

BOWEN STREET, CHATSWOOD PLANNING PROPOSAL

URBAN DESIGN PEER REVIEW - ADDITIONAL INFORMATION

PREPARED FOR

PLATINE PROPERTY

09 APR 2019

FINAL

1.0 BUILDING HEIGHT INFORMATION

Analysis of the built form within the local context of the site identifies the taller buildings forms located amongst lower density areas. There are two sites immediately to the north and one site further to the south which have built form outcomes that are above the 2:1 FSR and 20m height in the local context being:

1. 421-473 Pacific Highway, Artarmon
2. 5-7 Sutherland Road, Chatswood
3. 8-12 Sutherland Road, Chatswood

*** Assumptions:**

- An estimated FSR is calculated based on
 - The numbers of units sourced from RP data;
 - Multiplied by an average unit size of 85m² which is assumed for GFA calculation, excluding balconies.

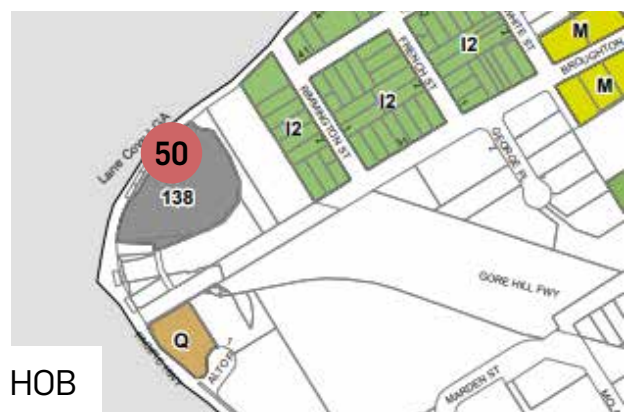
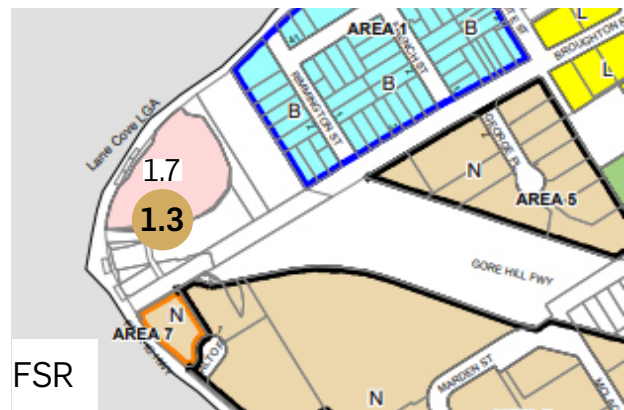


Figure 1 Planning control for site 1

421-473 Pacific Hwy



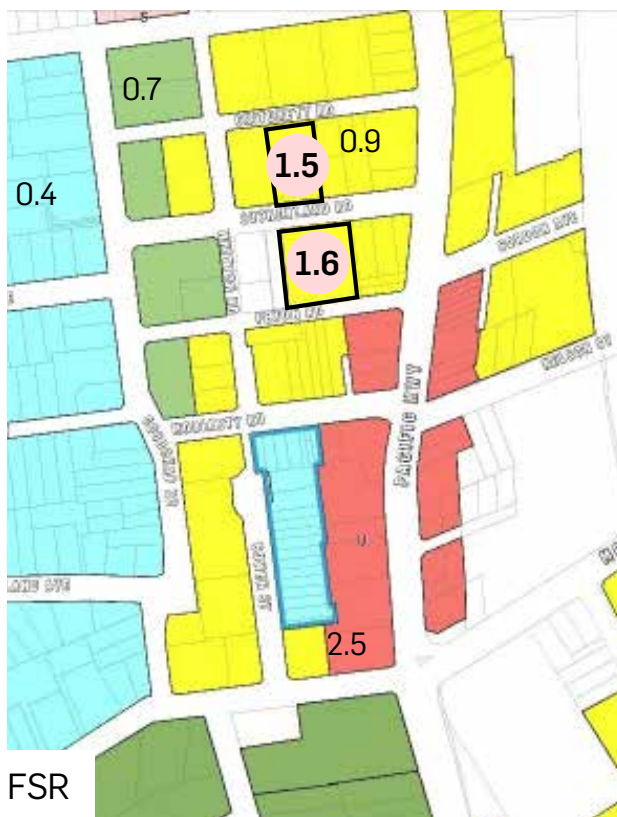


Figure 2 FSR control for site 2 and 3

FSR (N:1)	
	0.4
	0.7
	0.9
	1.5-1.7
	2.5



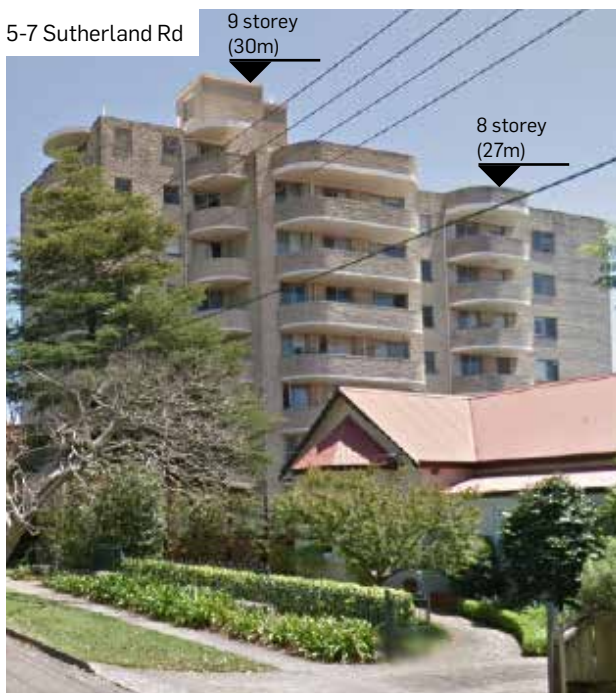
Figure 3 Building height control for site 2 and 3

HOB (M)	
	8.5
	12
	20
	27
	30

Table 1 Built-up and existing planning control comparison

SITES	SITE AREA (M ²)	TOTAL UNIT #	PLANNING HOB (M)	BUILT-UP HOB STOREYS (APPROX M)	PLANNING FSR (N:1)	BUILT-UP FSR* (N:1)
1	11,200	173	RL138	16 (50m)	1.7	1.3
2	2,205	40	12	8 (30m)	0.9	1.5
3	3,206	60	12	8 (30m)	0.9	1.6

5-7 Sutherland Rd



EXISTING HEIGHTS OF NORTHERN SITES

In response to additional information of the existing height for sites 2 and 3, the methodology we undertook is based on the following:

Actual building height investigation is based on

- Topographical data from GIS 2m contours;
- Review of elevation profile in Nearmap; and
- Visual check of subject buildings via Nearmap aerials, birds-eye views and Google Street View.

KEY FINDINGS:

- Site 2 at 5-7 Sutherland Road has an overall building height of 30m comprising 8 storeys of residential, and an additional level for lift over-run/plant on the roof level

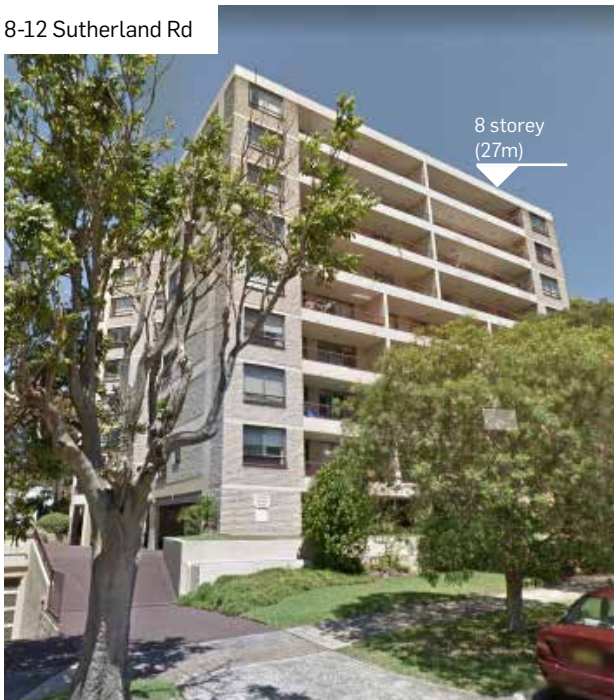


Figure 4 Estimated relative levels of site 2

1:500 @ A4
0 5 10 15 20 25



8-12 Sutherland Rd



KEY FINDINGS:

- Site 3 at 8-12 Sutherland Road has about 30m has an overall building height of 30m comprising 8 storeys of residential, and an additional level for lift over-run/ plant on the roof level



Figure 5 Estimated relative levels of site 3



2.0 ADDITIONAL SHADOW INFORMATION

SHADOW IMPACT ANALYSIS

The following study summarises the solar access analysis on usable communal open space in comparison with the current proposal and the recommended scheme.

The additional information on these diagrams incorporates areas where the site achieves <1 hour of solar access.

Table 2 Recommended Scheme shadow impact analysis

Total Usable COS	2,543 m²
GF COS < 2hrs sunlight	496 m ²
Rooftop COS <2hrs sunlight	276m ²
Total COS <2hrs sunlight	1,771m² (70%)

+8%

INCREASE IN USABLE COMMUNAL OPEN SPACE RECEIVES MIN. 2 HOURS SOLAR ACCESS FROM 9AM-3PM FROM CURRENT PROPOSAL

LEGEND

- Site boundary
- Ground level communal open space
- Ground level usable communal open space
- Rooftop communal open space
- Additional opportunity for rooftop communal open space (not included in count)
- Recommended scheme area receives <1hrs sunlight
- Recommended scheme area receives <2hrs sunlight
- Additional area receiving greater than 2hrs solar access as a result of recommended scheme.

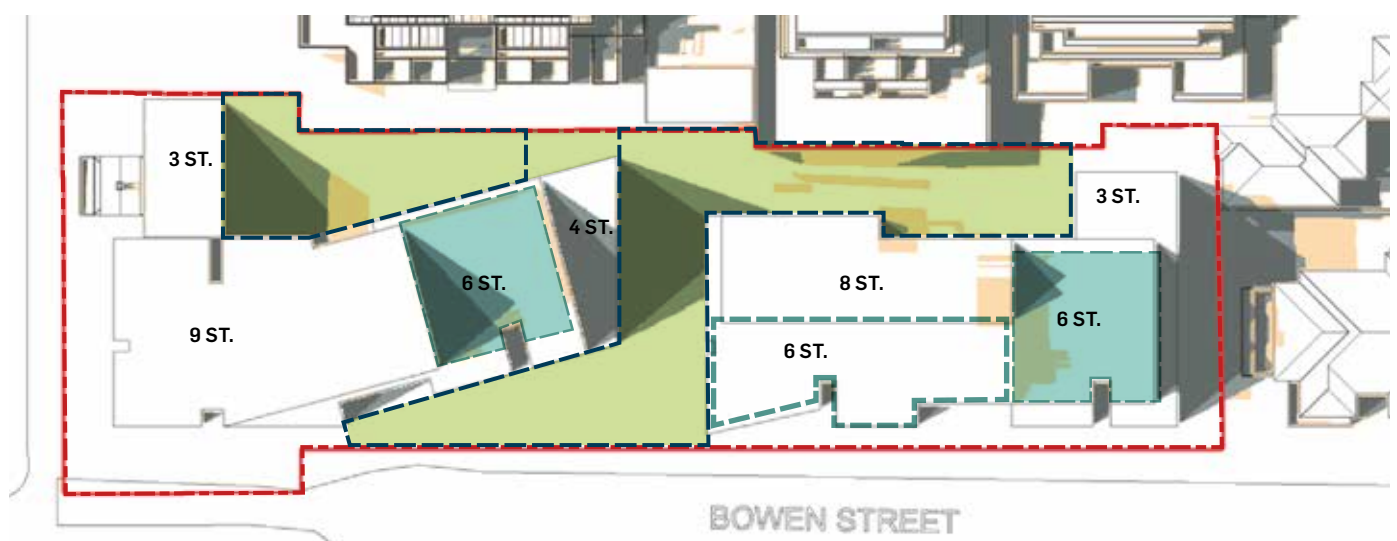


Figure 6 Recommended scheme communal open space solar access analysis - winter solstice.

1:1,000 @ A4
0 10 20 30 40 50

SHADOW IMPACT ANALYSIS - WINTER SOLSTICE

Within urban settings, increased density and building height will generally result in additional shadow impacts.

Shadow impacts are measured at midwinter (21 June) from 9 am to 3 pm, as this is when the sun is lowest in the sky. This represents the 'worst case' scenario for solar access and:

- is a more restrictive standard;
- is typically used as the standard for high priority public realm spaces (foreshore/key open space); and

- shadows are longer (more extreme) than at the equinox because the sun is lower in the sky.

KEY FINDINGS:

- Additional shadow cast by the recommended built form will have limited impact to surrounding residential context.
- 1 Bowen Street - The upper level unit retains solar access to more than 50% of the area at 9am and after 2pm. The lower level will not receive any sunlight during the day on winter solstice.

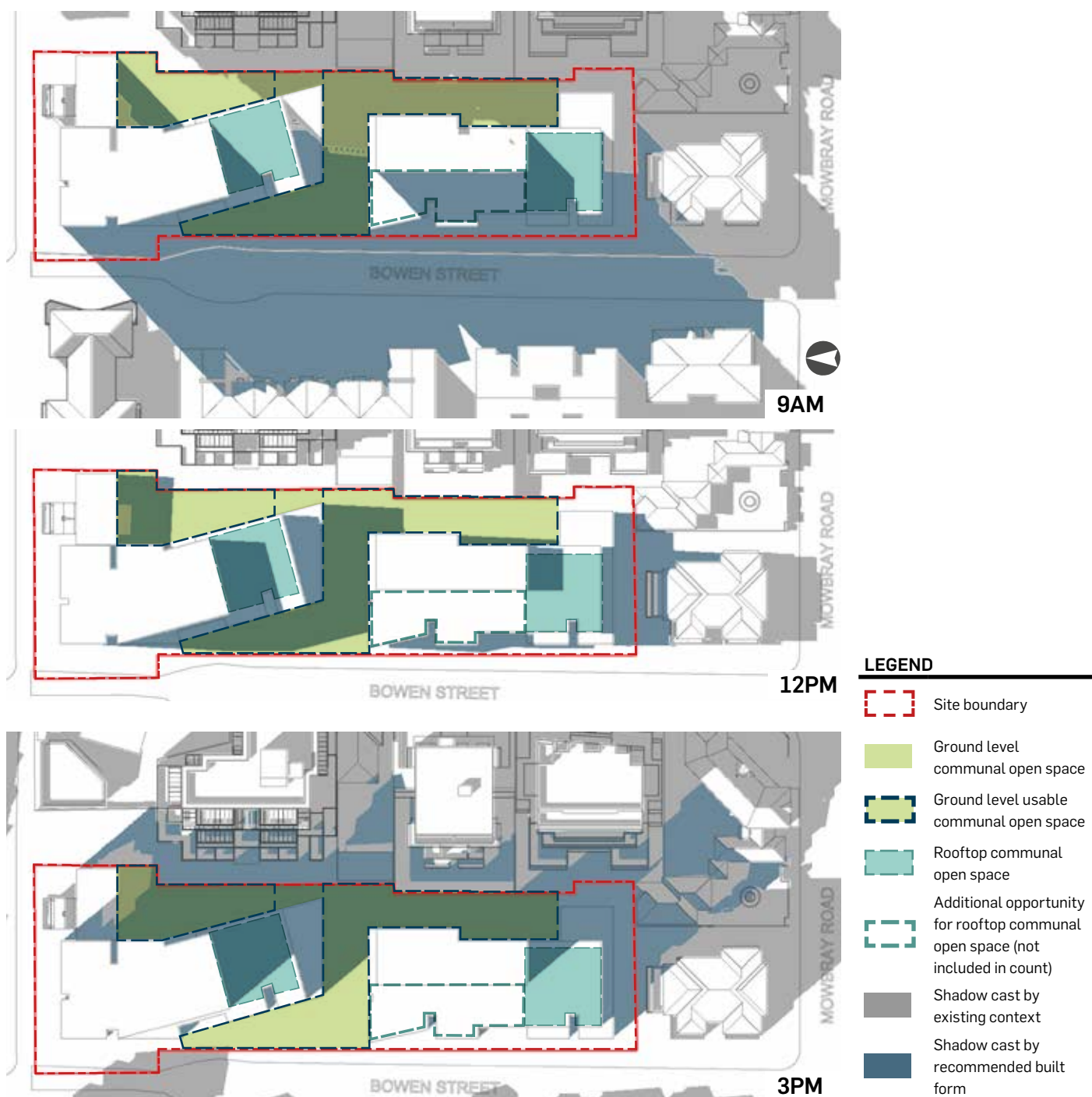


Figure 7 Recommended scheme shadow analysis at winter solstice

SHADOW IMPACT ANALYSIS - AUTUMN EQUINOX (MARCH 21TH)

Equinox shadow impacts are measured at Autumn Equinox from 9 am to 3 pm, as this is when the sun is at the mid-point of overshadowing – not the worst case and not the best case. This is the typically applied to measure overshadowing of private open space.

KEY FINDINGS:

- Additional shadow cast by the recommended built form will have minor impact to surrounding residential context.



Figure 8 Recommended scheme shadow analysis at March equinox

SHADOW IMPACT ANALYSIS - SPRING EQUINOX (SEPTEMBER 23TH)

Equinox shadow impacts are measured at Spring Equinox from 9 am to 3 pm, as this is when the sun is at the mid-point of overshadowing – not the worst case and not the best case. This is typically applied to measure overshadowing of private open space.

KEY FINDINGS:

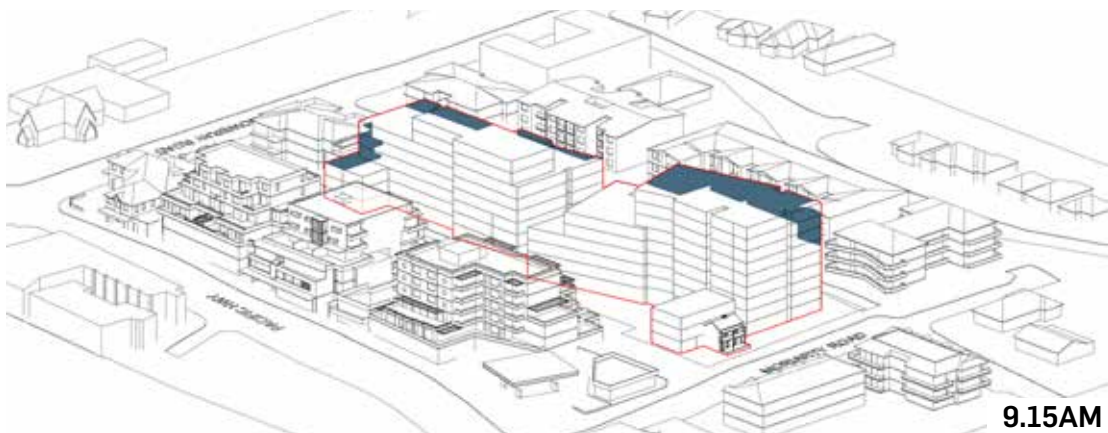
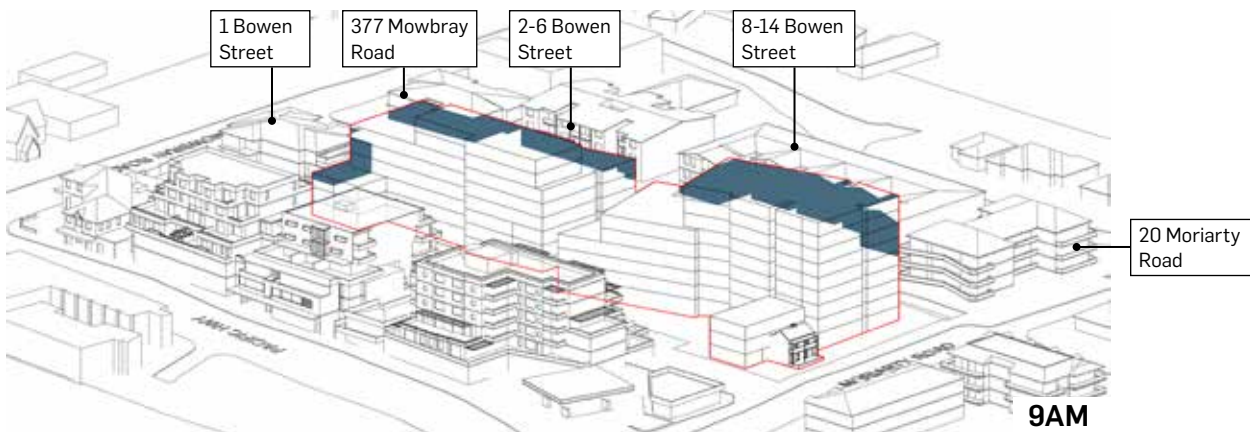
- Additional shadow cast by the recommended built form will have minor impact to surrounding residential context.

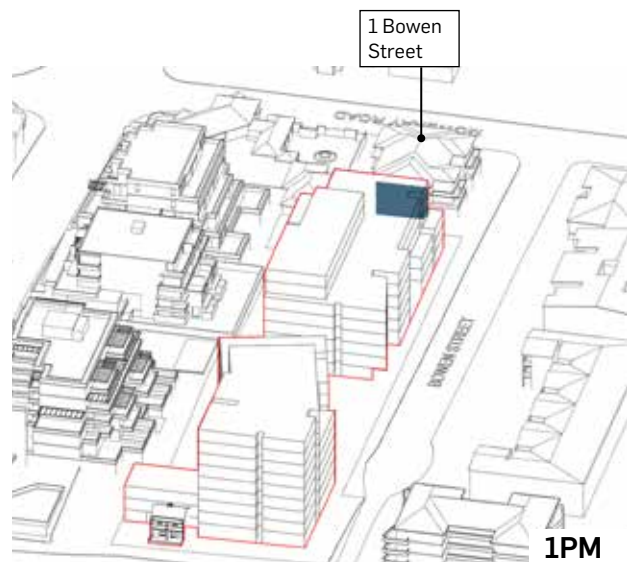
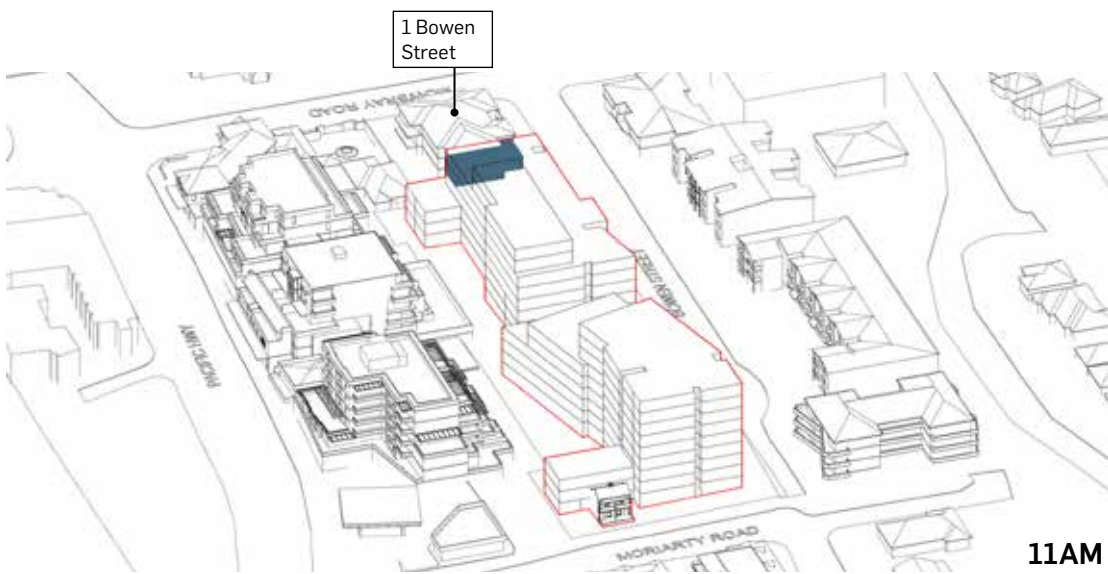
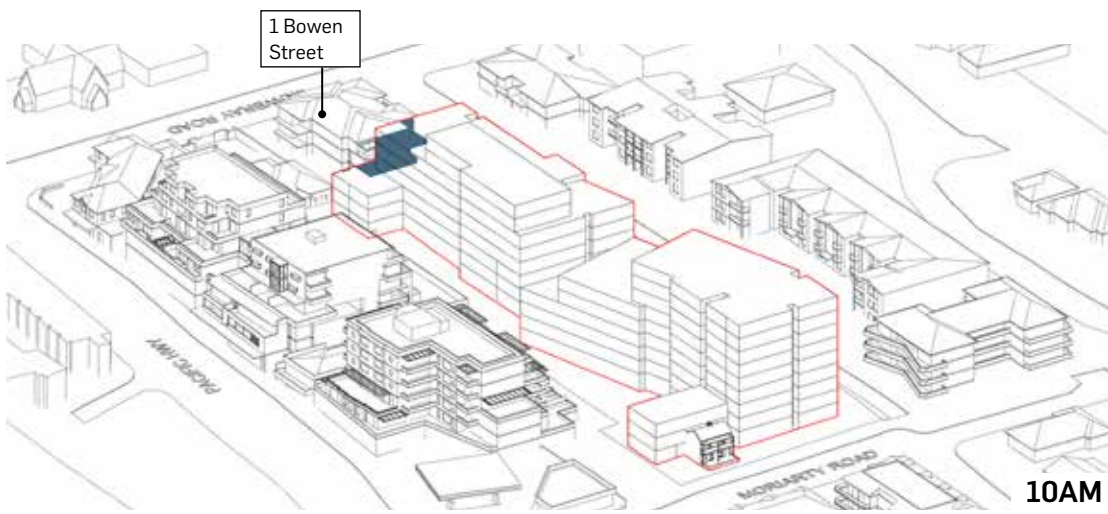


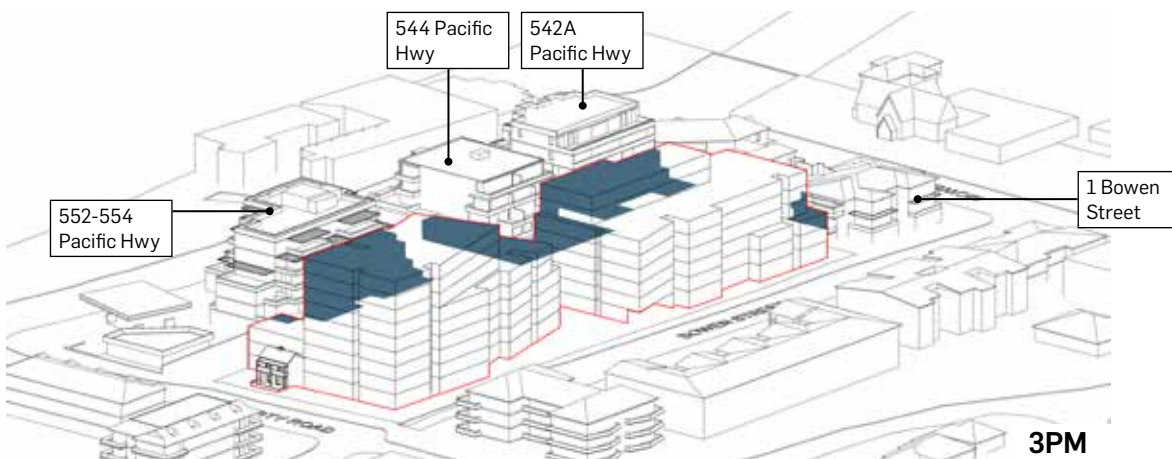
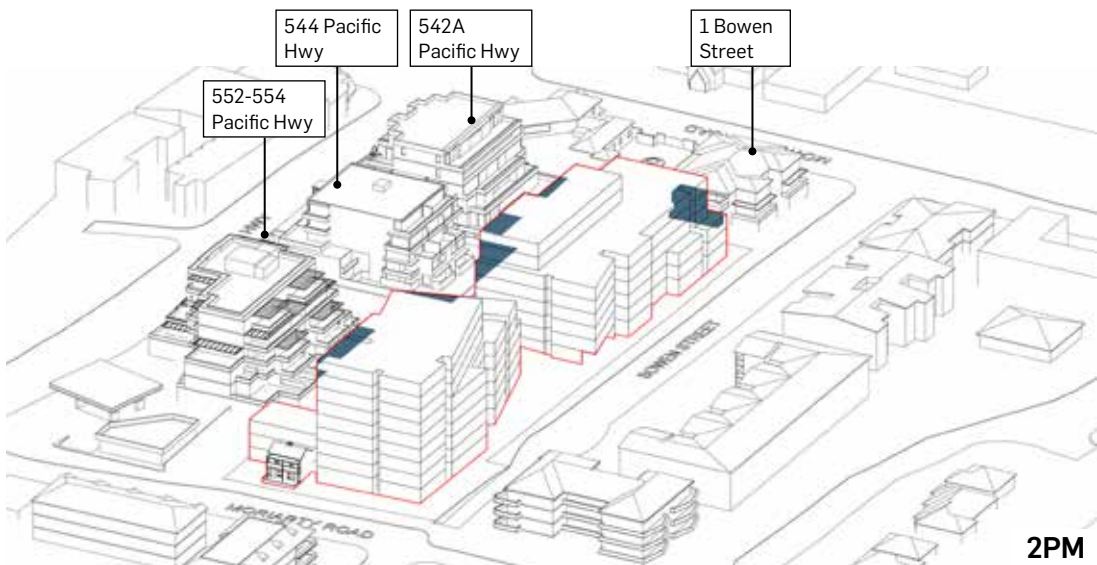
Figure 9 Recommended scheme shadow analysis at September equinox

SOLAR ANALYSIS - WINTER SOLSTICE

This series shows the 'views from the sun' between 9am-3pm during winter solstice in order to identify worst-case of additional shadows cast by the proposed built form on existing residential developments.







LEGEND

- Site boundary
- Additional shadow cast on residential facade by recommended built form

KEY FINDINGS:

Additional detailed shadow impact and solar study demonstrates that the recommended built form results in improved outcomes for both communal open space on the site, and surrounding context. Shadow diagrams show the potential impact at 9am, 12pm and 3pm on winter solstice, March and September and equinox.

- 1 Bowen Street - The upper level unit retains solar access to more than 50% of the area at 9am and after 2pm. The lower level will not receive any sunlight during the day on winter solstice.
- Residential buildings along the Pacific Highway will retain existing solar access between 9am to 1.45pm.
- Residential buildings on the western side of Bowen Street is self-shadowing from 12pm. Recommended built form shadow impact to these buildings is moving fast between 9-10am. 2-6 Bowen Street will receive full sun after 9.15am, and no additional shadow impacts to the buildings after 9.45am.

