


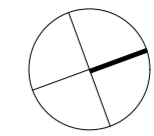
ITEM 1.3(d)

Issue/ Objection:  
Natural Ventilation

Description:  
The proposal includes the five single aspect maisonette units as achieving natural cross ventilation. Further evidence is required demonstrating how these units achieve natural cross ventilation. Consideration should also be given to alternative dieting solutions for non-cross ventilated units to improve natural ventilation.

ADG Objective:  
Objective 4B  
Objective 4B-3  
Definition of Cross Ventilation

Response  
29 Apartments achieve compliance as per the apartment design guide's (ADG) definition of natural cross ventilation. 5 Apartments achieve cross ventilation as detailed in qualitative assessments undertaken by ARUP. Refer to all additional information prepared by ARUP.  
  
Complies? Yes



**GENERAL NOTES**

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK
- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

LEGEND

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Figure 6 - Flow pattern around a single-sided apartment with articulated façade

Table 1 - Count of ADG compliant apartments

Level	Number of Apartments	Number of Dual Aspect Apartments	Number of apartments expected to have sufficient natural ventilation
0	2	2	2
1	2	2	2
2	7	4	7
3	14	6	8
4	13	5	9
5	12	4	9
6	3	3	3
7	3	3	3
Total	56	29	43

Table 1 provides a summary of the number of apartments for each level that would be considered naturally cross ventilated under the ADG design criteria. There are a total of 56 apartments. Under the ADG, 34 of the 56 apartments would be required to be naturally cross ventilated to meet the design criteria. The current design has 29 naturally cross ventilated apartments. However, it is Arup’s opinion that at least 43 apartments would be expected to achieve sufficient natural ventilation to meet the qualitative requirements of the ADG.

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Summary

It is Arup’s opinion that the current design would produce sufficient natural ventilation despite not strictly meeting the ADG definition of “naturally cross ventilated”. From the perspective of the entire development, the combined duplex and single level naturally ventilated apartments are expected to achieve sufficient ventilation to exceed the design intent of the ADG. We acknowledge that this is a qualitative expert based opinion and the ADG is a more prescriptive guideline. To quantify the air flow rates and demonstrate sufficient ventilation, Computational Fluid Dynamics (CFD) would be required to simulate the air flow in and around the site.

Yours sincerely

Alex L Smith

REVISION	DATE	DESCRIPTION	BY
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PROJECT		85 Harrington Street The Rocks GOLDEN AGE & HANNAS THE ROCKS	
TITLE		RESPONSE TO DoPE ITEM 1.3(d)	
SCALE	1:200 @ A2	PROJECT CODE	
DATE	18/10/2017	GA85H	
SHEET NO.	014	REVISION	

For Review