

West and Associates Pty. Ltd.

Email:

ABN 12 003 731 851

ACOUSTIC AND AIRCONDITIONING ENGINEERS

Suite A, 39 Smith Avenue
Allambie Heights NSW 2100
AUSTRALIA

Date: **10 April 2017**

To: **Jump Swim Schools
Level 5, 50 Cavill Ave Surfers Paradise QLD 4217**

Phone 02 9905 3733
Mobile 0412 661 023

Attention **Ms. Sarah Kidman**

Email;w.west@waapl.com.au

Email: [sarah.kidman@jumpswimschools.com.au]

**Total number of pages
including this page:5+Att
Job No. 2211/4**

From: **Warwick West**

SUBJECT JUMP SWIM SCHOOL, UNIT 51, 1-5 COLLORAY ST COLLAROY, ACOUSTIC SERVICES

ADDENDUM 1 TO DA ACOUSTIC REPORT #17011 DATED 18/01/2017

I. REFERENCE BACKGROUND

West & Associates Pty Ltd prepared the DA Acoustic Report Design to support the Development Application submission for the proposed Jump Swim Schools at Shop 5, 1-5 Collaroy St Collaroy ref #17011 dated 18/01/2017.

We were advised by the Client that Local Government rejected the acoustic side of the application, based on the recommendation we included in the DA Acoustic Report where we requested conditional acceptance of the site noise at the northern boundary in the evening period in location immediately adjacent to the closest sensitive receivers #2 & #3 for the following noise sources:

1. Heat Pump Noise
2. Patron Noise.

Jump Swim Schools advised us that they want to continue with their application and have made the following changes to equipment capacity, time of operations, relief air openings and management procedures to allow the acoustic aspect of the site to comply with the appropriate acoustic criteria. Details of the changes are as follows:

1. Modification of equipment and time of operation
 - Jump Swim Schools confirmed in their email dated 28/3/2017 that the size of the Waterco air cooled Heat Pump unit reduced from 19 kW heating previously specified to 12 kW now with manufacturers published noise of 64 dB(A) at 1 metre.
 - Time of operation of the Heat Pump confirmed in their email dated 28/3/2017 to be reduced from being continuous to between 7 AM to 10 PM . There shall be no operation of the plant in the night period between 10 PM to 7 AM
2. Jump Swim Schools confirmed in their Drawing 099/02 Issue C 07/04/2017 that they are modifying the arrangements within Shop 5 and their manner of operation as follows:
 - The glass louvers installed above the fixed glazing on the north and northeast face(side of entrance door) of the Shop are to be kept closed at all times

- The glass louvers installed above the fixed glazing on the east face(behind the change rooms) are to be left open for natural ventilation.
- The opening of the double entrance doors is to be managed by staff. The doors are allowed to be held open during the day period(7AM to 6 PM) but left in closed during the 6 PM to 8 PM in the evening period when the site is operating. In this night period, the doors are to be opened to allow entrance and exiting of patrons and staff.
- The ceiling space behind the open east facing glass louvers and above the change rooms is to be enclosed providing an open cavity to allow free flow of natural ventilation between Shop 5 and outside.

II. MODIFICATION TO THE DA ACOUSTIC REPORT.

Based on the above instructions from the Client, we make the following modifications to the DA Acoustic Report

1.2 BACKGROUND INFORMATION, Item 2.

The size of the heat Pump to be used is a 12 kW Waterco air cooled unit operating at 64 dB(A) at 1 metre

1.3 TIMES OF OPERATION OF THE SITE, Paragraph 2.

The operators also confirmed that the Heat Pump Unit and the associated water circulating pump will automatically cycle on and off in the day and evening period as required to maintain set pool water temperature. This plant shall not run in the night period.

4.3 HEAT PUMP OCTAVE BAND NOISE PUBLISHED LEVELS

Jump School has nominated that a 12 kW WATERCO MKIV heat pump unit (Model 278121) has been alternatively nominated in email dated 28/3/2017 by the Client is to be installed. The manufacturers WATERCO publish that this unit produces a 63.8 dB(A) noise at 1 metre but do not publish octave analysis of the noise. The heat pump is a typical outdoor air cooled condenser component of an air conditioning type unit so we have included a typical outdoor ACC spectrum adjusted to give same dB(A) value as published.

Table 7(revised): 12 kW Heat Pump Noise Octave Noise Spectrum

DESCRIPTION OF NOISE SOURCE	OCTAVE BAND CENTRE FREQUENCIES								
	63	125	250	500	1000	2000	4000	8000	dB(A)
Hz cps									
12 kW WATERCO heat pump	69	69	58	63	59	51	48	38	64at 1M

We have used this spectrum in our noise compliance calculations.

5.1 CALCULATED SWIM SCHOOL NOISE LEVELS

The results of our calculated noise levels from the operations of the swim school inside the premises at the 3 nominated closest sensitive incorporating the following:

- North and NE glass louvers being closed,
- East Louvers open with Plasterboard duct connecting louvers to inside above the Change Rooms and
- With entrance door to swing closed between 6 PM to 8 PM,

are set out in the following table:

Table 8: Summary of Calculated Noise Levels

Swim School Noise at Closest Sensitive Receiver	Calculated Level at Closest Sensitive receiver L_{Aeq}	Noise Criteria (PSNL) Day/Evening /Night	Operating Times	Criteria Compliance Day/Evening
#1, Side boundary 1135 Pittwater Rd Collaroy	38 dB(A) to the north	55 dB(A) / 46 dB(A) / N/A	Day and Evening 6-8 PM	Yes/Yes
#1, Rear Windows 1135 Pittwater Rd Collaroy	36 dB(A) to the North	55 dB(A) / 46 dB(A) / N/A	Day and Evening 6-8 PM	Yes/Yes
#2, South Boundary, Rear 2 Fielding St Collaroy	46 dB(A) to the north	55 dB(A) / 46 dB(A) / N/A	Day and Evening 6-8 PM	Yes/Yes
#2, Rear L1 Dwelling Windows, 2 Fielding St Collaroy	40 dB(A) to the north	55 dB(A) / 46 dB(A) / N/A	Day and Evening 6-8 PM	Yes/Yes
#3, North Boundary, 1-5 Collaroy St Collaroy	46 dB(A) to the north	55 dB(A) / 46 dB(A) / N/A	Day and Evening 6-8 PM	Yes/Yes
#3, North Facing Windows, 1-5 Collaroy St Collaroy	<30 dB(A) above to the south	55 dB(A) / 46 dB(A) / N/A	Day and Evening 6-8 PM	Yes/Yes

5.2 CALCULATED HEAT PUMP NOISE LEVELS

We have calculated the noise from the reduced 12kW Heat Pump, located 6 metres from the boundary in line with the row of columns, operating in the day and evening periods only and with a sound barrier installed adjacent to the northern side of the unit and the results at the closest boundaries and for the closest sensitive receivers are shown below in the revised Table 10:

Table 10(Revised): Calculated Heat Pump Noise Levels when installed on 6M from Boundary under car park area

Heat Pump Noise at Sensitive Receiver	Calculated Level at Closest Sensitive receiver L_{Aeq}	Noise Criteria (PSNL) Day/Evening	Operating Times	Criteria Compliance Day/Evening
#1, Side boundary 1135 Pittwater Rd Collaroy	<40 dB(A) to the north	55dB(A) / 46dB(A) /	Day & Evening	Yes/Yes
#1, Rear Windows 1135 Pittwater Rd Collaroy	38 dB(A) to the North	55dB(A) / 46dB(A) /	Day & Evening	Yes/Yes
#2, South Boundary, Rear 2 Fielding St Collaroy	46 dB(A) to the north	55dB(A) / 46dB(A) /	Day & Evening	Yes/Yes
#2, Rear L1 Dwelling Windows, 2 Fielding St Collaroy	40 dB(A) to the north	55dB(A) / 46dB(A) /	Day & Evening	Yes/Yes
#3, North Boundary, 1-5 Collaroy St Collaroy	46 dB(A) to the north	55dB(A) / 46dB(A) /	Day & Evening	Yes/Yes
#3, North Facing Windows, 1-5 Collaroy St Collaroy	<30 dB(A) above to the south	55dB(A) / 46dB(A) /	Day & Evening	Yes/Yes

6.2 NOISE COMPLIANCE DISCUSSION

6.2.1 Swim School Noise Compliance

This assessment is carried out based on doors opened for entrance between 6 PM to 8 PM, the North and North East facing louvers closed and east facing louvers open. Our estimate of the swim school noise given in Table 8(revised) at all boundaries to the closest sensitive receivers meets the background noise criteria requirements and so complies with the PSNL requirements for the site.

6.2.2 Heat Pump Noise Compliance

This assessment is based on the alternative use of a 12 kW heat pump operating in the day and evening periods only. The noise from the heat pump Table 10(revised) when located 6 metres from the boundary in the car park area with a sound barrier installed on it's northern side complies with the PSNL criteria at all boundaries to the closest sensitive receivers

6.3 NOISE COMPLIANCE (NEW CLAUSE)

Based on the changes made by Jump Swim Schools in their email dated 28/03/2017 and update of their drawing 099-02/C dated 07/04/2017(attached), all noise sources from the

operation of the Jump Swim Schools site have been calculated and complies with the PSNL requirements for the site.

We trust this meets with your understanding and please contact us if you have any questions

Yours Sincerely; Warwick West,



Director West & Associates Pty. Ltd. , MIEA, BE, Grad. Dep. Arch. Acou.

Attachment: Updated Jump Swim Schools Drawing 09902/C dated 07/04/2017

