

Appendix 7.10 Calculations of Fixed Plant Noise (With Mitigation Measures)

KTC - King Tsui Court

Phase	Phase ID	Equipment	Sound Power Level (SWL), dB(A)	Number of Equipment	Overall SWL, dB(A)	Louver / Enclosure Reduction, dB(A) ⁽¹⁾	Horizontal Distance to Probable Source Position, (m)	Distance Correction, dB(A)	Screening Effect, dB(A) ⁽²⁾	Mitigated by Noise Barrier, dB(A) ⁽⁴⁾	Tonality Correction, dB(A)	Façade Correction, dB(A)	Corrected Noise Level (CNL), dB(A)
Phase 1	1	Condensers of Split-type Air-Conditioning Units	76.5	9	86.1	0	163	-52.2	0	0	6	3	43
	2	Radiators for Cremators	88.0	4	94.0	0	170	-52.6	0	-10	6	3	40
	3	General Exhaust Fans (Cremator Plant Room)	96.5	4	102.6	-20	168	-52.5	-10	0	6	3	29
	4	General Exhaust Fans (Filtration Plant Room)	88.5	2	91.6	-20	168	-52.5	-10	0	6	3	- ⁽³⁾
	5	Fan Room (General E&M)	94.5	4	100.6	-20	153	-51.7	0	0	6	3	38
			87.5	4	93.6	-20	153	-51.7	0	0	6	3	31
			66.5	1	66.5	-20	148	-51.4	0	0	6	3	- ⁽³⁾
	7	Fan Room (Services Hall 2)	66.5	1	66.5	-20	165	-52.3	0	0	6	3	- ⁽³⁾
Phase 2	8	Condensers of Mortuary A/C	76.5	2	79.5	0	191	-53.6	0	0	6	3	35
	9	Radiators for Cremators	88.0	6	95.8	0	189	-53.5	0	-10	6	3	41
	10	General Exhaust Fans (Cremator Plant Room)	96.5	3	101.3	-20	179	-53.1	0	0	6	3	37
	11	General Exhaust Fans (Filtration Plant Room)	88.5	3	93.3	-20	179	-53.1	0	0	6	3	29
	12	Fan Room (General Use)	79.5	3	84.3	-20	193	-53.7	0	0	6	3	20
		13	Fan Room (Service Hall 3)	79.5	3	84.3	-20	184	-53.3	0	0	6	3
New Transformer Room													
			85.0	1	85.0	-20	226	-55.1	0	0	6	3	- ⁽³⁾
Existing Electric Sub-station													
			69.4	1	69.4	0	213	-54.6	-10	0	6	3	- ⁽³⁾
Overall Operation Noise Level, dB(A) =													48

Notes:

- (1) Noise reduction due to the enclosure of equipment with acoustic louvers.
- (2) Noise reduction due to screening effect of substantial building structure or topographical features.
- (3) Noise level is negligible and hence not presented.
- (4) Noise reduction due to 2.5m high barriers surrounding the radiators on the roof of crematorium building.

SQ1 - Staff Quarters of Cape Collinson Crematorium

Phase	New ID	Equipment	Sound Power Level (SWL), dB(A)	Number of Equipment	Overall SWL, dB(A)	Louver / Enclosure Reduction, dB(A) ⁽¹⁾	Horizontal Distance to Probable Source Position, (m)	Distance Correction, dB(A)	Screening Effect, dB(A) ⁽²⁾	Mitigated by Noise Barrier, dB(A) ⁽⁴⁾	Tonality Correction, dB(A)	Façade Correction, dB(A)	Corrected Noise Level (CNL), dB(A)
Phase 1	1	Condensers of Split-type Air-Conditioning Units	76.5	9	86.1	0	156	-51.9	0	0	6	3	43
	2	Radiators for Cremators	88.0	4	94.0	0	154	-51.8	0	-10	6	3	41
	3	General Exhaust Fans (Cremator Plant Room)	96.5	4	102.6	-20	160	-52.1	-10	0	6	3	29
	4	General Exhaust Fans (Filtration Plant Room)	88.5	2	91.6	-20	160	-52.1	-10	0	6	3	- ⁽³⁾
	5	Fan Room (General E&M)	94.5	4	100.6	-20	166	-52.4	-10	0	6	3	27
	6	Fan Room (Service Hall 1)	87.5	4	93.6	-20	166	-52.4	-10	0	6	3	20
	7	Fan Room (Services Hall 2)	66.5	1	66.5	-20	166	-52.4	-10	0	6	3	- ⁽³⁾
Phase 2	8	Condensers of Mortuary A/C	76.5	2	79.5	0	126	-50.0	-10	0	6	3	29
	9	Radiators for Cremators	88.0	6	95.8	0	133	-50.5	0	-10	6	3	44
	10	General Exhaust Fans (Cremator Plant Room)	96.5	3	101.3	-20	123	-49.8	0	0	6	3	41
	11	General Exhaust Fans (Filtration Plant Room)	88.5	3	93.3	-20	123	-49.8	0	0	6	3	33
	12	Fan Room (General Use)	79.5	3	84.3	-20	124	-49.9	-10	0	6	3	- ⁽³⁾
	13	Fan Room (Service Hall 3)	79.5	3	84.3	-20	130	-50.3	-10	0	6	3	- ⁽³⁾
	New Transformer Room		85.0	1	85.0	-20	124	-49.9	-10	0	6	3	- ⁽³⁾
Existing Electric Sub-station		69.4	1	69.4	0	105	-48.4	0	0	6	3	30	
Overall Operation Noise Level, dB(A) =												49	

Notes:

- (1) Noise reduction due to the enclosure of equipment with acoustic louvers.
- (2) Noise reduction due to screening effect of substantial building structure or topographical features.
- (3) Noise level is negligible and hence not presented.
- (4) Noise reduction due to 2.5m high barriers surrounding the radiators on the roof of crematorium building.

SQ2 - Staff Quarters of Tai Tam Gap Correctional Institution

Phase	New ID	Equipment	Sound Power Level (SWL), dB(A)	Number of Equipment	Overall SWL, dB(A)	Louver / Enclosure Reduction, dB(A) ⁽¹⁾	Horizontal Distance to Probable Source Position, (m)	Distance Correction, dB(A)	Screening Effect, dB(A) ⁽²⁾	Mitigated by Noise Barrier, dB(A) ⁽⁴⁾	Tonality Correction, dB(A)	Façade Correction, dB(A)	Corrected Noise Level (CNL), dB(A)	
Phase 1	1	Condensers of Split-type Air-Conditioning Units	76.5	9	86.1	0	212	-54.5	0	0	6	3	41	
	2	Radiators for Cremators	88.0	4	94.0	0	203	-54.1	0	-10	6	3	39	
	3	General Exhaust Fans (Cremator Plant Room)	96.5	4	102.6	-20	204	-54.2	0	0	6	3	37	
	4	General Exhaust Fans (Filtration Plant Room)	88.5	2	91.6	-20	204	-54.2	0	0	6	3	26	
	5	Fan Room (General E&M)	94.5	4	100.6	-20	221	-54.9	-10	0	6	3	25	
				87.5	4	93.6	-20	221	-54.9	-10	0	6	3	- ⁽³⁾
				66.5	1	66.5	-20	232	-55.3	-10	0	6	3	- ⁽³⁾
			66.5	1	66.5	-20	220	-54.8	-10	0	6	3	- ⁽³⁾	
Phase 2	8	Condensers of Mortuary A/C	76.5	2	79.5	0	195	-53.8	0	0	6	3	35	
	9	Radiators for Cremators	88.0	6	95.8	0	188	-53.5	0	-10	6	3	41	
	10	General Exhaust Fans (Cremator Plant Room)	96.5	3	101.3	-20	185	-53.3	-10	0	6	3	27	
	11	General Exhaust Fans (Filtration Plant Room)	88.5	3	93.3	-20	185	-53.3	-10	0	6	3	- ⁽³⁾	
	12	Fan Room (General Use)	79.5	3	84.3	-20	194	-53.8	-10	0	6	3	- ⁽³⁾	
	13	Fan Room (Service Hall 3)	79.5	3	84.3	-20	210	-54.4	-10	0	6	3	- ⁽³⁾	
New Transformer Room			85.0	1	85.0	-20	237	-55.5	-10	0	6	3	- ⁽³⁾	
Existing Electric Sub-station			69.4	1	69.4	0	176	-52.9	0	0	6	3	25	
Overall Operation Noise Level, dB(A) =												46		

Notes:

- (1) Noise reduction due to the enclosure of equipment with acoustic louvers.
- (2) Noise reduction due to screening effect of substantial building structure or topographical features.
- (3) Noise level is negligible and hence not presented.
- (4) Noise reduction due to 2.5m high barriers surrounding the radiators on the roof of crematorium building.

SQ3 - Staff Quarters of Hong Kong Buddhist Cemetery

Phase	New ID	Equipment	Sound Power Level (SWL), dB(A)	Number of Equipment	Overall SWL, dB(A)	Louver / Enclosure Reduction, dB(A) ⁽¹⁾	Horizontal Distance to Probable Source Position, (m)	Distance Correction, dB(A)	Screening Effect, dB(A) ⁽²⁾	Mitigated by Noise Barrier, dB(A) ⁽⁴⁾	Tonality Correction, dB(A)	Façade Correction, dB(A)	Corrected Noise Level (CNL), dB(A)	
Phase 1	1	Condensers of Split-type Air-Conditioning Units	76.5	9	86.1	0	278	-56.9	0	0	6	3	38	
	2	Radiators for Cremators	88.0	4	94.0	0	269	-56.6	0	-10	6	3	36	
	3	General Exhaust Fans (Cremator Plant Room)	96.5	4	102.6	-20	265	-56.5	0	0	6	3	35	
	4	General Exhaust Fans (Filtration Plant Room)	88.5	2	91.6	-20	265	-56.5	0	0	6	3	24	
	5	Fan Room (General E&M)	94.5	4	100.6	-20	282	-57.0	-10	0	6	3	23	
				87.5	4	93.6	-20	282	-57.0	-10	0	6	3	- ⁽³⁾
				66.5	1	66.5	-20	301	-57.6	-10	0	6	3	- ⁽³⁾
	7	Fan Room (Services Hall 2)	66.5	1	66.5	-20	296	-57.4	-10	0	6	3	- ⁽³⁾	
Phase 2	8	Condensers of Mortuary A/C	76.5	2	79.5	0	280	-56.9	-10	0	6	3	22	
	9	Radiators for Cremators	88.0	6	95.8	0	263	-56.4	0	-10	6	3	38	
	10	General Exhaust Fans (Cremator Plant Room)	96.5	3	101.3	-20	268	-56.6	-10	0	6	3	24	
	11	General Exhaust Fans (Filtration Plant Room)	88.5	3	93.3	-20	268	-56.6	-10	0	6	3	- ⁽³⁾	
	12	Fan Room (General Use)	79.5	3	84.3	-20	279	-56.9	-10	0	6	3	- ⁽³⁾	
	13	Fan Room (Service Hall 3)	79.5	3	84.3	-20	297	-57.5	-10	0	6	3	- ⁽³⁾	
New Transformer Room			85.0	1	85.0	-20	348	-58.8	0	0	6	3	- ⁽³⁾	
Existing Electric Sub-station			69.4	1	69.4	0	269	-56.6	0	0	6	3	22	
Overall Operation Noise Level, dB(A) =													43	

Notes:

- (1) Noise reduction due to the enclosure of equipment with acoustic louvers.
- (2) Noise reduction due to screening effect of substantial building structure or topographical features.
- (3) Noise level is negligible and hence not presented.
- (4) Noise reduction due to 2.5m high barriers surrounding the radiators on the roof of crematorium building.