
Appendix 5.5

**Noise from Building Servicing and
Ventilation System Operation**

Appendix 5.5 – Noise from building servicing and ventilation system operation

Table 1 - SWL of the Air Handling Units, dB(A)

	Cooling Load (kW)	Cooling Load Ratio	Number of Air Handling Unit*	Total SWL, dB(A)
Main Stadium a	27216	33.6%	60	109.8
Main Stadium b	27216	33.6%	60	109.8
Public Sports Ground	2332	2.9%	5	99.0
Indoor Sport Centre	8501	10.5%	19	104.8
Commercial Area a	7914	9.8%	18	104.6
Commercial Area b	7914	9.8%	18	104.6
Total	81093	100%	180	

* Number of Air Handling Unit is calculated by the $ROUND(Cooling\ Load\ Ratio \times 180)$.

Table 2 - Distance from Air Handling Units to NSRs, m

	PN2B	PN5	PN7	PN8	PN9
Main Stadium a	292	402	490	415	395
Main Stadium b	424	506	535	395	310
Public Sports Ground	236	170	403	499	598
Indoor Sport Centre	523	270	166	144	301
Commercial Area a	120	377	548	544	563
Commercial Area b	172	448	598	563	553

Table 3 - Distance Attenuation and Façade Correction, dB(A)

	PN2B	PN5	PN7	PN8	PN9
Main Stadium a	-54.3	-57.1	-58.8	-57.3	-56.9
Main Stadium b	-57.5	-59.1	-59.5	-56.9	-54.8
Public Sports Ground	-52.4	-49.6	-57.1	-58.9	-60.5
Indoor Sport Centre	-59.4	-53.6	-49.4	-48.1	-54.6
Commercial Area a	-46.6	-56.5	-59.8	-59.7	-60.0
Commercial Area b	-49.7	-58.0	-60.5	-60.0	-59.8

Table 4 - Noise Level at Receivers, dB(A)

	PN2B	PN5	PN7	PN8	PN9
Main Stadium a	55.5	52.7	51.0	52.4	52.9
Main Stadium b	52.3	50.7	50.2	52.9	55.0
Public Sports Ground	46.5	49.4	41.9	40.0	38.5
Indoor Sport Centre	45.4	51.2	55.4	56.6	50.2
Commercial Area a	58.0	48.0	44.8	44.9	44.6
Commercial Area b	54.9	46.5	44.0	44.6	44.7
Total (Unmitigated)	61.9	58.0	58.1	59.5	58.3
Total (Mitigated)	46.9	43.0	43.1	44.5	43.3