1.8:1	62
	Use	Storeys	GFA (m²)	NSA/NLA (m²)	Dwellings
A	Residential Apartment	8	5,565 sqm	4,730 sqm	62
TOTAL			5,565 sqm	4,730 sqm	62
Open Space		Area (sqm)		Percentage of Site Area	
Communal Open Space		585sqm		19%	
Landscape Setbacks		1,208sqm		39%	
TOTAL		1,793 sqm		58%	
Rooftop Communal		~ 475 sqm			
Development Calculations The following efficiencies for residential uses have been applied in all of the design options: GBA to GFA= 75%					

GFA to NSA= 85%

Average Unit Size = 90sqm

4.8.1 Solar Analysis

Shadow Analysis:

The adjacent shadow analysis diagrams show the proposed additional shadows for Option 3 at 9am, noon and 3pm during the winter solstice. This scheme will potentially partially overshadow 18 Merton Street to the south and St Patrick's College to the east. Due to the height being concentrated on the west edge of the site, solar access is retained to the apartments on the eastern portion of 18 Merton Street.

The proposed communal open space will be overshadowed during midwinter and would need to rely on alternative open spaces on the podium.

Solar Access:

The adjacent heat mapping tests solar access to the proposed built form on site between 9am to 3pm. The solar access impact of the option to the northern facade of 18 Merton Street is also tested.

The test is run on a frequency of 5 minutes across a 0.5m grid. Results provide a range from 0-6 hours of solar access to the facades tested. This does not directly relate to SEPP compliance which would require detailed floor plan testing.

In Option 3, 58% of the facades tested achieves over 2 hours of sunlight.

18 Merton Street receives over 2 hours sunlight to 64.7% of its north facade in this option.





Note: Solar Analysis includes an indicative built form on 152-154 Flora Street based on the current LEP controls.

4.8.2 Visual Impact Assessment

A Visual Impact Assessment (VIA) for Option 3 tests the proposed built form in its potential future context. Views chosen include a view along Merton Street looking north, a view along Merton Street looking south, and a view along Flora Street looking south through the existing aged care centre site.



1 - View along Merton Street looking north



2 - View along Merton Street looking south



2 - View from Flora Street looking south



View Location Map

Legend Proposed built from on site Indicative future built form on 152-154 Flora Street

Note: This Visual Impact Assessment uses a lens length of 28mm and 1.6m camera height.

Option 4: Preferred Option; 4.9 Balancing yield, amenity and impacts

Built form Summary

- A dual aspect L-shaped east-west orientated built form.
- An L-shaped tower form orientated north-south at the west edge of the site.
- Maximum building depth of 22m for the 12.4m (4 storey) high podium, with a reduced building depth of 16m for the above podium 3 storeys.
- 12.4m building height (4 storey) street wall along Merton Street, with a 3m setback for the above podium storeys.
- Site access along the southern edge of the site.
- Potential communal open space at the southwest corner of the site with an additional above podium communal open space.

Pros:

- A 4 storey street wall height, with a 3m setback for an additional 3 storeys is an appropriate street wall height along Merton Street, and provides a transition to the low scale apartments to the south.
- A maximum 21.7m (7 storeys) built form is an appropriate scale, and responds to the future surroundng context. The increased building height creates a suitable transition to the higher density B3 zoned land to north.
- 6m rear building setback, with an additional 23m above podium setback to the tower element, ensures sufficient separation from the school and will minimise the potential for overlooking.
- Building separation adheres to ADG requirements. Cons:
- South facing communal open space in shadow between 10am and 3pm during winter, and would need to rely on rooftop communal spaces.







Design testing

Development Summary					
Sur	Summary Site GFA FSR Dwelling				
Preferred Option		3,098	5,648sqm	1.82:1	63
	Use	Storeys	GFA (m²)	NSA/NLA (m²)	Dwellings
A	Residential Apartment	7	5,648 sqm	4,800 sqm	63
TOTAL			5,648 sqm	4,800 sqm	63
Open Space Are		Area (sqm)		Percentage of Site Area	
Cor	Communal Open Space 460sqm			15%	
Landscape Setbacks		1,228sqm		40%	
TOTAL		1,688 sqm		54%	
Rooftop Communal		~ 500 sqm			
Development Calculations The following efficiencies for residential uses have been applied in all of the					

GBA to GFA= 75% design options GFA to NSA= 85%

Average Unit Size = 90sqm

4.9.1 Solar Analysis

Shadow Analysis:

The adjacent shadow analysis diagrams show the proposed additional shadows for this option at 9am, noon and 3pm during the winter solstice. This scheme will partially overshadow 18 Merton Street to the south and St Patrick's College to the east.

The communal open space to the south will be overshadowed during winter, and will therefore need a communal rooftop space. The rooftop open space will recieve adequate solar access.

Solar Access:

The adjacent heat mapping tests solar access to the proposed built form on site between 9am to 3pm. The solar access impact of the option to the northern facade of 18 Merton Street is also tested.

The test is run on a frequency of 5 minutes across a 0.5m grid. Results provide a range from 0-6 hours of solar access to the facades tested. This does not directly relate to SEPP compliance which would require detailed floor plan testing.

In this option, 61.3% of the facades tested achieves over 2 hours of sunlight.

18 Merton Street receives over 2 hours sunlight to 52.6% of its north facade in this option.





Solar Analysis - Southeast View

Note: Solar Analysis includes an indicative built form on 152-154 Flora Street based on the current LEP controls.

Solar Analysis - Northwest View

Solar Access Testing - Heat Mapping

Solar Analysis on 18 Merton Street

4.9.2 Visual Impact Assessment

A Visual Impact Assessment (VIA) for Option 4 tests the proposed built form in its potential future context. Views chosen include a view along Merton Street looking north, a view along Merton Street looking south, and a view along Flora Street looking south through the existing aged care centre site.



1 - View along Merton Street looking north



2 - View along Merton Street looking south



2 - View from Flora Street looking south



View Location Map

Proposed built from on site Indicative future built form on 152-154 Flora Street

Note: This Visual Impact Assessment uses a lens length of 28mm and 1.6m camera height.





05 Recommendations and conclusion

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5.1 Recommendations

A review of the options tested for 10-14 Merton street has demonstrated that development beyond the existing 20m maximum building generates significant overshadowing impacts to the neighbouring residential property to the south, as well as any additional height fronting Merton Street will detract from the visual character and scale of the streetscape.

The preferred option, (Option 4), has a maximum building height of 21.7m, with a 3m setback zone after 4 storeys (12.4m) provides a suitable transitional height between the town centre and residential areas. In keeping with the existing building height, with an increase to the FSR, this will ensure that the future development contributes positively to the future surrounding character of Sutherland. The following recommendations should be considered to realise the site's full potential, and ensure the successful delivery of the Merton Street development.

1. Recommendation 1: Increase the building height from 20m

- A 21.7m development is appropriate on this site, with a 4 storey street-wall, and in the configuration shown opposite.
- It is recommended that a rooftop communal open space is provided because the ground level open space will be overshadowed for much of the year. The height control should allow for roof structure, access to the rooftop by lift and patio structures in addition to the maximum building height.
- The development should adhere to the setbacks, podium height, and ground level and upper podium setbacks stated in the Apartment Design Guideline and DCP.

2. Recommendation 2: Increase the Floor Space Ratio

- An increase from the current FSR zone of 1.5 :1 for the site, to 1.8 :1 will allow for additional GFA on the site and still achieve the maximum building heights and required setbacks.
- The slight increase to the FSR is to ensure the site can achieve its maximum development potential without significant impacts to the surrounding character of the area, overlooking and overshadowing to the neighbouring properties, particularly to the schools.

- 3. Recommendation 3: Maximum street wall height along Merton Street
 - A maximum 12.4m (4 storey) podium street wall along Merton street, with a 3m setback above 4 storeys.
 - The existing street trees should be retained in order to reduce the visual impacts along the street, and give the development visual screening.
 - A maximum street wall length of 35m along Merton Street.

4. Recommendation 4: Maximum building depth

 A maximum building depth of 22m. This should be considered along the rear boundary line to minimise overlooking to the school.

5. Recommendation 5: Building Setbacks

- All setback zones within the subject site should allow for landscaping and deep soil open space.
- Front setback: Maintain the existing 7.5m front setback from Merton Street as per the DCP requirement. Given the height and scale of the future development it is important this setback zone provide additional landscape to street.
- Rear setback: 6m setback along the rear boundary line to minimise the impacts of overlooking to the school. (St Patrick)
- Side setbacks: ensure SEPP 65 building setbacks from the side boundary line is achieved for the subject site.
- Above Podium setbacks: 3m setback for the residential development above the podium to minimise the impacts of overlooking and overshadowing
- 12m setback from the rear boundary line to minimise the impacts of overlooking and overshadowing to the school

6.

Recommendation 6: Communal Open Space

- A minimum 15% of the development site should allow for communal open space at ground level.
- Rooftop open space should be considered, if the communal open space at ground level is unable to achieve the minimum 2 hours of sunlight required under the SEPP65 Apartment Design Guidelines.



Recommendations and conclusion



Legend



Recommendations and conclusion

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