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15 July 2019

Mr Ray Brownlee
CEO
Northern Beaches Council
PO Box 82
Manly NSW 1655

Attention: **Steve Findlay**

Dear Steve,

DA2018/1514 | STAGE 2 WARRINGAH MALL | RESPONSE TO LANDSCAPE AND URBAN DESIGN REFERRAL COMMENTS ADDITIONAL INFORMATION SHADOW ASSESSMENT

On behalf of Scentre Group, we submit the following supplementary documentation and additional clarification as relevant to the above development proposal, DA2018/1514.

This correspondence responds to the email dated 5 July 2019 in relation to the submitted shadow diagrams.

Accompanying this letter is an updated set of shadow diagrams responding to the queries as stated in Council's email, under the corresponding headers.

1. HOURLY SHADOW DIAGRAMS BETWEEN 1.00PM AND 2.00PM

Attached to this response is a revised set of shadow diagrams for the winter solstice that include hourly shadows between 9am – 3pm and incorporating 1pm and 2pm, omitted previously. The diagrams are zoomed in to ensure the shadows are legible.

The 1pm and 2pm shadow diagrams confirm that the proposed development does not cast any shadow across private property at this time.

2. ASSESSMENT AGAINST WDCP

An assessment against the WDCP general provisions and specific provisions for Warringah Mall contain objectives for solar access are included in the table below.

Ref	Provision/Objective	Response
G4	<p>Objective:</p> <p><i>To ensure development responds to the characteristics of the site and surrounds, and the amenity of the surrounding neighbourhood</i></p>	<p>The amended built form, including a reduction in height, has improved the solar access to the properties to the south as evident when comparing the DA lodgement shadows and the attached shadows diagrams of the amended scheme.</p> <p>It is important to emphasise that the properties receive more than 3 hours of sunlight to 50% of the private open space at the winter solstice.</p> <p>The shadows are to be viewed in context of the surrounding properties – see discussion in Section 3.</p>
G4	<p>Building height:</p> <p><i>New development along the southern edge of the site must not result in any unreasonable impacts on the amenity of residential properties in Old Pittwater Road and Smith Avenue.</i></p>	<p>The rear garden areas of the Smith Street properties are not impacted by the development after 11am on the winter solstice and as such will achieve required levels of solar access as per the DCP. On this basis, the amenity impacts are not considered to be unreasonable.</p> <p>There are 3 properties directly opposite the site being:</p> <ul style="list-style-type: none"> -174 Old Pittwater Road -176 Old Pittwater Road - 178 Old Pittwater Road <p>Solar impacts to 174 Old Pittwater Road is limited to only early</p>

Ref	Provision/Objective	Response
		<p>morning sun at 9am, with no impact after 10am.</p> <p>176 Old Pittwater Road is impacted between the hours of 9-11am, but after this time will continue to enjoy good solar access to the frontage of this property.</p> <p>178 Old Pittwater Road has the largest frontage to the street. This property has large established vegetation along this frontage. The shadow impacts of the proposed development is substantially limited to the morning period 9-11am with only a very minor affectation by midday. The property will continue to enjoy good solar access after midday in accordance with the DCP requirements.</p> <p>The proposed built form is therefore considered to result in reasonable impacts on the solar access to the properties.</p>
G4	<p>Building height:</p> <p><i>(a) Architectural roof features</i> Architectural roof features may exceed the height controls but only if the consent authority is satisfied that the architectural roof feature:</p> <ul style="list-style-type: none"> • <i>satisfies the objectives of the height control, and</i> • <i>comprises a decorative element on the uppermost portion of a building, and</i> • <i>does not include floor space area and is not reasonably capable of modification to include floor space area, and</i> • <i>does not provide access for recreational purposes, and</i> • <i>is not a structure designed specifically for signage or advertising, and</i> • <i>is an integral part of the design of the building in its context, and</i> • will have minimal overshadowing impact, and • <i>does not add to the visual bulk of the building</i> 	<p>This control does relate more to distinctive roof features, however is a useful point of reference to assess impacts resulting from building height. As per the points above in G4, the overshadowing is not considered unreasonable.</p>

Ref	Provision/Objective	Response
D6	<p>Access to Sunlight</p> <p><i>To ensure that reasonable access to sunlight is maintained</i></p>	<p>Overall, the properties receive more than 3 hours of sunlight to 50% of the private open space.</p> <p>3D shadow analysis also submitted highlights that north facing windows fronting Old Pittwater Road will continue to receive good access to sunlight from 10.45am onwards at the winter solstice.</p>
	<p>Requirements</p> <p><i>2. At least 50% of the required area of private open space of each dwelling and at least 50% of the required area of private open space of adjoining dwellings are to receive a minimum of 3 hours of sunlight between 9am and 3pm on June 21.</i></p>	<p>This is achieved as shown in the submitted shadow diagrams. See comments under section G4.</p>

3. GENERAL ASSESSMENT COMMENTS ON SOLAR ACCESS ANALYSIS

The shadow analysis has been undertaken that examines the impact on residential properties, specifically those properties likely to be the most affected such as the front yards of 174, 176 and 178 Old Pittwater Road Brookvale and the rear yards of six properties on Smith Street (92, 94, 96, 98, 100 and 102 Smith Street). The proposed shadowing should also be viewed in context of the existing amenity and quality of these properties, as:

- 174 Old Pittwater Road (boarding house) has no common private open space at the front of the property. The property has only two upper level balconies on the northern elevation and the remainder of useable private open space is at the rear of the property.
- 176 Old Pittwater Road has minor useable private open space in the front setback with the majority of this setback either hard stand or car parking.
- 178 Old Pittwater Road has substantial existing trees on the northern boundary which have the potential to shade the front garden for a large portion of the day.

Scentre has also prepared 3D elevational shadows which show additional detail of the location of the shadow in relation to the dwellings on Old Pittwater Road. Photographs are also provided to identify the characteristics of the property frontages.

Figure 1: 11am Shadow diagram – 176 and 178 Old Pittwater Road



This image illustrates that by 11am on the winter solstice, there is no impact on the north-facing windows of the properties fronting Old Pittwater Road.

In summary, additional overshadowing arising from the proposed development is experienced on the winter solstice however impacts are limited to the morning period (generally before 11am) with compliance with relevant DCP controls still achieved.

Therefore, while the proposed building will cast additional shadow over properties on the southern side of Old Pittwater Road, the degree of overshadowing is acceptable in that the affected properties will continue to achieve at least 3 hours of sunlight to 50% of their private open space areas, as illustrated in the shadow diagrams.



4. SUMMARY

If you have any questions please don't hesitate to contact me at (02) 8233 9959 or tblythe@urbis.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read "T. Blythe". The signature is fluid and cursive, with a small dot at the end.

Tim Blythe
Managing Partner



APPENDIX A – AMENDED SHADOW DIAGRAMS