efficient LIVING

Thermal Comfort Assessment

BUILDING
SUSTAINABILITY
CONSULTANTS

FRIENDLY INFORMATIVE EFFICIENT KNOWLEDGEABLE

Stage 3 – Australia Towers II

Sydney Olympic Park, NSW 2127

Prepared for:

Bates Smart - 75W Application

Remodelling of 9 altered units

24 April 2013

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Introduction

As part of Bates Smart 75W submission for Australia Towers II there has been several changes to unit layouts. As such these units are required to be re-assed in accordance with BASIX protocols. Ultimately 18 units have been consolidated into nine (9).

Thermal comfort assessment

The thermal comfort section of BASIX is the only area that will be truly impacted by the proposed changes. The consumption and efficiency of water and energy are calculated on a per unit and occupancy basis. All modified units will have the same inclusions specified as before and a similar or better occupancy rate. Therefore the reduction of 18 units to nine (9) will have very little, if any, bearing on the water and energy sections of BASIX.

Altering the layout and size of the units however will mean that the results of the thermal comfort simulations may differ greatly. It is therefore appropriate that the new layouts be modelled and that the results be assessed to be BASIX compliant i.e. each result falls under the individual heating and cooling caps for climate zone 56 (Heating 66 and Cooling 59).

Conclusion

As Efficient Living is engaged to re-assess the entire building at a later stage at which time the BASIX will be updated with the updated unit details. We have conducted the thermal comfort simulation on all units to ensure that they will pass. Given that the impacts to water and energy are practically negligible we have thus deemed it appropriate to update these details in the BASIX certificate at the same time as the reassessment of the entire building. Please refer to the Assessor Certificate on the following page for the thermal comfort details of the nine (9) reassessed dwellings

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Assessor Certificate

Assessed and issued in accordance with the BASIX Thermal Comfort Protocol for the Simulation Method

Date:	24th April, 2013			**Efficient Living File ref:**	**6888**
Assessor					
Name:	Tracey Cools	**Company:**	Efficient Living		
Address:	Unit 13, No. 13 Lagoon Street Narrabeen 2101				
Phone:	(02) 9970 6181	**Fax:**	(02) 9970 6181	**Email:**	admin@efficientliving.com.au
Declaration of interest in the project design:	None				
Client Details					
Name:	Bates Smart	**Phone:**	+61 2 8354 5100	**Email:**	enquires@batessmart.com
Project					
Address:	Australia Towers II - Sydney Olympic Park				
Applicant:	Bates Smart				
Assessment					
Software:	BERS Pro 4.2 V110811				
Documentation					
Drawings: DA02.224(G), DA02.225(G), DA02.229(G) DA02.230(G), DA06.004(G)					

As per thermal comfort protocol, all details upon which this assessment has been based are included in the project documentation that has been stamped and signed by the Assessor issuing this certificate.

The following specification was used to achieve the thermal performance values indicated on the Assessor Certificate. If they vary from drawings or other specifications this Specification shall take precedence.

If there is a change to this specification during design development or construction please inform Efficient Living for advice and if required an updated certificate will be issued.

Thermal Performance Specifications

Element	Construction	Insulation	Other
External wall(s)	Framed – metal clad	Total R-Value of the system is equal to R1.0	**Colour** - Default
Internal wall(s)	Plasterboard on studs	None	n/a
Floor(s)	Concrete slab	None	**Coverings** – Carpet to all bedrooms and living areas Tiles to all wet areas
Ceiling(s)	Plasterboard	R2.0	Where roof or balconies are over No insulation where unit is over
Roof(s)	Concrete	None	**Colour** - Medium SA 0.475 - 0.7
Windows	Aluminium framed, double glazing - clear U-Value: 4.99 SHGC: 0.67	N/A	Shading structures as per plans
Lighting/Sealing	It has been assumed that all lighting is surface mounted and that the area of all ceiling penetrations is less than 0.5% of the total area. This assessment has assumed that the BCA provisions for building sealing will be complied with at a later stage.		

Thermal comfort results – Tower D **Climate zone 56**

Unit Number	Conditioned area	Unconditioned area	Heating loads	Cooling loads	Star rating
24.08	158	0	48	18	5.0
25.01	147	0	38	21	5.0
25.08	158	0	48	18	5.0
26.01	148	0	25	22	5.5
26.07	158	0	48	18	5.0
27.01	148	0	25	22	5.5
27.07	158	0	48	18	5.0
30.01	236	4	27	39	5.0
30.04	236	4	58	28	4.0