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Ref: SY180766-SEL02-B

38 Humphreys Lane,
Hurstville NSW 2220

The intent of this letter is to provide responses to queries raised by The City of Sydney and the NSW Government Architect regarding the Development Application at 11 Gibbons Street in Redfern, NSW. Our response to these queries are as follows:

The following table compares energy related expenses between a typical two-bedroom (70m²) apartment in Sydney assuming an electricity and gas cost of \$0.28/kWh and \$0.04c/MJ respectively.

	4.5 Star (Code Compliant) Unit		8 Star Unit	
	Consumption/Year	Cost/Year	Consumption/Year	Cost/Year
Heating & Cooling¹	1458 kWh	\$408	484 kWh	\$136
Lighting	926 kWh ²	\$259	463 kWh ³	\$130
Hot Water⁴	4532 kWh	\$1269	18,746 MJ	\$750
Total		\$1937		\$1015
Saving				\$922

⁴ Determined by Rheem Running Cost Calculator

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2. NatHERS Glazing Requirements on DA Drawings (City of Sydney Query)

Glazing requirements are printed in the BASIX notes on the front page of the DA drawings. This is required under the BASIX Protocol in absence of a glazing schedule from the architect.

3. Thermal Comfort in a Changing Climate (City of Sydney Query)

Northrop's position is that the 8 Star NatHERS rating gives the unit the appropriate envelope requirements to help maintain comfortable temperatures with minimal artificial heating/cooling for most of the year. SGCH will also be providing tenant information outlining simple measures to make the most of this rating. The units are likely to have the odd 'hot' day during summer.

While acknowledged as an important issue, it is not a requirement of BASIX to assess the unit under future climate projections. To address this issue, SGCH have greatly exceeded current ESD code compliance to mitigate the consequences of more frequent temperature extremes.

The graph on the following page plots external (red) versus indoor (blue) temperature during a hot week in summer for a typical unit at the 11 Gibbons Street development.

4. Inconsistencies in wall insulation (City of Sydney Query)

Upon revision, there were errors in wall insulation for apartments 803, 805, 1603 and 1605 on the order of R0.5. These errors have been rectified and the NatHERS rating remains at 8 Stars as expected.

5. Reduction of Façade Glazing (Government Architect Query)

It is Northrop's understanding that façade glazing has been reduced following this advice.

6. Shade (Government Architect Query)

The units contain large balcony overhangs that act as horizontal shading devices to the kitchen/living area sliding doors. Horizontal shading devices are deemed the most effective at reducing solar heat gain to the units.

7. Natural Ventilation (Government Architect Query)

Please see point 3. The mechanical engineer should be approached for further technical details regarding the method of natural ventilation in the units.

Should you have any questions, please contact us without hesitation.

Kind regards,

A handwritten signature in black ink, appearing to be "M. Dempsey".

Matthew Dempsey
Sustainability Consultant
Northrop Consulting Engineers

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